APPENDIX A – DESCRIPTION OF RESEARCH PROJECTS

Projects	Summary
THRUST 1: Overarching	
	Title: *Power Generation Expansion Portfolio Planning to Satisfy Florida's Growing Electricity Demands* **PI:** Tapas Das, **Co-PI**: Ralph Fehr - USF **Description**: The objectives of the proposed research include: 1) developing a comprehensive generation technology based portfolio optimization methodology, 2) developing carbon revenue redistribution strategies to achieve goals of emissions control policies (cap-and-trade), and 3) develop educational resources to enhance training of scientific workforce for the state of Florida. The research will directly address three major challenges: fulfillment of the growing power demand, meeting the emissions control targets, and supply of technology workforce. The potential economic impact of the proposed research on the State of Florida is expected to be very high, since an energy-secure environment is a basic necessity to support the current trend of explosive growth both in industry and human resources. **Budget:** $71,906 **External Collaborator:** Argonne National Lab
	Title: Joint Optimization of Urban Energy-Water Systems in Florida (Thrust 2: Efficiency)
	Title: Combined Cooling, Heat, Power, and Biofuel from Biomass and Solid Waste (Thrust 3: Biomass)
	Title: Design, Construction, and Operation of CSP Solar Thermal Power Plants in Florida (Thrust 4: Solar)
	Title: Development of High Throughput CIGS Manufacturing Process (Thrust 4: Solar)
	Title: Solar Photovoltaic Manufacturing Facility (Thrust 4: Solar)
	Title: Research to Improve Photovoltaic Cell Efficiency (Thrust 4: Solar)
	Title: An Integrated Sustainable Transportation System (Thrust 4: Solar)
	Title: PV Energy Conversion and System Integration (Thrust 4: Solar)
	Title: Integrated PV/Storage and PV/Storage/Lighting Systems (Thrust 4: Solar)
	Title: Reliable and Resilient Electrical Energy Transmission and Delivery Systems (Thrust 7: Storage & Delivery)
	Title: Secure Energy Systems – Vision and Architecture for Analysis and Design (Thrust 7: Storage & Delivery)
THRUST 2: Enhancing Energy Efficiency and Conservation	
	Title: Innovative Proton Conducting Membranes for Fuel Cell Applications **PI:** Ongi Englander, **Co-PIs:** Anant Paravastu, Subramanian Ramakrishnian - FSU **Description:** This project was initiated in January 2009 as an interdisciplinary effort among Englander (Mechanical Engineering), Paravastu (Chemical and Biomedical Engineering) and Ramakrishnan (Chemical and Biomedical Engineering). The work was divided into two main tasks: (1) the fabrication and characterization of silica and latex-supported membranes, and (2) the incorporation of protein nanomaterials inside the silica membranes. Three female students have participated and contributed to the project (see below). Two of the students (Holley and Kissoon) have received/will receive MS degrees in Materials Science. Two of the students (Kissoon and Witherspoon) belong to underrepresented groups. **Budget:** $30,000 ***This project has been completed***
	Title: Sustainably Integrated Advanced Building Subsystems (OGZEB) **PI:** A. "Yulu" Krothapalli, **Co-PI:** Justin Kramer - FSU **Description:** This project focused on the development of building subsystems that minimize the use of

	natural resources and carbon-based energy in Florida while also using materials that are renewable and sustainable. A key component of this project was the Off-Grid Zero Emissions Building, which allowed for the testing of these subsystems. This team forms the engineering team participating in the Team Florida's Solar Decathlon Competition. Lessons learned from the Off-Grid Zero Emission Building are incorporated into Team Florida's design. This project is complete. **Budget:** $503,168 ***This project has been completed***
	Title: Insight into Membrane Degradation Mechanisms Through Verification of Chemical and Mechanical Degradation Test Capabilities **PI:** Darlene Slattery, **Co-PIs**: Len Bonville, Marianne Rodgers - UCF/FSEC **Description:** The objectives of the program were to gain insight into fuel cell membrane degradation mechanisms including both chemical and mechanical degradations. In order to achieve this objective, the Membrane Electrode Assembly Durability Test System, MEADS, was verified, after which chemical degradation tests were conducted. By performing post mechanical testing and analyzing the data, the impact of accelerated degradation tests on the cell performance decay, chemical decomposition and mechanical weakening of the membranes were evaluated. This project is complete. **Budget:** $351,518 ***This project has been completed***
	Title: Energy Efficient Building Technologies and Zero Energy Homes **PI:** R. Vieira, **Co-PIs:** P. Fairey, J. Sonne - UCF/FSEC **Description:** The project consists of two elements: 1) the construction of two flexible research homes at FSEC to conduct research on advanced building energy efficiency technologies under controlled conditions; and 2) a staged, field retrofit study in a small number of unoccupied homes to measure and document the effectiveness of a series of retrofit measures that can be deployed using current technology. The project will also conduct an annual meeting where other FESC participants, other university members and utility, industry, the U.S. Department of Energy and other stake holders who will be briefed on plans and progress. Inputs from meeting participants will be sought. **Budget:** $1,224,000
	Title: Joint Optimization of Urban Energy-Water Systems in Florida **PI:** James P. Heaney - UF **Description:** Urban water infrastructure systems for providing water supply, collecting and treating wastewater, collecting and managing stormwater, and reusing wastewater and stormwater require major energy inputs. End users of the water require even more energy to heat this water for showers and baths, clothes washing, cooking and other uses. Increasingly, cities will rely on alternative water supplies such as desalination that require much more energy per gallon of water produced. Conservation is the ideal way to save energy and water by managing the demand for these precious commodities. Major strides have been made in reducing indoor water use from about 75 gallons per person per day to as low as 40 gallons per person per day. However, these gains are being offset by concurrent increases in outdoor water use for irrigation that range from 30 to 300 gallons per person per day depending on irrigation practices and the size of the landscape. From a water use perspective, perhaps the greatest challenge will be the expected growing competition for water if certain energy options are implemented in order to reduce our current dependence on foreign oil. Several recent national studies warn of this impending energy-water crisis. This project will build on our extensive experience in evaluating urban water conservation options to include the implications for energy use and to develop integrated energy-water management systems that are compatible.

	Budget: $72,000 Back to Thrust 1: Overarching
	Title: Planning Grant: High Performance and Low Cost Fuel Cells for Future Vehicles **PI:** Jim Zheng, **Co-PIs:** Richard Liang, Chuck Zhang, Ben Wang - FSU **Description:** The objective of this project is to provide an innovative approach to revolution of current energy storage and conversion technology and greatly leverage FSU position in the strategic important area for sustainable energy. The project was performed by Drs. Jim Zheng and Richard Liang at the Department of Electrical and Computer Engineering and Department of Industrial Engineering, respectively. First to demonstrate preliminary results in high performance of energy storage and conversion materials and devices in order to seek outside funding consistent with the vision of IESES. The deliverables were conference proceedings and journal papers and proposal submissions for additional funding. This project is complete. **Budget:** $15,000 **Research Integration (collaboration):** NCSU and NHMFL on advantage batteries; Industrial Engineering on fuel cells; Maxwell Technologies, Inc. and Ionova Technologies, Inc. on supercapacitors; CAPS on microgrids; MARTECH on thermoelectric; Shanghai Institute of Technical Physics on photovoltaic; N. Dai, F.Y. Huang, S.L. Wang, X.N. Li, J.P. Zheng (co-PI), and D. Wei, "An International Collaboration Group on Solar Cell Technologies Development", Sponsor: Chinese Academy of Sciences, Budget: $877,193 (￥6,000,000 RMB), Project Dates: 4/09-4/14. ***This project has been completed***
	Title: NIRT: C-MEMS/CNEMS for Miniature Biofuel Cells **PI:** Marc Madou, Co-PIs : Chunlei Wang, Sylvia Daunert and Leonidas Bachas - FIU **Description:** In recent years, the quest for alternative sources that can autonomously power bioMEMS devices, especially those geared for in vivo applications, such as monitoring and drug delivery, has been the focus of research by scientists and engineers as new power sources will prove critical for the advancement of the field. Current batteries are still less than optimal and often present drawbacks related to safety, reliability and scalability. An ideal power source for implantable devices should take advantage of natural compounds present in the body of an individual and use them as fuel to produce power in a continuous and reproducible manner, as long as the patient's physiological functions remain steady. Biofuel cells, which are capable of converting biochemical energy into electrical energy, have been deemed as a potential solution to the drawbacks presented by conventional batteries, but the power density and operational lifetime requirements for implanted devices have not been met yet. To that end, we are integrating genetically engineered catalytic proteins and carbon-based 3 dimensional (3D) MEMS/NEMS structures to create new biofuel cells. The biofuel cell electrode surfaces, especially fractal electrode array, presents significantly increased surface area as compared to traditional architecture, increasing the biocatalyst loading capacity considerably for high power throughput. The genetically engineered enzymes inherently increase enzyme stability, consequently increasing biofeul cell lifetime. The scaled fractal electrode surface plays a role in wiring the enzymes to the biofuel cell anode, which increases the electron transfer efficiency from the enzyme to the electrode for an increase in the overall performance of the biofuel cells. Furthermore, C-MEMS/C-NEMS architectures will enable the reproducible fabrication of low cost carbon-based electrode structures. **Budget:** $171,432 (PI portion) (total amount: $1,000,000) - *Not Funded by FESC.*
	Title: Fabrication of Nano Fractal Electrodes for On-Chip Supercapacitors **PI:** Chunlei Wang - FIU **Description:** Nature has always strived for the highest efficiency in all organisms. Just as nature has benefited from fractal structures in almost all of its organisms, biomimetic fractal designs in

	electrochemical devices such as power conversion & storage devices and sensors can also lead to benefits in scaling. Our proposed concept is geared to take advantage of the scaling relationship between interface area and overall volume. Fractal electrode design is believed as a promising solution to optimize surface area while minimizing the internal resistance. We will fabricate and characterize carbon-based microelectrodes pyrolyzed from photolithographically patterned photoresist, which exhibits nano fractal geometry by design. In contrast with the current research trend of, first fabricating carbon nanostructures (CNTs, CNFs, etc), and then lithographically defining an electrode at the convenient location on the substrate, our novel methods will integrate the fabrication of the micro and the nano- structures using simple process thus bridging the gap that separates these two scales. Since the fabrication methods are all based on IC manufacturing methods, it will be easy to integrate into microchips. **Budget:** $150,000 - *Not Funded by FESC.*
	Title: Energy Efficient Technologies and The Zero Energy Home Learning Center **PI:** Stanley Russell, **Co-PIs:** Yogi Goswami **Graduate Assistant**: Mario Rodriguez - USF **Description:** The project is to create and evaluate an affordable residential scale Zero Energy building that will function as an exhibition of energy efficiency and Zero Energy Home [ZEH] technology on or near the University of South Florida campus. The project will feature the most cost-effective combination of renewable solar energy with high levels of building energy efficiency. The building will incorporate a carefully chosen package of the latest energy-.efficiency technologies and renewable energy systems to achieve the most successful and reliable results. The building will utilize Photovoltaic solar electricity and solar domestic hot water heating systems using the grid as an energy storage system, producing more energy than needed during the day and relying on the grid at night. Plug-in hybrid automobile technology offers a promising means of providing distributed energy storage for such homes but has not been sufficiently tested. Using a systems approach to couple zero energy home technology with PHEVs we will explore opportunities to develop marketable products that meet Florida's energy and environmental goals. **Budget:** $344,600 **External Collaborators:** FSU College of Engineering- Justin Kramer, Brenton Greska; UF- Department of Interior Design- Maruja Torres, Nam-Kyu Park; UF Rinker School of Building Construction- Robert Ries; UCF Florida Solar Energy Center- Stephanie Thomas Ries; Beck Construction; Hees and Associates Structural Engineers.
	Title: Unifying Home Asset & Operations Ratings: Adaptive Management via Open Data & Participation **PI**: Mark Hostetler, **Co-PI:** Hal S. Knowles, III - UF **Description**: Recent environmental, social, and economic challenges are fostering a wave of interest in maximizing energy efficiency and conservation (EE+C) in existing U.S. homes. Long standing programs, ratings, and metrics are being reapplied into new stimulus initiatives such as the *Recovery through Retrofit*[3] program. Simultaneously, electric and gas utilities are expanding their demand side management (DSM) programs from weatherization and conventional technology replacement incentives to include conservation behavior campaigns with "recommendation algorithms" designed to assist in homeowner energy retrofit decision making. Furthermore, loan programs are emerging to address the financial barriers that commonly limit initiation of the necessary retrofits. Collectively, these approaches most often project future home energy performance based on engineering models of the physical characteristics of homes (i.e., "asset ratings"). Yet to date, the marketplace is

	inadequately integrating historical household energy consumption patterns (i.e., "operational ratings") into the decision tree to optimize retrofit program efficacy and consumer benefits. Moving toward the unification of asset and operational ratings is crucial for successful program management, proper monitoring/measurement/verification (MMV), loan risk assessment, and for the persistence of reduced home energy use over time. However, unification will not be easy. This research project combines qualitative and quantitative research methods in social science and building science using Florida case studies to evaluate the opportunities and constraints of asset and operational rating unification and the steps necessary to get there. Relationships between our project and the collaborative, transparent, and participatory nature of "open government" initiatives are also being explored. **Budget**: $24,000 **External Collaborators:** Nick Taylor (Ph.D. Student, UF School of Natural Resources & Environment), Jennison Kipp (Assistant In, UF Program for Resource Efficient Communities)
	Title: Meteorological Factors Affecting Solar Energy Efficiency **PI:** Paul Ruscher **Co-PIs:** (formerly Yaw Owusu, Hans Chapman - FSU **Description:** There are numerous meteorological factors that limit the efficiency of solar energy systems in the tropics. Depletion of available solar energy at the surface by increased water vapor, cloudiness, temperature of the solar panel system, pollution, are sometimes overlooked, because engineering specifications for design are often based upon midlatitude continental air masses. The typical tropical atmospheric reduction factors were reviewed using a state of- the-art solar energy model for this project. In addition, meteorological variability can be quite extreme in the tropics and many engineering studies on feasibility of renewable energy sources in general are often based upon "typical" year criteria, rather than longer term climatologies. It is suggested that climatological data be utilized to more accurately portray the variability of output to be expected at a typical installation. Many of these variables are already widely available from a combination of surface and upper air meteorological stations, as well as remote sensing data from satellites. We demonstrated the sources for these data as well as strategies for teaching about solar energy efficiency using routine observations from school-based weather stations. This project is complete. **Budget:** $15,000 ***This project has been completed***
THRUST 3: Developing Florida's Biomass Resources	
Algae	
	Title: Establishment of the Center for Marine Bioenergy Research: Systems Approach to BioEnergy Research (SABER) **PI:** J. Kostka (he has left FSU), **Co-PIs**: William Cooper, Ivonne Audirac, Amy Chan-Hilton,Ellen Granger – FSU **Description:** IESES' Systems Approach to Bio-Energy Research (SABER) is particularly focused on coupling algal cultivation to wastewater nutrient remediation. SABER has partnered with the City of Tallahassee's T. P. Smith Waste Water Treatment Plant in order to study the growth of local fresh water algae in waste water for use as biofuel. The two main objectives of this project are to: 1) perform both laboratory and field experiments to test for species-specific growth potentials, as well as for the effects of different environmental parameters, including light, carbon dioxide, and nutrient availability on microalgal growth rates and lipid production, and 2) determine the extent to which microbes (i.e. bacteria), which are exceptionally abundant in waste water, act as either competitors (for nutrients, carbon) or symbiotically with algae. To do this we are examining the bacterial community present in the waste water and detecting community shifts that occur during algae cultivation. We are also examining the nutrient uptake dynamics

	between bacteria and algae by monitoring the usage and production of nitrogen, phosphorous, and carbon-containing compounds. Finally, a number of advanced analytical chemistry techniques are being used to characterize wastewater before and after algae cultivation. With a better understanding of the microbial and biogeochemical processes occurring in waste water during algae cultivation, engineering approaches may be proposed in order to further optimize algal growth in waste water. **Budget:** $494,135 **External Collaborators:** City of Tallahassee ***This project has been completed***
	Title: Constructual Optimization of Solar Photo-Bioreactors for Algae Growth **PI:** Juan Ordonez - FSU **Description**: This was a planning grant (15K, only). The work was targeted towards placing us in a more competitive position in future submissions in the area of bio-fuels. By the end of this one-year effort we now have a complete design of a small-scale photo-bioreactor for algae growth, obtained additional funds that will allow us to build a large-scale photo-bioreactor and conduct the necessary research for its optimal design and operation. This project is complete. **Budget:** $15,000 **External Collaborators:** Federal University of Parana, Brazil ***This project has been completed***
	Title: Optimization of Algae Species for Biofuels Production Using Genetic Altration **PI:** Ed Phlips- UF **Description:** This study will begin in June, 2011, and will focus on genetically altering selected species of algae to optimize their performance in biomass production systems aimed at biofuels. Two approaches to genetic alteration will be explored: mutagenesis and transformation. **Budget:** $15,000
High Energy Crops	
	Title: Energy Intensive Crop Development **PI:** Gary Peter , Matias Kirst, Don Rockwood - UF **Description:** To build a commercially viable, industrial scale system to produce transportation fuels and electricity from biomass requires both efficient conversion technologies and environmentally sustainable, cost effective supplies of biomass. In the US, Florida ranks first in its annual growth of plant biomass, because of its large cultivable land area and its subtropical climate, even though substantial land areas that can be planted are not currently in agricultural or forest production. The development of high yielding production systems for dedicated energy crops is considered essential for a sustainable, biomass to energy industry to be established, because the long-term availability of sufficient amounts of reasonably priced biomass is one of the most important factors in the site selection for new biofuel and bioenergy facilities. Dedicated energy crops are ones that 1) have high yields with minimum energy inputs in terms of agronomic practices, water and nutrient applications, 2) can be harvested, transported and processed efficiently into fuel or power, and 3) can be grown sustainably for generations without adverse environmental affects, or significantly impacting the food supply. We will evaluate likely energy crop species, *Eucalyptus* and southern pine to provide important yield and best management practices for growing these species for bioenergy conversion. We will also provide important chemical composition information that will impact the conversion efficiency of this biomass to ethanol, and identify and characterize important genes that regulate wood chemical composition **Budget:** $432,000
	Title: Water-Use Efficiency and Feedstock Composition of Candidate Bioenergy Grasses in Florida

	PI: Lynn E. Sollenberger, **Co-PI's:** John Erickson, Joao Vendramini, Robert Gilbert - UF **Description:** Florida ranks first in the USA in annual growth of plant biomass because of a large cultivatable land area, high rainfall, and long growing season. In order to capitalize on these advantages, the agricultural production sector and biomass conversion industries require information regarding which crops are adapted to particular Florida regions and local environments, how much biomass can be produced during what times of the year, which crops produce the most biomass per unit of water used, and which crops have the desired yield and composition for particular bioenergy applications. Research conducted to date has quantified the seasonal biomass supply provided by the most likely crops for use in Florida, identified crops and management practices that result in most efficient water use, and described the chemical composition of these plants to allow estimates of potential energy production per unit of biomass. Florida growers and industry representatives have gained access to this information through on-line resources, presentations by several of the project investigators at the Florida Farm to Fuel Conference, and by attending the Bioenergy Crop Field Day at the University of Florida Plant Science Research and Education Unit. Seven graduate students are being trained through this project and undergraduate students are gaining invaluable research experience via internships mentored by project investigators. Faculty involved in the FESC project have formed collaborations regarding agronomic and breeding projects with Speedling, Inc., SERF, and BP. Both SERF and BP plan to construct ethanol facilities in Florida that would create an estimated 400 temporary construction jobs and 140 permanent jobs each. **Budget:** $191,981 **External Collaborators: :** Speedling, Inc., Nutri-Turf, Inc., British Petroleum (BP), and Southeast Renewable Fuels (SERF)
Biochemical Conversion	
	Title: Development of Biofuel Production Processes From Synthetic and Biomass Wastes **PI:** Pratap Pullammanappallil - UF **Description:** With the ever-increasing price of petroleum and its finite supply, it is of high priority to develop domestic sources of transportation fuel, as well as other chemicals. Ethanol is an attractive alternate fuel that is being produced from corn starch. It is necessary to target other feedstocks for biofuel production and develop processes that have a minimal environmental impact. There is considerable ongoing research on developing processes and catalysts for conversion of biomass to biofuels like ethanol (called cellulosic ethanol process). But this project addresses other feedstocks with the following objectives: 1) development of biocatalysts for the conversion of waste biodegradable poly lactic acid based plastics to ethanol and 2) development of processes that processes for the production of additional fuels like biogas, bio-oil and biochar from the waste and byproducts of a cellulosic ethanol plant for the cleanup and reuse of these waste streams **Budget:** $192,000 **External Collaborators:** University of Central Florida
	Title: Engineering Biocatalysts for Hemicelluloses Hydrolysis and Fermentation **PI:** James F. Preston - UF **Description:** Our goal is to develop biocatalysts for the cost-effective production of fuel alcohols and chemical feedstocks from underutilized sources of renewable biomass and evolving energy crops. To reach this goal protocols for efficient saccharification of hemicellulose fractions from these resources will be developed. Objectives are to: 1. Develop improved enzyme-mediated saccharification protocols of hemicelluloses with existing bacterial biocatalysts for production of biofuels and chemical feedstocks.

	2. Develop Gram positive biocatalysts for direct conversion of hemicelluloses to biobased products. 3. Develop systems with bacterial biocatalysts for efficient bioconversion of the hemicellulose fractions of perennial energy crops (poplar, eucalyptus, switchgrass, energy cane) to targeted products. **Budget:** $192,000 **External Collaborators**: Collaborations are in various units within the University of Florida: L.O. Ingram and K.T. Shanmugam, Microbiology and Cell Science; F. Altpeter, Agronomy; G. Peter, Forest Resources and Conservation.
	Title: Thermophilic Biocatalysts for the Conversion of Cellulosic Substrates to Fuels and Chemicals **PI:** K.T. Shanmugam - UF **Description:** Biomass is an attractive source of sugars for a state like Florida that produces very limited amount of corn for fermentation to produce ethanol as transportation fuel or other products such as lactic acid that can be converted to bioplastics. Florida currently generates about 8.7 million tons of dry cellulosic biomass per year (US-DOE) that can be converted to about 0.7 billion gallons of ethanol. With specific energy crops and short rotation trees cultivated for energy production using the abundant sunshine and water resources, the ethanol produced from biomass can be significantly increased to meet the demand for transportation fuel in the State of Florida. Before biomass-based fuels and chemicals become an economic reality, several key steps in the depolymerization of biomass to constituent sugars need to be addressed. One is depolymerization of cellulose to glucose by fungal cellulases before fermentation to ethanol by microbes. The current estimated cost of fungal cellulases is $0.32 per gallon ethanol produced and this cost is targeted for reduction to $0.10 or less by year 2012 (DOE). We have demonstrated that by increasing the temperature of Simultaneous Saccharification and Fermentation (SSF) of cellulose from 30-35 ºC to 50-55 ºC, the amount (and associated cost) of cellulases can be reduced by the required 3-fold with the current commercial enzyme preparations. A microbial biocatalyst that produces ethanol or other chemicals as the main fermentation product and can also function at this higher temperature and pH 5.0 in conjunction with the fungal cellulases in the SSF process is a critical component of this process. We have identified a thermophilic facultative anaerobe, *Bacillus coagulans*, with versatile metabolic capability as the microbial platform for the SSF of biomass to products and engineering this L(+)-lactic acid producing bacterium to produce ethanol. *The primary objective of this proposed study is to construct a B. coagulans derivative that produces ethanol as primary product of fermentation and to enhance the ethanol productivity of the engineered derivative.* **Budget:** $192,000 ***This project has been completed***
Bio gasification	
	Title: Combined Cooling, Heat, Power, and Biofuel from Biomass and Solid Waste **PI:** William Lear, **Co-PI:** J.N. Chung - UF **Description:** The goal of this project is to provide the underlying research and demonstration of a novel technology which would enable the economic utilization of dispersed biomass and solid waste resources to produce electric power, cooling, heat, and transportation fuels. This integrated gasification and power generation system combines University of Florida advances in high-temperature gasification, hydrogen generation and separation, and advanced gas turbine systems. Their integration is expected to result in significant improvements in the cost, emissions, feedstock flexibility, and water requirements, all in a relatively compact, modular plant system. This in turn will enable much greater utilization of renewable energy supplies, helping the development of a sustainable energy supply infrastructure. **Budget:** $576,000 **External Collaborators:** Siemens Power Generation, Florida Turbine Technologies, Energy Concepts Co.,

	Nu-Power Technologies LLC, PlanetGreenSolutions Inc., LPP Combustion, LLC. Back to Thrust 1: Overarching
Thermo-Chemical Conversion	
	Title: Production of Liquid Fuels Biomass via Thermo-Chemical Conversion Processes **PI:** Babu Joseph, **Co-PIs:** Yogi Goswami, Venkat Bhethanabotla, John Wolan, Vinay Gupta - USF **Description:** The objective of this project is to develop technology for the economical thermo-chemical conversion of lingocellulosic biomass (non-food grade biomass such as agricultural waste, bagasse from sugar mills, citrus peels, switch grass, municipal green waste, etc.) to clean burning liquid fuels. Five of the major advantages of this process over a biochemical route to production of ethanol are: (i) it does not utilize food-grade feed stocks and therefore complements and does not compete with the agricultural food production in the state, (ii) the fuel produced is similar to those derived from petroleum unlike ethanol derived fuels which have at least a 25% lower energy content, (iii) the conversion is accomplished in using fast chemical reactions unlike the slow biological reactions for fermenting alcohol, (iv) the process does not require large amounts of water and associated energy costs of separating the water from the fuel as in bioethanol processes, (v) it can utilize a wide variety of biomass sources unlike the biochemical route which cannot work with high lignin containing biomass. **Budget:** $554,447 **External Collaborators:** Prado & Associates
	Title: Feasibility, Sustainability and Economic Analysis of Solar Assisted Biomass Conversion **PI:** Babu Joseph, **Co-PI:** Q. Zhang - USF Description: The main deterrent for commercialization of biomass conversion processes is the cost of conversion; particularly the need to sacrifice as much as 30% of the energy content in the biomass for the thermo chemical conversion step. We want to research and develop the concept to use solar thermal energy from concentrating units to provide energy for the biomass gasification step. We also propose to evaluate the sustainability of such a process. Overall Objective: The overall objective is to conduct a theoretical analysis of solar assisted thermo chemical conversion of biomass from the point of view of energy efficiency, economic feasibility, environmental impact, and long term sustainability of renewable energy production. **Budget:** $45,238
	Title: Integrated Florida Bio-Energy Industry **PI:** Ali T-Raissi **Co-PIs:** N.Z. Muradov, D.L. Block - UCF/FSEC **Description:** The aim of this project continues to be production of liquid hydrocarbon fuels derived from lignocellulosic and aquatic biomass employing a two-step thermocatalytic process. In the first step, pre-treated biomass is gasified with oxygen (or air) and steam yielding synthesis gas (syngas) containing hydrogen and carbon monoxide. In the second step, syngas generated by the gasifier enters a Fischer Tropsch (FT) synthesis unit where it reacts to form a range of liquid hydrocarbon fuels – including diesel. **Budget:** $648,000
	Title: Biofuels Through Thermochemical Processes: Approach to Produce Bio-Jet Fuel **PI**: Anjaneyulu Krothapalli - FSU **Description:** The objective of this project was to develop technologies to produce biojet and biodiesel fuels from sustainable sources such as bio-oils and hydrogen produced from biomass generated synthetic gas. Novel processing concepts, reactor design and catalyst systems are employed in this integrated approach to convert any cellulosic biomass and any nonedible bio-oils into bio-jet fuel (Figure 1). Feedstock flexibility offers significant cost and logistic advantages to this approach. Unlike other processes which use only the oil derived from a plant, the entire plant can be used as feedstock source and the proposed approach can

	also convert the more challenging lignocellulosic component. This project is complete. **Budget:** $229,572 ***This project has been completed***
THRUST 4: Harnessing Florida's Solar Resources	
Solar Testing Facility	
	Title: Solar Systems Testing Facility **PI:** James Roland, David Block - UCF/FSEC **Description:** Over the past four years, the Florida Solar Energy Center (FSEC) has received a significan increase in demand for solar and PV systems testing and certification. This occurrence has resulted i requiring the Center to correspondingly amplify its capabilities to respond to the increased demand. Thus, th objective of this task was to construct a solar and PV systems testing facility by adding walls, windows, door and A/C to an existing Florida Solar Energy Center roof only facility. The enclosing of this existing spac was done for the purpose of increasing laboratory space and to allow for laboratory testing of solar wate heating systems and PV modules and inverters. The action was taken following a study which determined thi project was the most cost effective means of adding valuable indoor laboratory space. **Budget:** $600,609 ***This project has been completed***
Solar Thermal	
	Title: Concentrating Solar Power Program **PI:** Charles Cromer, R. Reedy - UCF/FSEC **Description:** The objective of this effort is to produce a detailed Florida map of the solar direct beam and global resource available for use in Florida whereby a potential user of solar energy can enter their location latitude and longitude and receive a table of solar energy monthly averages for that specific site as derived from the past eleven years of data. The concept is to use NOAA satellite photos and utilize the brightness of the cloud cover as a clearness factor predictor of the solar energy that gets through to the ground below. **Budget:** $52,000 **External Collaborators:** FPL ***This project has been completed***
	Title: Development of Novel Water Splitting Catalysts for the Production of Renewable Hydrogen **PI:** Helena Hagelin-Weaver - UF **Description:** This project focuses on the development of iron-based catalysts for the thermochemical splitting of water into hydrogen and oxygen. The thermochemical process of splitting water is particularly well-suited for the utilization of solar energy to provide the heat for the reaction and is a way to produce a renewable hydrogen fuel. As hydrogen is difficult to transport and store, producing hydrogen on site for power plants using proton exchange membrane (PEM) fuel cells or internal combustion engines to generate electricity or for the production of chemicals, such as liquid hydrocarbon fuels, is a very attractive approach. The project uses a two-step process in which water is passed over a reduced iron oxide to generate hydrogen while the oxygen is taken up by the oxygen-deficient iron oxide (Step 1: $FeOx\text{-}1 + H2O \square FeOx + H2$). In the second step the resulting iron oxide is heated to desorb oxygen and regenerate the oxygen-deficient iron oxide to close the catalytic cycle (Step 2: $FeOx \square FeOx\text{-}1 + ½O2$). The main objectives of the project are to develop mixed metal oxide catalysts that 1) will release oxygen at temperatures lower than 1500°C (Step 2), while still maintaining water-splitting activity (Step 1) and 2) are stable up to the temperature necessary for the oxygen desorption step. **Budget:** $ 100,000
	Title: Enhanced and Expanded Solar Thermal Test Capabilities

	PI: J. Del Mar**,** R. Reedy - UCF/FSEC (PI use to be J. Walters) **Description:** The Florida Solar Energy Center (FSEC) serves the State of Florida by providing independent, third-party testing and certification of solar equipment for the main purposes of providing product value in the marketplace, especially for products that are not widely "proven" with consumers such as solar water heating systems and solar electrical (photovoltaic) systems. Even more important, third-party certification provides protection to reputable manufacturers, ensuring that lower quality products, often from foreign markets, do not compete head-to-head with Florida and U.S. products unless they meet the same standards. **Budget:** $809,295 **External Collaborators:** Solar thermal manufacturers
	Title: Solar Fuels for Thermochemical Cycles at Low Pressures **PI:** Jörg Petrasch - UF **Description:** The project focuses on the production of solar fuels from solar thermochemical cycles employing metal/metal oxide redox pairs. These thermochemical cycles consist of a high temperature endothermic solar driven reduction step and a low temperature, slightly exothermic water or CO2 splitting step. The high temperature step typically proceeds at temperatures above 2000 K. Hence, it poses a range of material and design challenges. According to Le Chatelier's principle, the temperature for the solar dissociation reaction decreases as the pressure inside the reactor is reduced. The central hypothesis of the project is that operating the high temperature step of metal/metal oxide solar thermochemical cycles at reduced pressures will lead to significantly relaxed temperature requirements, while the work necessary to produce the pressure difference will not significantly reduce the overall efficiency of the process. The main goal of the project is to demonstrate the feasibility of carrying out high temperature thermal reduction of metal oxides in rarefied conditions using high intensity solar radiation from UF's solar simulator. **Budget:** $ 100,000 **External Collaborators:** Wojciech Lipinski, University of Minnesota
	Title: Solar Thermal Power for Bulk Power and Distributed Generation **PI:** David Hahn, **Co-PIs:** James Klausner, Renwei Mei, Helena Weaver - UF **Description:** While there are many different approaches to hydrogen generation, the most attractive means is to split water molecules using solar energy. The current approach is to develop highly reactive metal oxide materials to produce intermediary reactions that result in the splitting of water to produce hydrogen at moderate temperatures (<1000 K). It is envisioned that the metal oxide reactors will ultimately be mounted within a solar concentrating reactor, and irradiated via heliostats. This Task is structured toward the overall goals of solar-driven, thermochemical hydrogen production, with associated efforts toward the enabling surface science, catalysis, particle science, material synthesis, nano-structures, multiscale-multiphase physics modeling, and process simulation that will enable the realization of solar hydrogen-based fuels to power the transportation economy. Successful efforts as targeted in this project are a critical step toward increased renewable-resource based fuels and energy, reduction of GHG emissions, and establishment of a new power industry in Florida. **Budget:** $446,400
	Title: Design, Construction and Operation of CSP Solar Thermal Power Plants in Florida **PI :** Yogi Goswami, **Co-PIs:** Lee Stefanakos, Muhammad Rahman, Sunol Aydin, Robert Reddy - USF Florida utilities are mandated to achieve 20% renewable energy contribution to their generation mix by 2020. While technologically feasible with solar energy, the capital costs are high – presently, capital costs range from $6,000-$7,000/kW for PV and $3,500-$4,000/kW for concentrating solar thermal power. This

	project targets the development of solar thermal power technology for bulk power and distributed generation, which will diversify energy resources in Florida and reduce greenhouse emissions by utilizing renewable sources. Also, there will be economic impacts with the establishment of new power industry in Florida, which will help the electrical utilities of the state to meet the renewable portfolio standards. The project has three main tasks; the first one is to develop design methodologies and standards for the proven solar thermal power technologies in combination with bio or fossil fuels based on Florida conditions and resources. Secondly, the project aims to set up demonstration and test facilities for these technologies for optimization for Florida conditions, and the final task is to develop and commercialize innovative technologies based on new thermodynamic cycles. **Budget:** $882,000 **External Collaborators:** Sopogy Inc. and Gulf Coast Green Energy. Back to Thrust 1: Overarching
	Title: Multi-Generation Capable Solar Thermal Technologies **PI:** A. Krothapalli, **Co-PI:** Brenton Greska - FSU **Description:** The objective of the research was to develop and demonstrate small-scale solar thermal technologies that can be used separately, in conjunction with one another, or with existing waste heat producers, thus improving the overall system efficiency. This project is complete. **Budget:** $544,226 ***This project has been completed***
Clean Drinking Water	
	Title: Low Cost Solar Driven Desalination **PI:** James Klausner - UF **Student:** Fadi Alnaimat/ Ph.D **Description**: This work concerns the development of a cost effective, low power consumption, and low maintenance desalination process that is powered by solar energy. The solar diffusion driven desalination (DDD) process is most suitable for decentralized applications. While theoretical models have been developed to analyze the evaporation and condensation processes of the solar DDD under transient operating conditions (Alnaimat et al., 2011), experimental investigations have been conducted to validate the theoretical models. In this reporting period, the overall distillation performance of the solar DDD has been investigated under different design and operating conditions. The best operating modes have been proposed to improve the water production and reduce the specific energy consumption. **Budget:** $252,000 **University:** UF
	Title: Clean Drinking Water using Advanced Solar Energy Technologies **PI:** Lee Stefanakos **Co-PI's:** Yogi Goswami, Matthias Batzill, Maya Trotz, Sesha Srinivasan - USF **Description:** Availability of fresh water is one of the biggest problems facing the world and Florida is one of the most vulnerable to fresh water shortages. Moreover, Florida ground water is contaminated in many locations from leaky underground tanks, agricultural pesticides, and other chemicals. Although it is possible to desalinate abundant seawater, conventional systems are too energy intensive. Solar energy can provide the needed energy, and innovative new solar vacuum (USF) and humidification/dehumidification (UF) desalination systems can provide adequate fresh water for the state's needs. Systems are being developed for both bulk water desalination and small community needs/disaster response. We will also develop photocatalytic disinfection to remove contaminants and integrate these technologies with solar PV for complete water supply systems. Photocatalysis is a promising water treatment technology capable of utilizing solar light. However, the

	construction of an effective photocatalytic disinfection system for water purification is currently limited by the lack of reliable models to aid in the design and testing of these systems. Simplified models have been proposed, but most are inadequate because they rely on traditional disinfection theories which are not applicable to photocatalysis. Therefore, the major goal of this research is to develop a model for photocatalytic disinfection based on fundamental processes which may then be used to design water treatment systems in the state of Florida. **Budget:** $326,756 **External Collaborators:** NA
Low Cost PV Manufacturing	
	Title: Enhanced and Expanded PV Systems Testing Capabilities at FSEC **PI:** S. Barkaszi, **Co-PI:** R. Reedy - UCF/FSEC **Description:** An important FSEC function is consumer protection from poorly designed and manufactured PV modules and systems. FSEC's test capabilities were established over 10 years ago and were adequate at the time to test PV modules for certification. However, PV costs have fallen and competing electric utility rates have risen. In the last two years, these curves have crossed under some economic scenarios and incentive programs, and the demand for PV module testing and system certification has jumped. Thus, this task will provide for enhanced and expanded PV testing and certification capabilities. The task will also be done in close coordination with FSEC's work with the U.S. Department of Energy's PV program. **Budget:** $196,018
	Title: Development of High Throughput CIGS Manufacturing Process **PI:** Neelkanth Dhere - UCF/FSEC **Description:** A reduction in the cost of CIGS and other thin film PV modules is required for broad PV applications. The objective is to develop a high-rate deposition process for synthesis of CIGS absorbers and other layers by employing in-line and batch deposition techniques. The goal is finally to attract a PV manufacturing company to Florida by developing a high-rate manufacturing process for $CuIn_xGa_{1-x}Se_2$ (CIGS) solar cells. **Budget:** $141,620 Back to Thrust 1: Overarching
	Title: Florida Opportunities for PV Manufacturing and Applications **PIs:** D. Block, J Fenton, P. Fairey, W. Schoenfelds, R. Reedy - UCF/FSEC **Description:** The overall goal of this project is to assist in the development of a photovoltaic (PV) manufacturing industry in Florida. The project objective is to conduct a review of the state, national and international PV manufacturing data for the purposes of establishing industry practices and an industry data base. The data base will then be available to assist Florida in establishing PV manufacturing firm(s). **Budget:** $81,120
	Title: Development of Low Cost CIGS Thin Film Hot Carrier Solar Cells **PIs:** Gijs Bosman, **Co-PI:** Tim Anderson - UF **Description:** Our study is focused on hot carrier solar cells for cell conversion efficiency improvement in a low cost, high throughput CIGS system. The rapid thermalization loss of hot photoexited carriers interacting with the lattice can potentially be reduced through phonon engineering in the absorber layer; the subsequent extraction of the hot carriers may be realized through device engineering of energy selective contacts. **Budget:** $450,000
	Title: Solar Photovoltaic Manufacturing Facility to Enable a Significant Manufacturing Enterprise within the State and Provide Clean Renewable Energy **PI:** Don Morel – USF, **Co-PIs:** Chris Ferekides, Lee Stefanakos - USF

	Description: The primary goal of this project is to enable the establishment and success of local solar photovoltaic manufacturing companies to produce clean energy products for use within the state and beyond and to generate jobs and the skilled workforce needed for them. Thin film technologies have shown record efficiencies of 20%, and present tremendous opportunities for new Florida start-up companies. USF, UCF, and UF are collaborating to develop a pilot line facility for thin film solar technologies, which will serve as a test bed for making ongoing improvements in productivity and performance of solar modules, develop advanced manufacturing protocols, and help train a skilled workforce to ensure the success of new companies. **Budget:** $1.6M **External Collaborators:** Mustang Solar, a Division of Mustang Vacuum Systems Back to Thrust 1: Overarching
Advanced PV Device Program	
	Title: Research to Improve Photovoltaic (PV) Cell Efficiency by Hybrid Combination of PV and Thermoelectric Cell Elements. **PIs:** Nicoleta Sorloaica-Hickman**,** Robert Reedy - UCF/FSEC **Description:** Photovoltaic/thermoelectric (PV/TE) cell integration is a promising technology to improved performance and increase the cell life of PV cells. The TE element can be used to cool and heat the PV element, which increases the PV efficiency for applications in real-world conditions. Conversely, the TE materials can be optimized to convert heat dissipated by the PV element into useful electric energy, particularly in locations where the PV cell experiences large temperature gradients, i.e. use the thermoelectric module for cooling, heating and energy generation depending on the ambient weather conditions. Thus, the goal of this research effort is to research and develop nanoscale design of efficient thermoelectric material through a fundamental understanding of the materials properties and to design and build a photovoltaic thermoelectric (PV/TE) hybrid system. **Budget:** $167,820 Back to Thrust 1: Overarching
	Title: PV Devices Research and Development Laboratory **PI:** Robert Reedy **Co-PI's:** Nicoleta Sorloaica-Hickman, Neelkanth Dhere - UCF/FSEC **Description:** The primary challenge facing the PV industry is to dramatically reduce the cost/watt of delivered solar electricity by approximately a factor of 2 to 3, to increase the manufacturing volume by a factor of 10 and to improve the cell efficiencies by a factor of 2 to 3. This task will conduct R&D on basic science of PV cells and develop a world class PV cell laboratory for future cell research. The R&D will focus on developing new and improved PV cells such as organic PV, nano-architectures, multiple excitation generation, plasmonics, and tandem/multi-junction cells. **Budget:** $450,250
	Title: Beyond Photovoltaics: Nanoscale Rectenna for Conversion of Solar and Thermal Energy to Electricity **PI:** Shekhar Bhansali, **Co-PIs:** Elias Stefanakos, Yogi Goswami, Subramanian Krishnan - USF **Description:** The main objective of the proposal is to commercialize and scale up a new technology, rectenna to convert waste heat energy to electricity. Although the prediction of highly efficient (~85%) solar rectennas was published almost 30 years ago, serious technological challenges have prevented such devices from becoming a reality. Since the ultimate goal of a direct optical frequency rectenna photovoltaic power converter is still likely a decade away, we plan to convert optical solar radiation to thermal radiation (~30 THz regime) using an innovative blackbody source. Leveraging the research efforts of the world-class team members, we plan to further develop the rectenna technology that is within reach of efficient radiation

	conversion at 30 THz. A fully integrated, blackbody converter and 30 THz rectenna system will be capable of converting at least 50% of solar and thermal energy into usable electrical power, clearly demonstrating a truly transformational new technology in the renewable energy technology sector. **Budget:** $598,500 **External Collaborators:** Bhabha Atomic Research Center, India
PV Integration	
	Title: PV Energy Conversion and System Integration **PI:** I. Bataraseh, **Co-PI's:** J. Shen, Z. Qu, X. Wu, W. Mikhael, L. Chow – UCF (PI use to be N. Kutkut) Description: The objective of this project is to develop a system-driven Plug'N'Gen solar power system demonstrating architecture of decentralized, low-cost, mass-produced, PV panel-mounted micro-inverters. This system will be able to compete with today's centralized multi-kW PV inverters that require cost prohibitive professional installation. The project tasks are: 1) novel inverter topology and control concepts; 2) advanced digital control algorithms; 3) SmartTie interface with the utility grid; and 4) low cost and ultra-compact PV inverter in package. **Budget: $1,267,000** Back to Thrust 1: Overarching
	Title: Non-Contact Energy Delivery for PV System and Wireless Charging Applications **PI:** Jenshan Lin - UF **Description**: Innovative non-contact energy delivery method will be used in photovoltaic energy generation system to accelerate the system deployment. Instead of delivering electric power using cables penetrating through building structures, magnetic field coupling allows power to be transferred wirelessly through building walls and roofs. In the meantime, the DC electric energy from photovoltaic cells is converted to AC energy. This enables the photovoltaic system to be quickly set up or relocated, and the collected solar energy from outdoor system can be conveniently delivered to indoor appliances. Techniques to achieve high efficiency at high power delivery through different building structures will be studied for this plug-and-play architecture. In addition, the technique and the system can also be used for non-contact charging of electric vehicles. The transmitter/charger can be placed as a mat on garage floor or parking space. The receiver inside vehicle will pick up the energy delivery through magnetic coupling. This eliminates the need of connecting charging wires to vehicles and exposed metal contacts, which is a safer method of charging electric vehicles **Budget: $**252,000
	Title: An Integrated Sustainable Transportation System **PI:** David Norton, Keith Duncan – UF (Formerly Eric Wachsman (PI) and Shirley Meng (Co-PI);left UF) **Description:** The proposed vehicle, operating on biofuel while in transit and charged by the sun while parked, is the ultimate sustainable transportation system operating completely on renewable American energy resources. Moreover, the use of solid oxide fuel cells (SOFCs) rather than an IC engine in this hybrid vehicle results in a dramatic improvement in efficiency and reduction in emissions. SOFCs are the most efficient technology for converting energy from hydrocarbon fuels to electricity on a "well to wheels" basis. In contrast, the more conventional fuel cells require hydrocarbon fuels to first be converted to H_2, with resultant efficiency losses, followed by losses due to H_2 transport and storage. Therefore, on a system-basis SOFCs hold the potential for producing the least CO_2/kWh from conventional fuels, and if designed to operate on biofuel would in effect be carbon neutral and operating on a renewable resource. *If developed this vehicle would be a transformational change in transportation technology.* **Budget:** $594,000 **External Collaborators:** Solid-State Energy Technology, Inc., Lynntech, Inc., Planar Energy Devices,

	Inc., CFX Battery, Inc. Back to Thrust 1: Overarching ***This project has been completed***
	Title: PV Power Generation Using Plug-in Hybrid Vehicles as Energy Storage **PI:** J. Shen, **Co-PI:** I. Batarseh - UCF **Description:** The objective of this project is to develop and demonstrate an alternative PV power generation architecture that uses plug-in hybrid vehicle as the energy storage and transfer element with a total system cost target of $3.50/W. The tasks include developing efficient, reliable, and inexpensive maximum power tracking DC/DC battery chargers and 3-phase converters. A 10kW demonstration solar carport charging station will be built on UCF campus. A plug-in hybrid vehicle with a 25kWh battery bank (battery-only driving range of 50-100 miles) and onboard bidirectional AC charging system will be demonstrated **Budget:** $380,816 **External Collaborators:** City of Tavares, FL
	Title: Integrated PV/Storage and PV/Storage/Lighting Systems **PI:** Franky So, **Co-PI:** Jiangeng Xue - UF **Description:** The goal is to increase the efficiency and reduce the cost of solar power through the integration of PV, Li-battery, and LED lighting technologies. Since all components are in the form of thin films, the PV/battery/LED system can be integrated as a single module. Since half of the materials cost of each device is the substrate, integrated module will also reduce materials costs and processing steps. Importantly, their integration further eliminates the need for inverters since they are all low-voltage devices. Such an integrated device can be used to store energy during the day and power the LED panel for lighting in the evening. In addition, we will explore the possibility of fabricating a semi-transparent module. The success of this Task will lead to a novel solar-power lighting panel that can be used as a sky light during the day and a lighting panel during the night without using grid-power. We not only will develop the technologies, but also integrate devices and perform technology-economic evaluation, including life-cycle costs. **Budget:** $576,000 Back to Thrust 1: Overarching
THRUST 5: Ensuring Nuclear Energy & Carbon Constrained Technologies for Electric Power in Florida	
	Title: Reducing Residential Carbon Emission in Florida: Optional Scenarios Based on Energy Consumption, Transportation, and Land Use **PI:** Tingting Zhao**, Co-PI:** Mark Horner - FSU **Description:** In 2007 the Governor of Florida established targets for greenhouse gas (GHG) emissions, which mandate that the State of Florida aims to reduce emissions to 2000 levels by 2017 and to 1990 levels by 2025. To fulfill these goals, not only is the development of renewable sources of energy and fuel needed, but it is also necessary to achieve more sustainable energy and fuel consumption patterns. This project is dedicated to the latter objective, i.e., exploring the effectiveness of optional scenarios for households' consumption of energy and transportation fuels with respect to carbon dioxide mitigation. Human land use is another major concentration of this research, as changes in the built environment and vegetation cover may create sources or sinks of carbon dioxide and hence affect the intensity and origins of carbon emissions. The proposal of this project consisted of three major steps: 1) calculating the Florida baseline carbon dioxide emissions from residential energy and fuel consumption as well as human land uses; 2) developing models of household behavior regarding various energy/fuel conservation and incentive options based on a residential survey; and 3) forecasting energy/fuel demand and CO_2 emission levels in 2017 and 2025 throughout the state of Florida based on the scenarios created in step two.

	This project was planned to be completed within two years. The PIs concentrated mainly on 1) journal publications on carbon inventory analysis at the state level; 2) finalizing the household energy consumption survey (including sampling design), which is composed of over 30 questions dedicated to household energy practice and responses to energy-saving incentives; and 3) preparation for the external grant application to the NSF Geography and Spatial Sciences (GSS) program. Data collection from the survey is complete and data analysis is underway. **Budget:** $60,844 ***This project has been completed***
	Title: Planning Grant: Enhanced Thermal Performance and Microstructure Simulation of Nuclear Fuels **PI:** Justin Schwartz - FSU **Description:**The objective of this proposal was to perform preliminary investigations to determine the viability of improved oxide nuclear fuels through high thermal conductivity coatings such as "BeO." To meet Florida's sustainable energy demands, they pursued the option of enhanced oxide nuclear fuel performance by considering the potential for improved thermal behavior through high thermal conductivity oxide coatings. This work will included a literature search of past investigations of the impact of enhanced thermal conductivity on nuclear fuel and reactor performance, the temperature and irradiation dependence of the thermal conductivity of BeO and other high thermal conductivity oxides, the chemical and thermal compatibility of BeO and nuclear fuels (UO2, PuO2, ThO2 and MOX), and initial studies into BeO coatings on HfO2 particles, where HfO2 serves as a benign surrogate for nuclear fuel oxides. This project is complete. **Budget:** $15,000 ***This project has been completed***
	Title: Biocatalytic Lignin Modification for Carbon Sequestration **PI:** Jon Stewart - UF **Description:** After cellulose, lignin is the second most abundant forma of carbon in plants. Lignin's complex structure makes it difficult to use this material in value-added products, and ahte vast majority of lignin is currently burned to provide energy for factory operations. While burning plant derived lignin does not add to global greenhouse gas levels, having options to remove lignin from the global carbon cycle would lead to diminished atmospheric CO2 levels. This could be accomplished by chemically altering lignin's structure to facilitate long-term terrestrial sequestration or using it in value-added products that would not be discarded immediately. We will use Nature's catalysts (enzymes) to tailor the chemical structure of lignin for both deep-well injection (by using lignin derivatives as drilling "muds") and for materials that can be used in building, packaging, and other manufactured products.) **Budget:** $200,000
	Title: Database Infrastructure for Integrative Carbon Science Research **PI:** Sabine Grunwald. **Co-PI:** Tim Martin - UF **Description:** Rising CO_2 concentrations in the atmosphere and effects on global climate change have been well documented, and future impacts are uncertain but potentially devastating. Florida's natural and agro-forest ecosystems have much potential to sequester carbon in biomass and soils due to unique climatic and landscape conditions. However, research gaps exist to accurately assess carbon pools and fluxes at coarse scales, ranging from county to the region and larger. The overarching objective of this project is to address these obstacles by creating a terrestrial carbon information system (called "TerraC") for the carbon science

	community, focused on ecosystems in Florida. The information system will be administered through the UF Carbon Resources Science Center (http://carboncenter.ifas.ufl.edu), a multi-disciplinary Center dedicated to research in support of enhanced agricultural and natural resource carbon management. **Budget:** $199,440
	Title: Creation of Carbon Sequestration Data, Technologies and Professional Cohorts for Florida **PI:** Mark Stewart, **Co-PIs:** Jeffrey Cunningham, Maya Trotz - USF **Description:** Rising concerns over increasing levels of greenhouse gases, especially carbon dioxide, have led to suggestions to capture carbon dioxide at fixed sources, such as fossil fuel power plants, and sequester the carbon for millennia by injecting it underground. Florida overlies many thousands of feet of carbonate rocks which may be suitable for geologic sequestration of carbon dioxide. This project will investigate the potential for geologic sequestration of carbon dioxide in Florida, the physical and chemical changes that may occur as a result of injection, assess the potential for escape of injected carbon dioxide, determine the risk, if any, to aquifer systems used for water supplies, develop methodologies for Florida utilities to predict the performance and risks of proposed sequestration projects, and educate a cohort of geologic sequestration professionals to create a carbon sequestration industry in Florida. **Budget:** $479,640 **External Collaborators:** Tampa Electric Company (TECO); Florida Power and Light (FPL); Environmental Consulting and Technology (ECT), Inc.; Los Alamos National Laboratory.
THRUST 6: Exploiting Florida's Ocean Energy Resources	
	Title: Southeast National Marine Renewable Energy Center **PI:** Susan H. Skemp**, Co-PIs:** Howard P. Hanson, James VanZwieten - FAU **Description**: The research and development program being conducted by the Southeast National Marine Renewable Energy Center (SNMREC) is structured to be the catalyst that will enable the ocean energy industry in Florida toward determining solutions to answer the state's energy challenge. This project focuses on determining the potential of harnessing the ocean current resource and ocean thermal energy conversion (OTEC). The regulatory process both at State and Federal levels continues to evolve as the roles and interdependencies of the individual agencies are more clearly articulated. In addition, knowledge to make these decisions is being defined and targeted on a micro level necessary to assess individual devices. SNMREC's mission is to bridge the gap between concept and commercial deployment of ocean energy technologies by providing at-sea testing facilities for both ocean current and thermal energy research and for technology development. Research cuts across environmental, ecological, resource and technology. **Budget: $8,750,000** **Universities:** UCF, FSU, ERAU, University of Miami, Oregon State University, University of Washington, Pennsylvania State University, University of New Hampshire, University of Hawaii, University of Edinburgh, Heriot-Watt University, Nova Southeastern University, Virginia Polytechnical Institute, Florida Institute of Technology, Embry-Riddle Aeronautical University **External Collaborators:** Numerous industry and State and federal government as well as FFRDCs, such as National Renewable Energy Laboratory, Woods Hole Oceanographic Institution, U.S. Department of Energy, U.S. Department of Interior (Bureau of Ocean Energy Management and Regulation and Enforcement), U.S. Department of Commerce (National Oceanic and Atmospheric Administration), and Florida Department of Environmental, Protection, to name a few.
	Title: Buoy Array for Ocean Wave Power Generation **PI:** Z. Qu, **Co-PI**: K. Lin - UCF **Description:** The objective of this project is to develop a novel design that can extract ocean wave energy

	for commercial consumption. The design detailed herein is unique in that it is a wave point energy harvester that is small in size and contains all of the mechanical components directly within the buoy. The project focuses mainly on the mechanical system within the buoy as well as methods to control the electrical load on the system. Different mechanical systems have been developed and tested on a motion platform to simulate a vertical wave motion—these systems have been analyzed and compared in order to provide an ever-increasingly effective design. The Harris Corp. have acted as new collaborators with the project since October 1st 2010, funding four UCF senior design teams in the development of a buoy for wave power generation. **Budget:** $150,000 ***This project has been completed***
THRUST 7: Securing our Energy Storage and Delivery Infrastructure	
	Title: The Future Florida Grid: Ensuring a Reliable and Resilient Electrical Energy Transmission and Delivery System in a Changing Environment **PI:** Steinar Dale, **Co-PIs:** T. Baldwin, O. Faruque, J. Langston, P. McLaren, R. Meeker, K. Schoder, M. Steurer - FSU **Description:** The project research goal is to address the challenges of the reliable movement of electrical energy throughout the state as the power system is transformed to include far more renewable and alternative sources, increased use of distributed energy resources (including storage and electric vehicles), emergence of microgrids, possible expansion of new very-large centralized baseload (nuclear), and incorporation of new power conversion, transmission, measurement, communication and control technologies (smart grid). This project has also supported ongoing participation and contributions in national, state, and local power and energy stakeholder groups, including the Gridwise Alliance, the North American Synchrophasor Initiative (NASPI), the American Society of Mechanical Engineers' (ASME) National Energy Committee, the Institute of Electrical and Electronics Engineers (IEEE) Power Engineering Society (PES), Florida's Great Northwest Alternative Energy Advisory Council, and the Tallahassee-Leon Economic Development Council (EDC) Energy and Environment Roundtable. **Budget:** $431,982 Back to Thrust 1: Overarching ***This project has been completed***
	Title: Microgrids for a Sustainable Energy Future **PI:** Chris S. Edrington, **Co-PIs:** Helen Li, Juan Ordonez, Jim Zheng, Mischa Steurer - FSU **Description:** The primary aim of the project was to address research and development in the area of microgrids. Specifically the focus was in the area of PV and Plug in Hybrid Electric Vehicles integration, microgrid modeling and control, grid-tying inverters/converters, energy storage, tri-generation, and standards development for smart grids. **Budget:** $719,333 ***This project has been completed***
	Title: Real-Time Power Quality Study For Sustainable Energy Systems **PI:** U. Meyer-Baese, **Co-PIs:** Helen LI, Simon Foo, Anke Meyer-Baese, Juan Ordonez - FSU **Description:** The main objective of this project is the collection of preliminary data for IESES proposals that can be used to seek local, national and international sources of external funding from private and government sponsors. The overall project has been split up in several independent subprojects to allow a timely completion of the tasks. All tasks have been completed successfully. **Budget:** $15,000 ***This project has been completed***

	Title: Planning Grant: Advancing Knowledge of Network Theory for Analysis and Design of Smart Power Grids **PI:** Svetlana V. Poroseva. **Co-PIs:** Yousuff Hussaini, Per Arne Rikvold - FSU **Description:** With power grids evolving towards increasing size, complexity, and integration, it has become more difficult to describe and predict their behavior, even under normal operational conditions. With technological development, climate change, and activities in the political arena, adverse circumstances (natural disasters, intelligent adversary, software design errors, human errors, etc.) have become more probable and costly events. The Project seeks to provide industry and government with advanced analytical and computational tools necessary for the automated evaluation of the structural resilience and reliability of power grids. The potential applications of the Project's results go beyond power grids. Any infrastructure essential to our society and economy (e.g., computer, communication, transportation) can benefit from the Project's results. This project is complete. **Budget:** $15,000 ***This project has been completed***
	Title: Investigating the Effect of Appliance Interface Design on Energy-use Behavior **PI:** Paul Ward**, Co-PIs:** Ian Douglas, David Eccles - FSU **Description:** The primary objective of this research project was to identify the behavioral factors that contribute to energy in/efficiency in the home. In particular, this project was designed to (a) examine current state-of the science on behavioral factors that affect energy efficiency, (b) report on the efficiency of typical energy consuming technology used in the home as well as existing programs designed to improve efficiency, and (b) investigate the types of human-technology interactions and other behavioral factors that lead to in/efficient energy use. To achieve these objectives this project proposed to use laboratory-based experimental and field-based methods to (i) identify interface-design factors that constrain individuals to behave in locally optimal but globally sub-optimal ways, and (ii) survey how cognitive, technological, and motivational behavioral issues affect use in the home environment. **Budget:** $247,720 ***This project has been completed***
	Title: Energy Delivery Infrastructures **PI:** Lee Stefanakos **Co-PIs:** Zhixin Miao - USF (Formerly Alex Domijan (PI) and Arif Islam (Co-PI). Left USF). **Description:** The proposed project is to simulate the effects of a renewable energy generation system in a microgrid context to the distribution grid system. The proposed project is to simulate the combination of renewable distributed generation and a battery system to assess the effects during critical conditions such as power system peak. A research opportunity is to investigate how existing tools can be applied to properly representing dynamic and transient behaviors of microgrids. Therefore, in this project we propose using simulation tools to model a microgrid and investigate how well we can reproduce its measured behavior in the field **Budget:** $485,184
	Title: Micro Battery Defense Development **PI:** Chunlei Wang - FIU **Description:** The microbattery market for new miniature portable electronic devices such as cardiac pacemakers, hearing aids, smart cards, personal gas monitors, micro electromechanical system (MEMS) devices, embedded monitors, and remote sensors with RF capability is increasing rapidly. Thin-film lithium batteries are among the most advanced battery systems that can scale down to the dimensions that match the MEMS devices. However, these two-dimensional (2D) batteries are necessarily thin in order to

	maintain effective transport of Li ions. In order to power MEMS devices with limited device area (areal "footprints"), batteries must somehow make good use of their thickness. Three-dimensional (3D) configurations offer a means to keep transport distances short and yet provide enough material such that the batteries can power MEMS devices for extended periods of time. In this project, we focus on developing functional 3D microbatteries based on our carbon microelectromechanical systems (C-MEMS) technique. These microbatteries could offer order of magnitude increases in electrode surface area and charging capability than thin film batteries at the same size scale. **Budget:** , $192,418.30 – *Not Funded by FESC*
	Title: Electrostatic Spray Deposition of Nanostructured Porous Metal Oxide Composite **PI:** Chunlei Wang - FIU **Description:** Recently, conversion reactions of interstitial-free 3d metal oxide structures (such as CoO, CuO, and NiO) with structures unsuitable for intercalation chemistry have nevertheless been shown to exhibit large, rechargeable capacities in cells with lithium. The specific capacities of these materials, which are potential candidates for the negative electrode, can be as high as 1,000 mAhg-1 (about three times of commonly used graphitic carbons). However, practical implementation using these metal oxides is hampered by the large capacity loss of the first cycle and poor material cyclability. These problems are partially attributed to the significant volume changes that occur during lithium uptake and removal (molar volume change of ~100%), which causes mechanical failure and the loss of electrical contact at the anode. They are also due to aggregation of metal nanoparticles that appears during the process of discharging the metal oxide anodes. In order to overcome these two challenges and develop excellent rate capabilities and high power densities of Li-ion batteries, metal oxide composite electrodes with hierarchical mixed conducting network structures will be synthesized. We propose the preparation and testing of multi-component metal oxide anode films with a variety of morphologies using a simple and versatile method based on the electrostatic spray deposition (ESD) technique. The ESD technique enables us to reproducibly fabricate thin film ceramic materials with simple, low-cost and controllable designed morphologies. ESD-derived ceramic thin films we obtained including 3-D reticular, spongy-like, hollow sphere, dense, etc morphologies. The structures of these films can be easily tailored by changing the precursor solution component(s) and adjusting the substrate temperature. In this project, we plan to fabricate porous metal oxide materials, MxOy (M=Fe, Co). Material characterization methods (such as: SEM, TEM, AFM, BET, etc) will be used to study the correlation between ESD parameters and surface morphologies. **Budget:** $88,378.711 - *Not Funded by FESC*
	Title: Fabrication and Investigation of Porous Tin Oxide Anodes for Li-Ion Micro Batteries **PI:** Chunlei Wang - FIU **Description:** The requirement of higher energy capacity microbatteries demands the exploitation of new substitute materials with higher energy capacity than traditional graphite. SnO2 has been considered as one of the most promising substitutes for the carbon anode in Li-ion batteries due to its high Li+ storage capacity. However, the practical application of SnO2 as anode is restricted by poor cyclability and rate capability due to large volume change during cycling, which can cause disintegration and electrical disconnection from current collector. In this project, we propose the preparation and testing of tin oxide anode films with a variety of porous morphologies using Electrostatic Spray Deposition (ESD) technique. Our research focus will be developing an ESD processing to fabricate tin oxide electrode with different pore sizes ranging from macropores to mesopores and down to micropores; constructing hierarchical porous tin oxide electrode by controlling process parameters and introducing a surfactant or polymer additives, and material characterization and electrochemical analysis in order to investigate the correlation between morphology and electrochemical performance and understand the underlying mechanism. The

	proposed research will significantly enhance our understanding of fundamental issues regarding intrinsic properties of porous SnO2 films as anode for Li-ion batteries. **Budget:** $100,000 - *Not Funded by FESC*
	Title: Very High Energy-Density Ultracapacitors **PI:** E. Bakhoum, UWF **Description:** A new type of ultracapacitor that offers a capacitance density on the order of 500 Farads per cubic centimeter or higher has been created. The principle behind the new ultracapacitor structure is the insertion of a 100 nm-thick layer of barium strontium titanate as an interface between the activated carbon electrode and the electrolyte. The new ultracapacitors are highly needed in hybrid vehicle applications; as any significant increase in the energy storage capability of the ultracapacitors leads to substantial improvement in the fuel efficiency of hybrid vehicles. Two manuscripts about this new development were published in 2009. Additional research is ongoing. - *Not Funded by FESC*
	Title: Secure Energy Systems **PI**: Pramod Khargonekar - UF **Description**: The goal of this project is to investigate the concept of secure energy systems and formulate a concrete vision of a broad-based, comprehensive research program. An additional project goal is to develop architecture for modeling, analysis, and design of secure energy systems. An energy system consists of a collection of interconnected subsystems representing energy generation devices, energy consumption devices, transmission, distribution, and storage devices, and communications and computing devices. Such systems are dynamic and its operation is influenced by external perturbations. Definition of the system and it environment depends on the problem of interest. This project is motivated by strong interest among key decision makers in understanding and assuring security of energy systems in the face of various natural and man-made threats. Increasing penetration of renewable energy sources and capabilities offered by smart grid have the potential to enhance or degrade security of energy systems. Thus, these new developments present additional motivation for understanding of secure energy systems. Whereas there is an intuitive understanding of security and assurance, much work remains to be done in formulating precise definitions that cover problems of interest and devising an overall architecture that may facilitate a system level analysis and design of such secure energy systems. Taking into account rapid changes in the energy issues in a wide variety of private and public sectors, this project is a proactive effort to develop a vision and architecture for analysis and design of secure energy systems. It is expected that the results of this project will lead to future development and integration of specific analysis and design algorithms and software that will assist system designers in assessing and ensuring an appropriate level of system security. **Budget**: $220,000 Back to Thrust 1: Overarching
	Title: Optimization, Robustness and Equilibrium Modeling for the Florida Smart Grid **PI:** Panos Pardalos - UF Description: This project began in January 2011. It aims to develop algorithms for optimal design and functioning of Florida's next generation of power transmission and distribution systems that will incorporate the new realities of the grid. The goal is to create innovative real time capabilities for 1) optimal location of renewable energy source; 2) detection and prevention of instabilities and outages; and 3) operating models including generalized Nash equilibrium problems in the electricity market. **Budget**: $30,000
Policy	
	Title*:* Economic Impacts of Renewable Energy and Energy Efficiency Policies **PI:** Theodore Kury – UF (PI use to be Mark Jamison)

	Description: To serve its mission and contribute to FESC's fulfillment of its mission, PURC is conducting the three projects described below. These projects will be completed in two years and will deliver policy relevant reports and academic quality papers. The projects are: 1) Economic and Job Impacts of State Renewable Energy and Energy Efficiency Policies This project will provide empirical estimates of state renewable energy and energy efficiency policies on economic development and jobs. 2) Electric Grid Impacts of State Renewable Energy and Energy Efficiency Policies This project will provide an estimate of the impacts of renewable energy policies on the electric grid. It will fill a gap in the literature for Florida, which as to date focused on the impacts on electricity generation. 3) Effects of Energy Commodity Profit Margins on Effectiveness of Energy Efficiency Programs This project will test an assumption that is built into many state energy policies and that is held by many policy makers at the national level, namely that utilities would improve consumer energy efficiency practices if utility prices were decoupled from utility profits. **Budget:** $150,000
	Title: Environmental Impacts of Energy Production Systems: Analysis, Evaluation, Training, and Outreach **PI:** Amy B. Chan-Hilton, **Co-PIs:** Gang Chen, Wenrui Huang, Michael Watts, Ming Ye, Paul Lee - FSU **Description:** The goal of this project is to develop tools and conduct research to objectively assess environmental and water resources needs and constraints while developing prudent energy strategies and policies. The focus of this research will be on fuel cycle and energy production systems. The objectives of this project were to analyze the environmental and water resources demands and potential impacts, specific to Florida's unique geographical challenges, of fuel cycle systems and develop an objective environmental impact screening and evaluation tool or decision support system for energy planning and policy making by Florida's industry, utilities, and government. As Florida develops its long-term energy strategy, multiple efforts are ongoing to develop and apply a wide range of energy technologies that are sustainable and carbon-neutral. But pragmatic issues related to environmental impact and sustainability need to be addressed before these technologies may be implemented. This project directly addressed the FESC's Thrust 6 on "Energy systems and their environmental and economic impacts." This project also directly addresses IESES's Objective 4 on unique geographical challenges and Objective 5 on sustainable energy engineering, science and the sustainable energy economy. **Budget:** $118,470 **External Collaborators:** Florida Department of Environmental Protection ***This project has been completed***
	Title: Promoting Energy and Land Use Through Land Use, Transportation and Green Infrastructure Polices **PI:** Tim Chapin, **Co-PIs**: Ivonne Audirac, Chris Coutts, Greg Thompson, Mark Horner - FSU **Description:** In response to the many issues related to energy provision, energy sustainability, and GHGs, in 2007 Governor Crist created an Action Team on Energy and Climate Change. This group was tasked with investigating and recommending strategies for reducing GHG emissions, creating more sustainable energy systems in Florida, and for establishing Florida as an international leader in innovative energy provision. Related to this, the 2008 session saw the Florida Legislature pass HB 697 which, among many things, requires every local government in the state to address energy systems and GHG emissions explicitly within their comprehensive plans. Currently, the linkages between energy planning, environmental and economic sustainability, land use and transportation planning, and GHG reductions have never been stronger in Florida. This project is aimed at continuing the momentum in Florida for developing

	broad-based solutions to these problems by helping to develop a knowledge base for informing state policy in the areas of energy, sustainability, and land use and transportation planning. **Budget:** $168,185 ***This project has been completed***
	Title: Political and Economic Institutions Regarding Siting of Energy Facilities **PI**: R. Mark Isaac, **Co-PIs:** Douglas Norton, Svetlana Pevnitskaya - FSU **Description:** The "Hold-Out" project evaluates the "hold-out" concept, which is discussed repeatedly in the context of public policies regarding land acquisition and facilities siting, but a clear definition is elusive. To economists, the most likely definition is that a profitable amalgamation of land parcels by one buyer from competing sellers does not occur because of the failure of the private bargaining process. However, sometimes the term seems to be used more for delay instead of failure in bargaining, or even the very different concept of creation of any bilateral bargaining situation of the buyer and the "last" or "holding-out" seller, which may be inconvenient to the buyer but is immaterial in terms of economic efficiency unless efficient trades actually fail. The experimental design is complete, the programming is complete, Institutional Review Board approval has been obtained, and we have conducted two complete experimental treatments. This research was presented at one of the Presidential Sessions at the 2009 Meetings of the Southern Economics Association in November in San Antonio. **Budget:** $79,621 ***This project has been completed***
	Title: Experimental Investigation of Economic Incentives of Policies, Institutions and R&D in Environmental Conservation **PI:** Svetlana Pevnitskaya, **Co-PI:** Dmitry Ryvkin - FSU **Description:** Policies and institutions aiming at reducing pollution and battling climate change often do not reach desirable results because actual decisions of governments and economic agents deviate from those predicted by theory. We employed methods of experimental economics to find and explore such deviations and their causes, and used the findings to modify theory and design better policies and institutions. In this project, we constructed a theoretical model of decisions in a dynamic environment with costs of pollution and climate change, while testing the theory in laboratory experiments with human subjects. We studied actual behavior and explore responses to changes in the environment, production technologies, investment in clean technology and institutions. This project is complete. **Budget:** $43,217 ***This project has been completed***
	Other
	Title: Fusion Energy Spheromak Turbulent Plasma Experiment-STPX **PI:** Charles A. Weatherford, **Co-PIs:** Kyron Williams, Ephrem Mezolin - FAMU **Description:** The Florida A&M University's Center for Plasma Science and Technology (CePaST) has nearly completed the construction of a spheromak fusion reactor. A spheromak is one of a general class of experiments used to investigate key plasma physics principles relevant for the development of magnetically confined, controlled thermonuclear fusion as a source of electrical power. This project involves collaboration between Florida A&M University CePaST, West Virginia University, and Auburn University. The spheromak turbulent plasma physics experiment (STPX) is being constructed at FAMU in a facility especially built for the STPX experiment. Fusion research is a key element in the nation's long term energy supply strategy, The spheromak concept may be a possible alternative to the tokamak concept (deployed at ITER) which affords access to fundamental fusion science issues supportive of fusion while allowing us to maintain and nurture an American fusion scientific workforce. This project will determine, using a fast duty

	cycle between theory, experiment, and simulation, the essential elements required for full kinetic modeling of an entire spheromak plasma using ab initio MHD with direct modifications from new turbulence physics. The project will focus on the management of fluctuations and transport in a spheromak plasma using new turbulence physics models and comprehensive helicity control. We will employ high time- and spatial-resolution measurements of electron temperatures, ion temperatures, and magnetic field fluctuations to investigate, understand, and eventually control reconnection driven heating as a means of increasing the plasma temperature of spheromak plasmas. We will use divertor diagnostics of radiation and particle transport along with edge biasing for electric field control to explore the effects of driven flows on confinement and heating in spheromak plasmas with microparticles and will investigate the effects of MW pulses coupled to protons on the plasma current and confinement. **Budget:** $950,000 – *Not Funded by FESC* **Universities and External Collaborators:** Dr. Earl Scime, West Virginia University Dr. Ed Thomas, Auburn University Dr. Simon Woodruff, Woodruff Scientific, Inc
	Title: Marketing Strategies to Incentives Entrepreneurship and Innovation in the Development of Sustainable Energy **PI:** Joe Cronin - FSU **Description:** The objective of this project was to investigate the role of market pull strategies in advancing sustainability goals. Specifically, the intent is to identify what "drives" consumers' attitudes and behaviors relative to sustainable products. This includes consumers' personal attitudes, opinions, and beliefs, their perceptions of their own and organizations' abilities to affect or change the environment in which they live, and their personal characteristics (e.g., demographics). In addition, in collaboration with the College of Communications, the strengths and weaknesses of the various communication modalities that can be used to deliver sustainability knowledge to consumers (e.g., advertisements, testimonials, expert word-of-mouth communications, public relations, publicity, etc) were assessed. Specifically, the research attempts to identify the optimal market pull modality; that is, the means by which to deliver to consumers the knowledge that drives the purchase of sustainable goods and services. The overall objective of the research is to provide much needed market pull information for organizations embarking on "green" marketing strategies; that is, firms in the process of developing or expanding their mix of environmentally friendly goods and services. **Budget:** $191,555 ***This project has been completed***
	Title: Energy Sustainable Florida Communities **PI:** Richard Feiock, **Co-PIs:** Ivonne Audirac, Keith Ihlanfeldt - FSU **Description:** The objective of NESC is to stimulate innovation and energy investments that will accelerate energy savings by local governments by sharing best practices and organizing and managing large scale collaboration and bulk buying projects. Florida State University has been working with U.S. DOE contributing surveys, research and outreach assistance to assist in efforts to promote investment, collaboration, and bulk purchasing by local governments that will achieve significant cost savings. This includes organizing NESC conference calls co-hosted by hosted by FSU and DOE, conducting several surveys, and hosting a meeting of Florida local government EECBG sub-awardees. These initial research efforts and conference calls have been successful in identifying broad interest in collaboration and bulk buying. They also revealed significant barriers to collaboration that need to be

	addressed including issues related to coordination within governments, among governments and with other organizations. We are now undertaking activities to address these barriers to collaboration at three levels: First we are conducting focused regional workshops throughout the state. By bringing interested governments in each region together with experts in collaboration, governance, finance, and purchasing we will identify specific projects and design the mechanisms to put the projects in place. Second, are expanding our statewide dialogue on a more systematic basis and share the insights and successes of our regional workshops. Third, we are working with universities and other partners throughout the U.S. to share strategies and insights and help replicate our successes in other states. By expanding our efforts and formalizing the network we will make large scale energy savings a reality. **Budget:** $125,424 ***This project has been completed***
	Title: Development of a Renewable Energy Research Web Portal **PI:** Charles R. McClure, **Co-PIs**: Ian Douglas, Chris Hinnant - FSU **Description:** This project identified, organized, and made available via a web portal, research generated as part of the FESC effort as well as other selected related information resources and tools as identified by FESC participants. The goal of this project was to provide IESES, FESC, researchers, and others in the state of Florida with the research information they need to accomplish statewide energy goals. An initial product from this project was an operational web portal that identifies, organizes, and provides access to a range of FESC and other research related to renewable and alternative energy information. A second product was research results on extending technologies that allow users to share information and grow/sustain the web portal through a range of social networking techniques. This research attempts to position FSU to seek additional external funding related to interactive databases and web portals. The ultimate expected outcomes resulting from the project include increased IESES and FESC researcher productivity; increased leverage and collaboration of FESC resources and funding; and improved policy- and decision-making regarding the future uses and development of renewable and alternative energy in Florida. **Budget:** $194,542 ***This project has been completed***
	Title: Planning Grant: Hydrogen Storage Using Carbon-Based Adsorbent Materials **PI:** Efstratios Manousakis - FSU **Description:** This project was a theoretical investigation of a variety of carbon based nano-porous materials, such as activated carbon or single-wall or multi-wall carbon nanotubes, which can be used to store and transport hydrogen. We find that by doping with metallic elements, the micro-surfaces of these carbon-based porous materials provide increased van der Waals forces to the adsorbed hydrogen molecules; this effect significantly enhances the volumetric energy density for hydrogen storage and we caried out a full theoretical investigation to find the optimum conditions. This project is complete. **Budget: $15,000** ***This project has been completed***
Education and Outreach	
	Title: Florida Advanced Technological Education Center (FLATE) **PI:** Marilyn Barger - UF **Description:** FLATE (Florida Advanced Technological Education Center) is FESC's partner to develop statewide curriculum frameworks for technical A.S./A.A.S. degree programs supporting existing and new energy business sectors. FLATE develops the frameworks and facilitates their progress through the

	multiple sequential industry-validation, student competencies based, FLDOE procedure. FLATE also develops new courses and provides faculty professional development as required for each new program of study. Additionally FLATE helps colleges in the State College System implement the new frameworks in their institutions. To support the new curriculum, FLATE will work closely with the FESC Public Outreach and Industry Partnership programs to provide additional professional development opportunities for teachers and faculty to upgrade and update their STEM knowledge base. **Budget:** $300,000 **External Collaborators:** Brevard Community College; Tallahassee Community College; Daytona State College; Central Florida Community College; Polk State College; Florida State College at Jacksonville; Valencia Community College; School District Hillsborough County; Florida Department of Education – Division of Adult and Career Education; West Side Technical School; WFI Banner Center for Energy; Advanced Technology for Energy and Environment Center (ATEEC); University of West Florida, Dept of Construction Technology; WFI Banner Center for Construction; WFI Banner Center for Alternative Energy; USF College of Engineering; Madison Area Technical College ATE project for Alternative Energy certifications; Milwaukee Area Technical College Energy Conservation and Advanced Manufacturing Center (ECAM); Florida Energy Workforce Consortium (FEWC); TECO; Progress Energy; ISTEC (Ibero Science and Technology Education Consortium).
	Title: Outreach Activities for FESC **PI:** Pierce Jones, Kathleen C. Ruppert, Hal S. Knowles III, Nicholas Taylor, Barbra Larson, Craig Miller- UF **Description:** Developing educational outreach programs and materials designed to deliver practical, applicable information and knowledge on energy-related topics to the general public as well as targeted to specific audiences such as builders, planners, engineers, architects, small businesses, local governments, and utilities through the Cooperative Extension Service and others. By focusing educational programming on climate and efficient use of energy and water, the program aims to provide the knowledge needed by building and energy professionals, local governments, and the general public, to significantly reduce greenhouse gas emissions in Florida. **Budget:** $497,670 **External Collaborators:** Primarily DCA, FSU, UCF (FSEC), USF, and DEP with many others as well.
	Title: UFTR Digital Control System Upgrade for Education and Training of Engineers and Operators **PI:** Gabriel Ghita – UF (PI use to be Alireza Haghighat; he has left UF) **Description:** The goal of this project is to contribute to a major initiative on design, licensing and construction of a fully digital control system for the University of Florida Training Reactor (UFTR). This makes the UFTR the first operating nuclear power plant in the United States that uses a fully digital control system. This facility will provide for the training and education of the necessary workforce in the area of digital control and instrumentation for nuclear reactors. With this effort, a new focus/certificate on digital control and instrumentation will be developed at the Nuclear and Radiological Engineering (NRE) Department. Further, the UFTR facility will offer training courses for community colleges (Central Florida, Indian River, and Jacksonville) in the State of Florida, personnel from nuclear utilities and government agencies including the Nuclear Regulatory Commission (NRC). The project has already received significant funding from industry and government in form of grants, contracts, equipment/systems, and engineers' time. **Budget:** $308,000 **External Collaborators:** Several engineers from AREVA NP Inc & Siemens Corporation
	Title: Energy and Efficiency Video Public Service Announcements

	PI: Andy Opel, **Co-PIs:** Phil Steinberg, Leslie France-Patterson, Laura Arpan, Ian Weir - FSU **Description:** This interdisciplinary team produced 6-8 short (30-second/one-minute) video public service announcements (PSAs) that address issues of energy and efficiency and one 12-15 minute informational documentary targeted to Florida legislators and the Governor's office. These videos will be tailored to reinforce existing IESES efforts. **Budget:** $200,720 ***This project has been completed***
	Title: Planning Grant: Climate modeling and Outreach Activities **PI:** Shawn R. Smith, **Co-PIs**: Steve Cocke, David Zierden, James O'Brien, Julie Harrington - FSU The objective of the planning grant is to develop at least one external funding proposal that focuses on areas of climate modeling and/or climate outreach that support the activities of the IESES. The focus of our activities has centered on evaluating the potential offshore wind resource in the northeastern Gulf of Mexico and elsewhere in Florida's waters. Preliminary research has been completed using observations from instrumented Air Force towers and buoys in the waters around Florida. The existence of wind power capacity has been identified at the assessed locations. Due to the sparseness of in-situ wind data in the region, a numerical modeling approach will need to be pursued to develop a wind climatology with sufficient spatial and temporal scales to further define the offshore wind power capacity. A vast portion of the work conducted focused on outreach and education. When we began our project, the idea of offshore wind power in Florida was not even on the radar of the Florida Legislature or the renewable energy sector at large. We worked to raise the visibility of offshore wind as an energy resource for Florida by attending meetings, connecting with the wind power industry in Florida, and briefing two members of the Florida Legislature and presenting to the Florida Energy and Climate Commission. As a result of these connections, we submitted a preliminary proposal to Siemens Wind Power and have developed a network of colleagues both within FSU and the private sector that are interested in further developing Florida's offshore wind resource. **Budget:** $15,000 ***This project has been completed***
	Title: Visiting Law Professor **Principal Investigator:** JB Ruhl, Jim Rossi **Co-PI:** Uma Outka - FSU **Description:** Two-year Visiting Scholar, Uma Outka, at the College of Law researched the interface between land use law and innovative energy solutions and delivering academic symposia and graduate student seminars on the research scope, comprising Sustainable Energy Research Project (SERP) within Environmental and Land Use Law Program. This project is complete. **Budget:** $214,603 ***This project has been completed***
FESC Phase 2 Technology Commercialization	
	Title: Development of a Low Cost Concentrating Solar Energy System Using Solar Sausages **PIs:** David VanWinkle, Sean Barton – UF **Description:** Beginning in late 2010, weekly meetings have been held at HHH offices in Tallahassee that include representatives of the several entities involved in deploying the "Solar Sausage" concentrating system at the Yulee St. site in Tallahassee. The entities include Pro Solar Inc., Barkley Consulting Engineers Inc., Winton Engineering PA, and Applied Research and Design Inc. A series of 50-foot long prototype sausages were made and inflated on site. Many issues were identified that needed to be resolved before manufacturing and deploying several hundred solar sausages on site including methods of constructing, mounting, and operating the balloons, distribution of air and electricity, and removal of heat.

	Industry Partner: Hunter and Harp Holdings (HHH)
	Title: Stress Evolution in Solid-State Li-Ion Battery Materials **PI:** Kevin S. Jones – UF **Description:** Li-ion battery (LIB) technology is promising for use in electric drive vehicle (EDV) and stationary energy storage applications. However, challenges with materials safety, performance, cost, and manufacturing scalability have largely prohibited LIB implementation in these situations. Challenges in stress evolution during the fabrication and processing of the elements of the cells remain and are not well understood. In this study the roles of component fabrication and processing conditions on the resulting stresses in the materials are being evaluated. Thin film battery components will be deposited on stainless substrates using a novel fabrication method invented and patented by Planar Energy and the components will be subjected to different annealing treatments. A novel curvature measurement system will be used to characterize the stress in the component layers both after deposition and annealing and structural analysis techniques will be used to correlate the resultant component material microstructure and crystallographic phase(s) with the measured stresses. **Industry Partner:** Planar Energy
	Title: SWNT Based Air Cathodes for Fuel Cells & Metal Air Batteries **PI:** Andrew G. Rinzler – UF **Description:** The goal of this project is to develop and use novel gas diffusion oxygen reducing electrode (air cathode) based on single wall carbon nanotube (SWNT) films in zinc-air batteries and fuel cells. Metal-air batteries, utilizing surrounding air as an inexhaustible cathode material have the highest specific and volumetric energy density of any primary battery system available. Gas diffusion oxygen electrodes, where molecular oxygen is electrocatalytically reduced, are vital to battery and fuel cell performance. The air cathode should be permeable to air or another source of oxygen, but must be substantially hydrophobic so that electrolyte will not leak though it, and have an electrically conductive element connected to external circuitry. Generally, conventional air cathode is a thick multilayer film comprising carbonaceous powder mixed with nanoscale metal catalyst to promote oxygen reduction and hydrophobic polymer additive pressed onto electrically conductive layer. While noble metals such as platinum that are commonly used as catalysts in conventional air cathodes offer the advantages of intrinsic catalytic activity, their deficiency in resource, high costs, and susceptibility to catalyst poisoning, have become a serious concern for commercial applications. An optimized SWNT based air cathode catalyst that would constitute a significant improvement in existing technologies is being developed. This new system avoids precious metals, is not poisoned, is thin, light-weight, and resists electrolyte flooding. **Industry Partner:** nRadiance LL

	Title: Uni-Directional Impulse Turbine for the Powering of Offshore Monitoring Systems **PI:** Zhihua Qu, **Co-PI:** Kuo-chi Lin – UCF **Description:** Numerical modeling and experimental testing of turbine for wave energy conversion. The University of Central Florida and Harris Corporation have joined efforts to design, build and analyze a wave powered abandoned oil well monitoring system for use in the Gulf of Mexico. This system proposes a fully automated oil leak detection system which is self-powered by the local ocean energy which is converted to electricity, conditioned and sent from the surface buoy to the ocean floor to supply power for an abandoned oil well monitoring system. **Industry Partner:** Harris Corporation

APPENDIX B – ACCOUNTABILITY MEASURES – DATA

1. Competitive Grants Applied by all SUS faculty in Energy Area

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

SUS energy faculty submitted 386 funding proposals amounting to $388,519,936 during the twelve-month period of Oct 1, 2010 through Sep 30, 2011. The information was collected through the databases at each university, published news releases, and faculty input. The database information was reviewed carefully and listings that are not energy related were deleted.

#	Faculty	University	Source/Agency	Project Title	Date Submitted	Amount
1	Jeanette Wyneken	FAU	NOAA IOOS NOPP	Assessing the Potential for Sea Turtle Interaction with Marine Renewable Energy Installations	10/1/10	$1,049,910
2	Arockiasamy	FAU	NSF CBET(Energy for Sustainability)	Horizontal axis Combined Wind Turbine and Tidal Stream Energy Device Integrated onto Floating Platform - Fundamental Engineering Studies Based on Modeling and Simulation	3/3/11	$349,325
3	Edrington, Chris	FSU	DOE (University of Minnesota)	A Nationwide Consortium of Universities to Revitalize Electric Power Engineering Education by State-of-the-Art Laboratories	10/08/10	$25,000
4	Chris S. Edrington	FSU	NSF	PV Inverters with Anti-islanding and Grid-Support Functions	10/07/10	$303,054
5	Chris S. Edrington	FSU	Department of Energy	Advanced Computational Tools for DER-Integrated Power Systems	10/30/10	$752,727
6	Meyer-Baese, Uwe	FSU	NSF	"DSP with FPGAs" CCLI phase II proposal to NSF in the spring 2010.	01/13/11	$524,006
7	Feiock, Rick	FSU	NSF	Collective Action and the Diffusion of Policy Innovation: Adoption of Energy and Climate Change Initiatives by US Cities	01/15/11	$363,475
8	Feiock, Rick	FSU	NSF	Doctoral Dissertation Research in Political Science: A Theoretical Framework for Policy Tool Interaction	1/15/11	$12,000
9	Feiock, Rick	FSU	NSF	Innovation and Organizational Sciences	2/2/11	$373,716
10	Feiock, Rick	FSU	US DOH	The Unfulfilled Promise of Smart Growth	2/4/11	$350,000
11	Cartes, Dave	FSU	USAID	Clean Energy Labor Recruitment, Assessment, Training and Employment (CELABRATE)	10/27/10	$3,000,000
12	Cartes, Dave	FSU	Vietnam Education Foundation	Visiting Scholar Grant	2/15/11	$28,600

13	Cartes, Dave	FSU	US DOE	FSU Support for Verdicorp MegaWatt Ventures Proposal	3/11/11	$10,000
14	FSU CAPS	FSU	DOE, ADVANCED SYNCHROPHASOR RESEARCH	Advancing Synchrophasor Networks and Applications In The FRCC Region		$1,750,000
15	FSU CAPS	FSU	DOE, HIGH PENETRATION SOLAR DEPLOYMENT	The Sunshine State Solar Grid Initiative, Sun-Grin		$4,500,000
16	FSU CAPS	FSU	DHS S&T DIRECTORATE, BAA#09-05	Reliable, Resilient, and Rapidly Recoverable Critical Infrastructures, Rapid		$30,000,000
17	FSU CAPS	FSU	Lee County Electric	Smart Grid Opportunity Planning and Analysis for Lee County Electric Co-Op		$540,000
18	FSU CAPS	FSU	Southern CA EDISON	Aggregation of Antelope-Bailey Wind Generation System Models for Rtds Studies (Proposal)		$100,000
19	PI: James M. Fenton;	UCF/FSEC	Sandia National Laboratories	Zinc/Bromine Flow Battery with Bromine Transport Plate Electrode (ID: 1051659)	10/1/2010	$599,959
20	PI: Nazim Muradov	UCF/FSEC	Aramco Services Company	Thermochemical Conversion of CO2 to Carbon-Based Structure Materials (ID: 1051737)	10/1/2010	$861,381
21	PI: Joseph W. Walters	UCF/FSEC	University of New Haven	Thermal Test Facility Training (ID: 1051652)	10/1/2010	$4,605
22	PI: Nahid Mohajeri;	UCF/FSEC	Sandia National Laboratories	Preliminary Proposal: Novel Reversible AEM Air Electrode and Non-Aqueous Eletrolyte for Secondary Metal/Air Battery (ID: 1051657)	10/1/2010	$599,534
23	PI: R. Paul Brooker;	UCF/FSEC	Sandia National Laboratories	Novel Solid-Electrolyte Capacitors for Large-Scale Energy Storage (ID: 1051662)	10/1/2010	$595,767
24	PI: Marianne Rodgers	UCF/FSEC	NSF	Investigation of the Presence of a Saturating Media during Hotpressing of Proton Exchange Membranes to Improve Fuel Cell Performance (ID: 1051748)	10/1/2010	$307,131
25	PI: James M. Fenton;	UCF/FSEC	IIT Research Institute	Investigation of Multifunctional Materials for Redox Flow Batteries for Large-Scale Electrochemcial Energy Storage (ID: 1051661)	10/1/2010	$300,003
26	PI: Neelkanth G. Dhere;	UCF/FSEC	Corning, Inc.	Develop Understanding and Data on the Short Term and Long Term Reliability of CIGS Mini-Modules and Module Elements Fabricated with Corning's Thin Specialty Glass (ID: 1051743)	10/1/2010	$2,264,536
27	PI: P. Fairey;	UCF/FSEC	National Renewable Energy Lab	Building America Partnership for Improved Residential Construction (BA-PIRC) (ID: 1051697)	10/1/2010	$741,307
28	PI: P. Fairey;	UCF/FSEC	National Renewable Energy Lab	Building America Partnership for Improved Residential Construction (BA-PIRC) - revision (ID: 1051684)	10/1/2010	$741,308

29	PI: Pyoungho Choi;	UCF/FSEC	Sandia National Laboratories	An Ultrafine Porous Membrane for Vanadium Bromine Flow Batteries (ID: 1051669)	10/1/2010	$599,948
30	PI: Pyoungho Choi	UCF/FSEC	Sandia National Laboratories	A Novel Na+/Cu2+ Associated Anion (NCAA) Battery for Power Systems (ID: 1051670)	10/1/2010	$597,982
31	PI: Ujjwala Balasaheb Magdum;	UCF/FSEC	Solar Rating & Certification Corporation	SRCC Portal Development (ID: 1051806)	11/1/2010	$83,965
32	PI: Stephen F Barkaszi;	UCF/FSEC	SatCon Technology Corporation	Preliminary Review of PV module Mismatch an Degradation Issues (ID: 1051856)	11/1/2010	$23,116
33	PI: Don B Shirey	UCF/FSEC	Southern Company Services	Commercial Building Energy Simulation and Analysis - Calendar Year 2011 and 2012 (ID: 1051875)	11/1/2010	$40,079
34	PI: David A Chasar	UCF/FSEC	Advance Energy Corporation	ARRA-Energy Retrofit Guidelines for Manufactured Housing (ID: 1051801)	11/1/2010	$45,074
35	PI: Darlene K Slattery	UCF/FSEC	Florida International University	Analysis of Hydrogen Storage Materials (ID: 1051808)	11/1/2010	$1,024
36	PI: John Peter Del Mar;	UCF/FSEC	National Renewable Energy Lab	ARRA - Technical Support for the American Recovery and Reinvestment Act (ARRA) Technical Assistance Project (TAP) (ID: 1051925)	12/1/2010	$99,800
37	PI: Charles R Withers;	UCF/FSEC	Jacksonville Electric Authority	Training and Quality Analysis for the City of Jax for DE_FOA-0000148 EECBG Competetive Solicitation (ID: 1051969)	12/1/2010	$76,185
38	PI: William R Young	UCF/FSEC	Leonardo Technologies, Inc	Space Coast Clean Cities Coalition Support 2011 (ID: 1052121)	1/1/2011	$50,000
39	PI: Nahid Mohajeri;	UCF/FSEC	DOD	Preliminary Proposal: A Novel Energy Neutral, Sustainable Wastewater Treatment system for FOBs (ID: 1052005)	1/1/2011	$533,156
40	PI: James B Cummings;	UCF/FSEC	City of Satellite Beach	ARRA: Energy Audit and Implementation for City of Satellite Beach Buildings (ID: 1052080)	1/1/2011	$22,337
41	PI: Marianne Rodgers	UCF/FSEC	NSF	Accurate, in-situ and spatially resolved conductivity measurement of polymer electrolyte membranes for fuel cell applications by Scanning Impedance Microscopy (ID: 1051898)	1/1/2011	$619,038
42	PI: Jeremy J Nelson;	UCF/FSEC	Indian River County Public Schools	Utility Report Cards Implementation in Indian River County Public School District	2/1/2011	$1,400
43	PI: Cunping Huang;	UCF/FSEC	US Army Engineering R&D Center	Thermodynamic analyses and catalyst development for one step liquid fuel production from waste plastics (ID: 1052207)	2/1/2011	$675,863
44	PI: Darlene K Slattery;	UCF/FSEC	Case Western Reserve University	Support for Two Dimensional Polyelectrolytes with Complete Dimensional Stability. High	2/1/2011	$65,778

				Thermal Stability and High Conductivity at low Relative Humidity (ID: 1052166)		
45	PI: R. Paul Brooker;	UCF/FSEC	EnerFuel	Support for Optimization of Advanced HiFoil Bipolar Plates (ID: 1052187)	2/1/2011	$600,000
46	PI: Darlene K Slattery;	UCF/FSEC	EnerFuel	Support for EnerFuel Membrane Fabrication (ID: 1052182)	2/1/2011	$500,001
47		UCF/FSEC	Progress Energy	SunSmart School E-Shelter Plus-UP (Utility Program) (ID: 1052202)	2/1/2011	$142,615
48	PI: Neelkanth G. Dhere	UCF/FSEC	United Solar Ovonic, Uni-Solar	Study of United Solara-Si:H PV Modules Over Existing Glass Substrates (ID: 1052122)	2/1/2011	$90,000
49	PI: David K Click;	UCF/FSEC	Progress Energy	Progress Energy - Site Inspection and Training (ID: 1052210)	2/1/2011	$12,143
50	PI: David K Click	UCF/FSEC	Progress Energy	Progress Energy - Site Inspection (ID: 1052144)	2/1/2011	$1,277
51	PI: Susan T Schleith;	UCF/FSEC	Progress Energy	Pasco County Schools SunSmart Education Program (ID: 1052137)	2/1/2011	$18,241
52	PI: Cunping Huang	UCF/FSEC	American Chemical Society/Petroleum Research Fund	Novel Preparation Technique and Characterization of Nanostructured Catalyst for Liquid Fuel Production via the Fischer-Tropsch Process (ID: 1051797)	2/1/2011	$100,000
53	PI: Marianne Rodgers;	UCF/FSEC	EnerFuel	Low Cost High Performance Integrated MEA for Automotive Application (ID: 1052180)	2/1/2011	$972,150
54	PI: Neelkanth G. Dhere	UCF/FSEC	Corning, Inc.	Development of a specialty glass that enables enhanced CIGS batch selenization cell performance (ID: 1052200)	2/1/2011	$328,659
55	PI: Neelkanth G. Dhere	UCF/FSEC	Corning, Inc.	Develop understanding and data on the short term and long term reliability of CIGS mini-module elements fabricated with Corning's thin specialty glass (ID: 1052123)	2/1/2011	$582,359
56	PI: Ali T Raissi	UCF/FSEC	US DOE	Conversion of Biomass into Liquid Fuel with CO2 Capture (ID: 1052115)	2/1/2011	$300,000
57	PI: Nazim Muradov	UCF/FSEC	US DOE	Chemochromic Reversible Hydorgen Leak Detectors for Safety Monitoring (Match for 20127054) (ID: 1052106)	2/1/2011	$50,097
58	PI: Jeremy J Nelson;	UCF/FSEC	Indian River County Public Schools	Utility Report Cards continuation in Indian River County Public School District (ID: 1052286)	3/1/2011	$5,600
59	PI: Houtan Moaveni;	UCF/FSEC	TECO Energy	TECO-Energy Training (ID: 1052323)	3/1/2011	$4,440
60	PI: Cunping Huang;	UCF/FSEC	NSF	Synthesis and Characterization of High Performance Cocatalysts for Solar Photocatalytic Hydrogen Production (ID: 1052236)	3/1/2011	$345,000
61	PI: James M. Fenton;	UCF/FSEC	US DOE	Support-Augmented PGM Electrocatalysts for the Oxygen Reduction Reaction (ID: 1052262)	3/1/2011	$3,618,022

62	PI: John Peter Del Mar	UCF/FSEC	Sarasota County Sust. Office	Solar Water Heating for Sarasota County Government (ID: 1052306)	3/1/2011	$8,543
63	PI: David K Click	UCF/FSEC	FL DEP	Site Visit to Cayo Costa State Park (ID: 1052331)	3/1/2011	$1,201
64	PI: Darlene K Slattery;	UCF/FSEC	US DOE	Proton-Conducting Membranes for High Temperature, Low Relative Humidity Conditions (ID: 1052245)	3/1/2011	$3,614,445
65	PI: David K Click;	UCF/FSEC	Progress Energy	Progress Energy - Site Inspections and Training (ID: 1052267)	3/1/2011	$7,483
66	PI: Stephen F Barkaszi;	UCF/FSEC	National Renewable Energy Lab	Measurements for Defining Performance Losses of Existing PV systems (ID: 1052297)	3/1/2011	$68,628
67	PI: James M. Fenton;	UCF/FSEC	US DOE	Lead Research and Development Activity for DOE's High Temperature, Low Relative Humidity Membrane Program at low Relative Humidity (ID: 1052343)	3/1/2011	$74,995
68	PI: Nazim Muradov;	UCF/FSEC	US DOE	Fuel-flexible Reformers for Converting Raw High-Sulfur Fuels to Fuel Cell-Grade Hydrogen (ID: 1052255)	3/1/2011	$1,012,020
69	PI: Susan T Schleith	UCF/FSEC	Florida Power and Light	FPL Solar Stations Teacher Workshops (ID: 1052307)	3/1/2011	$12,417
70	PI: Marianne Rodgers;	UCF/FSEC	NSF	Development of Low-cost and High Performance Catalysts in fuel Cells via Novel Electrodeposition Techniques (ID: 1052231)	3/1/2011	$325,000
71	PI: Nahid Mohajeri;	UCF/FSEC	US DOE	Cross-linked Sulfonated Poly (etheretherketone) Composite Membranes with High Ion Exchange Capabilities for Direct Methanol Fuel Cells (ID: 1052258)	3/1/2011	$1,075,450
72	PI: Lixing Gu;	UCF/FSEC	National Renewable Energy Lab	Continuity and Innovation in the Development and support of Energy Plus (ID: 1052240)	3/1/2011	$7,500,000
73	PI: Lixing Gu	UCF/FSEC	Masonry Association of Florida, Inc.	Comprehensive investigation of energy performance of masonry constructions and competitive products through building simulations (ID: 1052342)	3/1/2011	$154,779
74	PI: P. Fairey;	UCF/FSEC	National Renewable Energy Lab	Building America Partnership for Improved Residential Construction (BA-PIRC) Task Order 2 (ID: 1052401)	3/1/2011	$3,058,185
75	PI: Dr. Zheng Shen	UCF/CECS	UCF/I-4	NASA SBIR Phase II: High-Temperature, Wirebondless, Ultra-Compact Wide Bandgap Power Semiconductor Modules for Space Power Systems	3/1/2011	$149,927
76	PI: Dr. Zhihua Qu	UCF/CECS	Strategic Weapons Research LLC	Terrain-Dependent Driving Control for Medical Robots and Mobility Assist Devices	3/1/2011	$47,395
77	PI: Ali T. Raissi	UCF/FSEC	US DOE	Nonostructured Polymer Scaffolds for H2 Storage Materials (ID:	4/1/2011	$1,614,100

				1052486)		
78	PI: Susan T Schleith;	UCF/FSEC	Progress Energy	SunSmart Schools E-Shelter Plus-UP (Utility Program) (ID: 1051726)	4/1/2011	$120,360
79	PI: Neelkanth G. Dhere	UCF/FSEC	The Dow Chemical Company	Study of DOW Chemical c-Si PV Modules Proepared with Specifically Developed Encapsulant in Hot and Humid Climate (ID: 1052438)	4/1/2011	$167,320
80	PI: Robert Martin Reedy	UCF/FSEC	SEMATECH	PV Manufacturing Consortium (ID: 1053069)	4/1/2011	$10,850,900
81	PI: Darlene K Slattery	UCF/FSEC	US DOE	Hydrogen storage, layered material (ID: 1052466)	4/1/2011	$1,066,123
82	PI: Carlos J Colon; CoPI(s) Richard A Raustad, Lixing Gu	UCF/FSEC	Associated Gas Distributors of Florida	Emerging Natural Gas Technologies: Field Testing and Economic Analysis (ID: 1052463)	4/1/2011	$225,766
83	PI: Raju Sen Sharma	UCF/FSEC	Residential Energy Service Network, Inc.	Development of Webservices for RESNET's Building Registry Registration System (ID: 1052437)	4/1/2011	$35,933
84	PI: James B Cummings;	UCF/FSEC	FPL	Assessment of Energy and Peak Demand Savings of a Solar-Powered Space Conditioning System (ID: 1052396)	4/1/2011	$108,112
85	PI: Richard A Raustad	UCF/FSEC	National Renewable Energy Lab	Whole Building Energy Modeling Assistance in Support of NRELs Commercial Building Group (ID: 1052582)	5/1/2011	$60,924
86	PI: Jeremy J Nelson;	UCF/FSEC	Indian River County Public Schools	Utility Report Cards Implementation in Indian River County Public School District (ID: 1052584)	5/1/2011	$2,758
87	PI: Robert Martin Reedy;	UCF/FSEC	US DOE	Robust and Low-cost PLC Permissive Anti-Islanding System and Architecture to Enable Inverter Ride-Through of Widely Distributed Generation (ID: 1052573)	5/1/2011	$1,804,814
88	PI: Nicoleta Z Hickman;	UCF/FSEC	US DOE	Preliminary Proposal: Significant Improvement in Solar Cell Efficiency and Longevity by Hybrid Constructions of Photovoltaic and Thermoelectric Cell Elements (ID: 1052568)	5/1/2011	$1,200,000
89	PI: Ali T Raissi;	UCF/FSEC	US DOE	Preliminary Proposal: Farm-Based Combined Fuel, Fodder, Heat & Power Production (ID: 1052587)	5/1/2011	$2,679,343
90	PI: Nicoleta Z Hickman;	UCF/FSEC	US DOE	Photovoltaic/Optical Device-Unconventional architecture which enhances the light capture and conversion (ID: 1052583)	5/1/2011	$4,930,000
91	PI: David K Click;	UCF/FSEC	US DOE /Golden	Linear PV Farms Along Transmission Corridors	5/1/2011	$4,640,000
92	PI: Amit Gujar;	UCF/FSEC	US DOE	Integrated biomass gasification and Fischer-Tropsch synthesis for the	5/1/2011	$2,503,387

				production of liquid hydrocarbon fuels (ID: 1052550)		
93	PI: Ali T Raissi;	UCF/FSEC	Gulf of Mexico Research Initiative	Improved Oil Spill Impact Assessment and Remediation Technologies Consortium (ID: 1052558)	5/1/2011	$1,450,000
94	PI: Kristopher Olan Davis;	UCF/FSEC	US DOE /Golden	Highly modular plug-and-play PV system designs for residential and commercial rooftop applications (ID: 1052570)	5/1/2011	$3,625,000
95	PI: David K Click;	UCF/FSEC	US DOE /Golden	Highly Integrated, Highly Efficient, Long-Life Dual-Purpose PV Roofing in Residential Developments (ID: 1052555)	5/1/2011	$2,175,000
96	PI: John L Harrison;	UCF/FSEC	FPL	FPL Contractor Representative Training Proposal (ID: 1052508)	5/1/2011	$9,572
97	PI: Lixing Gu;	UCF/FSEC	Industrial Nanotech, Inc	Examine impact of roof Nansulate coatings on roof system thermal performance and whole house energy use (ID: 1052557)	5/1/2011	$116,000
98	PI: Neelkanth G. Dhere	UCF/FSEC	US DOE /Golden	Economic, Flexible, Highly Efficient, Planar, Multijunction Thin Film solar Cell (ID: 1052506)	5/1/2011	$375,000
99	PI: Nazim Muradov	UCF/FSEC	US DOE	Chemochromic Reversible Hydorgen Leak Detectors - Split #2 (ID: 1052533)	5/1/2011	$81,477
100	PI: Ali T Raissi;	UCF/FSEC	DOE, ARPA-E	An Amalgamated Solar Thermochemical Hydrogen Production and Thermal Energy Storage Cycle (ID: 1052539)	5/1/2011	$2,373,100
101	PI: Dr. Zihua Qu; CoPI Juan Cendan	UCF/CECS	NSF	A Cross-Disciplinary Course on Medical Robotics: Medical Training, Tele-Operation, and Advanced Technologies	5/1/2011	$2,000,000
102	PI: Richard A Raustad;	UCF/FSEC	Associated Gas Distributors of Florida	Updating G-RIM and Participants Test Model for the Associated Gas Distributors of Florida (ID: 1052637)	6/1/2011	$49,032
103	PI: Neelkanth G. Dhere	UCF/FSEC	Oak Ridge National Laboratory	Thermodynamic Control of Stoichiometry-Induced Defects in CZTS to Improve Cell Efficiency in Thin-Film CZTS-based Photovoltaics (ID: 1052681)	6/1/2011	$450,000
104	PI: Danny S Parker	UCF/FSEC	Lawrence Berkeley National Labs	Technical Assistance to Lawrence Berkeley National Laboratory with the Home Energy Saver Software (ID: 1052739)	6/1/2011	$50,000
105	PI: Colleen M Kettles	UCF/FSEC	North Carolina State University	SunShot Initiative: Reducing Market Barriers and Non Hardware Balance of System Costs Topic 1, Standards and Processes (ID: 1052696)	6/1/2011	$500,000
106	PI: Robert Martin Reedy;	UCF/FSEC	US DOE	Robust and Low-cost PLC Permissive Anti-Islanding System and Architecture to Enable Inverter Ride-Through of Widely	6/1/2011	$511,364

				Distributed Generation (ID: 1052707)		
107	PI: William R Young	UCF/FSEC	Ecotality North America	Plug-in Electric Vehicle and Charging Plans for FSEC and SC3 (ID: 1052660)	6/1/2011	$50,000
108	PI: David L Block;	UCF/FSEC	US DOE /Golden Field Office	Phase 2 of the Sothern Region Resource and Training Program as Part of the Southern Alternative Energy Training Network (ID: 1052716)	6/1/2011	$1,612,717
109	PI: Susan T Schleith	UCF/FSEC	Progress Energy	Pasco County Solar Education Program for Teachers (ID: 1052618)	6/1/2011	$6,919
110	PI: Robert Martin Reedy;	UCF/FSEC	SEMATECH	Manufacturing Ready Technologies for Significant Cost Reduction of Metallization for Selective Emitter Crystalline Silicon Solar Cells (ID: 1052740)	6/1/2011	$968,481
111	PI: Kristopher Olan Davis;	UCF/FSEC	SatCon Technology Corporation	Low-Cost Modular Power Converters to Reduce Cost and Improve Yield of PV Systems (ID: 1052697)	6/1/2011	$249,240
112	PI: David K Click;	UCF/FSEC	US DOE /Golden	Linear PV Farms Along Transmission Corridors (ID: 1052659)	6/1/2011	$3,156,818
113	PI: Kristopher Olan Davis;	UCF/FSEC	US DOE /Golden	Highly modular plug-and-play PV system designs for residential and commercial rooftop applications (ID: 1052658)	6/1/2011	$4,854,123
114	PI: David K Click;	UCF/FSEC	US DOE /Golden	Highly Integrated, Highly Efficient, Long-Life Dual-Purpose PV Roofing in Residential Developments (ID: 1052662)	6/1/2011	$8,785,822
115	PI: Colleen M Kettles; CoPI(s) Susan T Schleith	UCF/FSEC	Workforce Florida, Inc.	Employ Florida Banner Center for Clean Energy (ID: 1052741)	6/1/2011	$100,000
116	PI: Neelkanth G. Dhere;	UCF/FSEC	Advanced Solar Photonics	Development of Bifacial Glass-Glass BIPV Modules with Radiant Barrier for Integration into Roofing Structure (ID: 1052627)	6/1/2011	$1,415,358
117	PI: Cunping Huang;	UCF/FSEC	Lamar University/GCH SRC	Collection, Preservation, and Analysis of Time-Sensitive Air/Water/Sediment Samples from Wetland and Estuaries Impacted by DWH Oil Spill (ID: 1052674)	6/1/2011	$111,479
118	PI: Neelkanth G. Dhere	UCF/FSEC	SoloPower, Inc.	CIGS Solar Cells with Over 17% Efficiency by Electrodeposition Approach (ID: 1052672)	6/1/2011	$93,750
119	PI: Cunping Huang;	UCF/FSEC	Lamar University/GCH SRC	Comprehensive Diagnosis/Remediation Studies of Gulf Coast Wetlands/Estuaries Impacted by DWH Oil Spill (ID: 1052823)	7/1/2011	$1,815,000
120	PI: Jeremy J Nelson;	UCF/FSEC	St. Lucie County School Board/District	Utility Report Card Implementation in St Lucie County Schools (ID: 1052852)	7/1/2011	$22,010

121	PI: Neelkanth G. Dhere	UCF/FSEC	Corning, Inc.	To Execute the Comprehensive Test Plan for Corning Inc. (ID: 1052841)	7/1/2011	$300,000
122	PI: Stephen F Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.4 Module Testing and Certification (ID: 1052957)	7/1/2011	$26,078
123	PI: Stephen F Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.3 High Voltage Bias Tests (ID: 1052956)	7/1/2011	$38,593
124	PI: Stephen F Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.2 Inverter Long Term Exposure Study (ID: 1052955)	7/1/2011	$33,090
125	PI: Stephen F Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.1 System Long Term Exposure Study (ID: 1052954)	7/1/2011	$32,299
126	PI: Stephen F Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 1.3 Completion of Standard Field Test Protocol Document (ID: 1052953)	7/1/2011	$15,943
127	PI: Stephen F Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 1.2 Design and Install Monitoring on Sanford Federal Center GSA PV System (ID: 1052952)	7/1/2011	$155,652
128	PI: Stephen F Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 1.1 Inverter High-Risk Component Operating Temperature Study (ID: 1052895)	7/1/2011	$28,349
129	PI: Susan T Schleith;	UCF/FSEC	Progress Energy	SunSmart Schools E-Shelter Plus-UP (Utility Program) AKA SunSense Plus UP (ID: 1052872)	7/1/2011	$1,097,124
130	PI: Susan T Schleith;	UCF/FSEC	TECO Energy	SunSmart School E-Shelter Plus-UP (Utility Program) TECO Plus UP (ID: 1052905)	7/1/2011	$129,998
131	PI: Colleen M Kettles;	UCF/FSEC	US Department of Energy/Golden Field Office	Sunshine State Rooftop Solar Challenges (ID: 1052924)	7/1/2011	$3,000,000
132	PI: Houtan Moaveni	UCF/FSEC	Sarasota County Government	Solar Energy Assessment for Sarasota County Government (ID: 1052851)	7/1/2011	$8,067
133	PI: Ali T Raissi; Block	UCF/FSEC	Gulf of Mexico Research Initiative	Next Gen Oil Spill Remediation Technologies A Nanotech Consortium (ID: 1052907)	7/1/2011	$13,322,750
134	PI: James M. Fenton;	UCF/FSEC	US DOE /Golden Field Office	Lead Research and Development Activity for DOE's High Temperature, Low Relative Humidity Membrane Program (ID: 1052894)	7/1/2011	$150,000
135	CoPI: Neelkanth G. Dhere	UCF/FSEC	US DOE /Golden Field Office	Increasing PV cell efficiency by reducing losses of photogenerated electrons through new techniques for benign phase formation (ID: 1052638)	7/1/2011	$1,500,000
136	PI: Neelkanth G. Dhere	UCF/FSEC	National Renewable Energy Lab	Solar Energy Research Institute for India and the United States (SERIIUS)/ Study of PV module Reliability and Durability in the Hot and Humid Climate (ID: 1052938)	8/1/2011	$250,000
137	PI: David E Hoak; CoPI(s) Danny S Parker	UCF/FSEC	FPL	Smart Power Strips for Residential Applications (ID: 1052991)	8/1/2011	$106,486
138	PI: Neelkanth G. Dhere	UCF/FSEC	PV Integrated	Prepare CigseS Cell Coupon and Test PV Modules at High Voltage	8/1/2011	$18,000

				(ID: 1052975)		
139	PI: David K Click;	UCF/FSEC	Palm Beach County Economic Development Council	Palm Beach County Support-DOE Rooftop Challenge (ID: 1053003)	8/1/2011	$9,645
140	PI: Richard A Raustad	UCF/FSEC	FPL	HVAC System Runtime Optimizers (ID: 1052990)	8/1/2011	$65,574
141	PI: Charles R Withers;	UCF/FSEC	FPL	Energy and Power Reduction from Air Misting Products Applied to Commercial Condensing Units in Hot and Humid Climates (ID: 1052992)	8/1/2011	$67,398
142	PI: Richard A Raustad	UCF/FSEC	FPL	Commercial Variable-Speed Condenser Fan Retrofits of Refigeration Equipment (ID: 1052989)	8/1/2011	$57,598
143	PI: Charles R Withers;	UCF/FSEC	Florida Department of Community Affairs	Code Enforcement Verification (ID: 1052934)	8/1/2011	$200,000
144	PI: Neelkanth G. Dhere	UCF/FSEC	SoloPower, Inc.	CIGS SOLAR CELLS WITH OVER 17% EFFICIENCY BY ELECTRODEPOSITION APPROACH (ID: 1052650)	8/1/2011	$187,500
145	PI: David K Click	UCF/FSEC	ADECA Energy Division	Alabama Support - DOE Rooftop Challenge (ID: 1053019)	8/1/2011	$38,479
146	PI: Jeffrey K Sonne; CoPI(s) Janet R McIlvaine	UCF/FSEC	FPL	Advanced Window Films (ID: 1052988)	8/1/2011	$143,531
147	PI: Carlos J Colon;	UCF/FSEC	Florida Natural Gas Association	Side by side Testing of High Efficiency Condensate Natural Gas and Hybrid Solar Hot Water Heating (ID: 1053108)	9/1/2011	$24,000
148	PI: Dr. Issa Batarseh	UCF/CECS	National Science Foundation	US-Jordan Cooperative Science: Chaos Theory on Micro-Inverters for Photovoltaic (PV) Systems	8/1/2011	$199,993
149	PI: Nicoleta Z Hickman	UCF/FSEC	Poly Adaptive	Graphene-based Electrodes for the Electrodynamics Removal of Particulates (ID: 1053056)	9/1/2011	$10,000
150	PI: Nicoleta Z Hickman;	UCF/FSEC	Poly Adaptive	Fully Functional Space and Terrestrial PV/EDS Prototypes (ID: 1053169)	9/1/2011	$146,482
151	PI: Nazim Muradov	UCF/FSEC	Office of Naval Research	Energy Dense Air-Independent Power Generators for Unmanned Undersea Vehicles (ID: 1053174)	9/1/2011	$580,552
152	PI: Richard A Raustad	UCF/FSEC	Associated Gas Distributors of Florida	Adding Equipment Models to G-RIM and Participants Test Workbook for the Associated Gas Distributors of Florida (ID: 1053065)	9/1/2011	$19,537
153	Anderson,Timothy	UF	U of Delaware	Advanced Precursor Reaction Processing for Cu(InGa)(SeS)2 Solar Cells	6/17/2011	$317,799

154	Anderson,Timothy	UF	US DOE	Low-Cost Thin-Film GaxIn1-xP Top Cell	2011-06-27	$3,000,000
155	Anderson,Timothy	UF	US DOE	DOE/EERE Workshop - FESC Summit	2011-09-16	$10,000
156	Anderson,Timothy	UF	PENN STATE	Design and Synthesis of Kesterite-based CZTS Thin Film Photovoltaic Materials	1/24/2011	$500,301
157	Anderson,Timothy J	UF	Battelle Pacific NW Lab	Thin Film Solar Cell Device Fabrication	2010-12-16	$10,000
158	Andrew Jennifer	UF	Emcore Corporation	Improved Contacts for Solar Cells	2011-03-22	$5,000
159	Arnold, David P	UF	NSF	Collaborative Research: Electronically Coupled Wireless	2010-10-01	$284,608
160	Arnold ,David P	UF	Semiconductor Research Corp	Self-Contained Vibrational Energy Harvesting Modules	2011-03-22	$300,000
161	Avery, Paul	UF	US DOE	The Open Science Grid The Next Five Years	2011-07-12	$658,130
162	Barooah, Prabir	UF	NSF ECCS	REU Supplement to CAREER: Distributed Estimation and Control for Energy Efficient Buildings	10/25/2010	$6,000
163	Blackburn, Jason	UF	US DOE	Evaluating Bacillus anthracis spore persistence	2011-08-08	$30,301
164	Bonzongo, Jean-Claude J	UF	US DOE	Colloid-Faciliated Mercury Mobilization, Transport and Methylation at Oak Ridge Reservation Site	7/13/2010	$121,304
165	Bonzongo, Jean-Claude J	UF	NSF	Carbon Nanotube - Organic Matter Interactions	2011-03-03	$362,466
166	Bonzongo, Jean-Claude J	UF	NSF	Carbon Nanotube - Organic Matter Interactions	2011-03-03	$187,418
167	Bosman Gijsbertus, Anderson Tim	UF	NSF	A Study of Hot Carrier, CIGS Based, Solar Cells	2011-03-04	$394,170
168	Bosman,Gijsbertus	UF	US DOE-Golden	A Study of High Efficiency, Hot Carrier, CIGS-based Thin Film Absorbers	2011-05-10	$1,020,846
169	Castellano, Ronald K	UF	Research Corp	A Supramolecular Approach to Photovoltaic Materials	2011-05-26	$145,000
170	Castellano, Ronald K	UF	Research Corp	A Modular Supramolecular Approach to Organic Photovolt	2011-05-26	$105,000
171	Cattafesta III, Louis Nicholas	UF	Lockheed Martin	Flow Control Development and Wind Tunnel Testing for Directed Energy Beam Improvement for Transonic and Supersonic Speeds (DEBI-TASS)	2011-03-31	$317,334
172	Chung, Jacob	UF	Hinkley Center For Solid And Hazardous Waste Manag.	High-Temperature Steam Gasification of Agricultural and Municipal Solid Waste and Conversion to Energy System	2/1/2011	$75,000
173	Chen, Youping	UF	US DOE	Prediction of Thermal Transport Properties of Materials with Microstructural Complexity	2011-04-29	$1,506,492
174	Cheng, Hai Ping	UF	US DOE	Thematic Program on Challenges of Magnetism in Nanostruc	2010-12-15	$12,000
175	Cheng, Hai Ping	UF	US DOE	CMCSN Charge Transfer and Transport in Photovoltaic Syst	2011-01-18	$960,000

176	Chini, Abdol Reza	UF	NREL	Energy Efficient Housing Research Partnerships	2011-07-19	$19,247
177	Chung,Jacob	UF	NASA Kennedy Space Flight Ctr	NASA GSRP: Cryogenic Storage and Transfer Line Thermal	2011-08-19	$30,000
178	Chung,Jacob Nan-Chu	UF	NASA	Cryogenic Storage and Transfer Line Thermal and Fluid	2011-02-23	$66,000
179	Cohen, Matthew	UF	NSF	Collaborative Research: Kinetics and Dynamics of Coupled	2011-07-11	$225,873
180	Cohen, Matthew	UF	NSF	Collaborative Research: Kinetics and Dynamics of Coupled	2011-07-11	$0
181	Consolazio, Gary R	UF	FL Dept of Transpor. Research Ctr	Pendulum Impact Testing of an Impact-Breakaway, Wind-Res	2010-12-10	$89,379
182	Consolazio, Gary R	UF	FL Dept of Transpor. Research Ctr	Bridge Girder Drag Coefficients and Wind-Related Bracing	2011-04-08	$54,423
183	Curtis, Jennifer S	UF	US DOE	Liquid-Solid Flow Modeling and Experimentation over a Wide Range of Stokes Numbers	12/9/2010	$300,000
184	Davidson, Mark	UF	US DOE NNSA	Rare Earth Nanoscintillators	11/12/2010	$895,414
185	Davis, Timothy Alden	UF	US DOE	Sparse Direct Methods on High-Performance Heterogenous A	2011-09-30	$583,289
186	Eisenstadt,William	UF	NSF ECCS	Collaborative Research: Energy Aware Millimer Wireless Data Communications in Multicore Systems	7/9/2010	$295,000
187	El Shall, Hassan E	UF	NSF	Novel Hydrothermal Synthesis of Silver Nanoparticles Via	2010-10-20	$101,680
188	Erickson, John	UF	Biomass R&D Initiative	Next-Generation Sweet Sorghums: Sustainable Production of Feedstocks for Fuels, Chemcials and Value-Added Products	2/15/2011	$4,500,000
189	Field, Richard D	UF	FERMILAB	LPC Fellowships in High Energy Theory Physics	2011-02-11	$24,160
190	Fortes, Jose A	UF	Indiana Univ	MyRain: Dynamic Provisioning of Cloud, Grid and HPC Syst	2011-03-29	$464,960
191	Fortes, Jose A	UF	UF Div of Sponsored Res Matching Funds	MRI: Acquisition of Instumentation for Coupled ...	2011-04-21	$126,212
192	Fuchs, Gerhard E	UF	US DOE NETL	Airfoil Systems for Industrial Gas Turbine (IGT)/Integrated Gasification Combine Cycle (IGCC) Applications	2011-04-01	$395,944
193	Ge,Jian	UF	NSF	Development of Extremely High Precision Extrasolar Plane	2010-10-27	$978,967
194	Gerber, Stefan	UF	U of MN	Carbon and Nutrient Cycling in Grasslands of the World	2011-08-22	$126,755
195	Gitzendanner,Matthew Aaron	UF	FL Dept Of Ag And Con Ser Forestry	Conservation genetics of the threatened central Florida	2011-01-14	$3,780
196	Grunwald,Sabine	UF	US DEPT OF Ag Natural Resources Conserv	U.S. Soil Carbon Assessment	2011-04-15	$98,090

197	Grunwald,Sabine	UF	US DOE	Soil and Ecosystem Carbon Dynamics	2011-09-12	$0
198	Grunwald,Sabine	UF	US DOE	Field measurements: DOE carbon project	2011-09-12	$0
199	Gurley, Kurtis R	UF	FL Division Of Emergency Management	Public Outreach and Dissemination of Residential Mitigation Reseach Applicable to Structural and Energy Retrofits in Florida Homes	9/20/2010	$99,937
200	Gurley, Kurtis R	UF	New Mexico State University	Development of New Wind Load Codes for Photovoltaic Syst	2011-06-06	$239,000
201	Hagelin,Helena Ae	UF	Mainstream Engineering	Bimetallic Catalysts Tailored for High-Efficiency Syngas	2011-09-22	$21,381
202	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$760,384
203	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$18,900
204	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$65,326
205	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$6,300
206	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$75,120
207	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$6,300
208	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$6,300
209	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$6,300
210	Hanlon Jr.,Edward A	UF	US DOE	Bio-Diesel Cellulosic Ethanol Research Project	2011-02-16	$6,397
211	Hartman, Joseph	UF	EPA	Educating Current and Future Practitioners in Energy Management to Reduce Energy Usage and Emissions	11/23/2010	$179,942
212	Hatfield, Kirk	UF	US Dept of Comm Nat Inst Of Std And Tech	Institute for Structural and Energy Retrofits for Substa	2011-02-24	$4,500,000
213	Heaney,James	UF	Water Research Foundation	Commercial Water Use Evaluation	4/20/2011	$40,000
214	Heaney, James	UF	Sanford and St. Johns River Wmd	Water Loss Control	9/15/2010	$150,000
215	Heaney,James	UF	FL DEP	Conserve Florida Water Clearinghouse	4/15/2011	$345,000
216	Heaney, James	UF	US GS	Sustainable Urban Water Infrastructure Systems	2/1/2011	$66,000
217	Heaney, James	UF	GRU & SJR WMD	Optimization ofSelected Indoor Water Use Retrofits	9/15/2010	$84,000
218	Heaney, James	UF	US DEPT OF Interior	Renewable Energy Feasibility Proposal	2011-06-22	$12,683
219	Hirschfeld, Peter J	UF	US DOE	Theory of novel Superconductors	2011-03-21	$358,796
220	Holloway, Paul H	UF	US DOE	Rare Earth Doped Nanoscintillators	2010-11-12	$895,414

221	Ingley, Herbert	UF	Ctr For Solid & Hazardous Waste	High-Temperature Steam Gasification of Agricultural and Municipal Solid Waste and Conversion to Energy System"	6/27/2011	$265,116
222	Issa,Raja Raymond A	UF	FL Dept Of Community Affairs	Energy Conservation Features of New Homes in Fla 11-12	2011-07-29	$19,584
223	Jiang, Peng	UF	Amer Chemical Soc Petro Res	High-Efficiency Nanostructured Bulk Heterojunction Photo	2010-11-05	$100,000
224	Jiang, Peng	UF	NSF	Macroporous Bioseparation Membranes Enabled by a Roll-to	2011-03-03	$190,000
225	Jones ,Jacob L	UF	NSF OISE	IRES: Australian International Research Experience for Students: Materials for Energy Technologies	2/11/2011	$146,880
226	Jones, Jacob L	UF	US DOE	Enabling Materials Discovery in Electroceramics through Combinatorial Materials Synthesis and In Situ Performance Characterization	11/1/2010	$753,203
227	Jones, Jacob L	UF	UWF	Development of Very High Energy Density Ultracapacitors	9/27/2010	$441,000
228	Jones, Jacob L	UF	NSF	Tailored Ferroelectricity in Emerging Oxides: A Combined	2010-10-29	$243,055
229	Jones, Jacob L	UF	NSF	Tailored Ferroelectricity in Emerging Oxides: A Combined	2010-10-29	$193,781
230	Jones, Jacob L	UF	NSF	Tailored Ferroelectricity in Emerging Oxides: A Combined	2010-10-29	$203,618
231	Jones, Jacob L	UF	US DOE	Enabling Materials Discovery in Electroceramics through	2010-11-09	$753,202
232	Jones, JW	UF	NIST NCGP	University of Florida Integrative Science for Sustainable Resources	4/4/2011	$7,228,352
233	Jones,Kevin S	UF	Planar Energy Devices Inc	Roll-to-Roll Production of Flexible Energy Storage Power	2011-04-06	$462,000
234	Jones, Kevin S	UF	Sisom Thin Films	Lithium Ion Battery Separator Development	2011-01-11	$20,000
235	Jones,Pierce H	UF	FL Energy & Climate Commission	Energy Efficient and Renewable Energy Retrofits for Mult	2011-08-01	$453,740
236	Jones,Pierce H	UF	Osceola Cnty	Professor & Director	2011-06-20	$373,000
237	Jones,Pierce H	UF	Sponsored Programs Holding Account	Energy Tracking Software Program	2010-12-21	$19,843
238	Jones,Pierce H	UF	U of NB	Energy Efficient Housing Research Partnerships	2011-08-01	$60,246
239	Jones PH, KippJ, JarrettL	UF	Duval County	Low Impact Development Manual	1/19/2011	$100,000
240	Jones PH, Knowles H	UF	Dept Of Housing & Urban Dev	Integrating Energy/Water Management and Climate Change Mitigation into Growth Management Policy	3/4/2011	$380,265
241	Jones PH, KnowlesH, KippJ, JarrettL, TaylorN	UF	FL Municipal Electric Assoc	Development of Community Strategies for Energy Efficiency and Renewable Energy	5/6/2011	$99,386

242	Jones PH, LarsonB	UF	EPA	Integrating Smart Growth Principles into Florida's Local Government Planning Process	3/31/2011	$826,457
243	Khargonekar,Pramod P	UF	NSF	DIEGO: Distributed Intelligence in Electricity Grid Operations		$300,000
244	Khargonekar,Pramod P	UF	NSF	Collaborative Research: Integrating Random Energy Into t	2011-04-06	$273,424
245	Khargonekar,Pramod P	UF	US DOE	GRIP: The Grid with Intelligent Periphery	2011-07-08	$300,000
246	Klausner, James	UF	NSF	Sunlight to Fuel: High Temperature Thermochemical Conversion for a Global Sustainable Energy Future	5/25/2011	$25,000,000
247	Klausner, James	UF	US DOE	Solar Thermochemical Fuel Production Via a Low Pressure, Magnetically Stabilized, Non-Volatile Iron Oxide Looping Process	2011-07-18	$2,872,304
248	Klausner, James	UF	UF FOU	Solar Thermal Energy Storage Research Fund	2011-06-08	$44,458
249	Klausner, James	UF	US Dept Of Interior Bureau of Reclamtion	Solar Diffusion Driven Desalination for Decentralized Water Production	2011-06-03	$505,791
250	Kobziar, Leda	UF	US Dept Of Interior Bureau of Land Mgmt	The Influence of Prescribed Fire and Understory Fuels Ma	2010-11-19	$11,245
251	KrauthammerTheodor	UF	Gov of Israel Ministry Of Defense	Coupled Size and Rate Effects in UHPC Cylinders under Im	2011-08-01	$144,761
252	Lear Jr.,William E	UF	Emerald Endeavors	Cleaner, More Efficient Turbine Energy Production Using Robust, Miniature Solid-State Gas Sensors	2011-03-07	$50,000
253	Lear Jr., William E	UF	Florida Board Of Governors	Cleaner, More Efficient Turbine Energy Production Using Robust, Miniature, Solid-State Gas Sensors	4/4/2011	$50,000
254	Lear Jr., William E	UF	UNF	Advanced Direct Methanol Fuel Cell for Mobile Computing	2011-02-07	$112,322
255	Lear Jr., William E	UF	UNF	Militarized Direct Methanol Fuel Cell (DMFC) Laptop Powe	2011-03-15	$290,222
256	Lear Jr.,William E	UF	UNF	Militarized Direct Methanol Fuel Cell (DMFC) Laptop Powe	2011-03-15	$94,888
257	Lear Jr., William E	UF	UNF	Militarized Direct Methanol Fuel Cell (DMFC) Laptop Powe	2011-03-15	$176,669
258	Li,Tao	UF	NSF	CSR:Small: Enabling Renewable Energy Powered Sustainable	2010-12-17	$492,080
259	Li, Xiaolin	UF	US DOE	AppOS:An Application-Level Scaleable Operating System	11/9/2010	$813,305
260	Lin,Jenshan	UF	NSF	Silicon Reconfigurable Super-Regeneratie Terahertz Amplifier and Subsystem for Vibraton and Image Sensing	2/10/2011	$474,435
261	Lin,Jenshan	UF	RIST	Research on a RF Power Amplifier for the Wireless Power Transfer System	5/27/2011	$48,000
262	Lin,Jenshan	UF	NEC	Collaborative Research on High Frequency Wireless Power Transfer System	4/4/2011	$35,000

263	Ma ,Lena Q	UF	FL DEP	Dr. Gao - Environ impacts of coal combustion residues	2011-04-01	$5,778
264	Masters, Forrest	UF	FL Dept Of Community Affairs	Windborne Debris Study - Phase IV	2011-06-24	$363,636
265	Masters, Forrest	UF	FL Dept Of Community Affairs	Windborne Debris Study - Phase IV	2011-06-24	$90,909
266	Masters, Forrest J	UF	FL Dept Of Community Affairs	Windborne Debris Study - Phase IV	2010-10-13	$228,199
267	Masters, Forrest J	UF	FL Dept Of Community Affairs	Windborne Debris Study - Phase IV	2010-10-13	$21,801
268	Masters, Forrest J	UF	FL Dept Of Community Affairs	Windborne Debris Study - Phase IV	2011-04-20	$56,700
269	Masters, Forrest J	UF	FL Dept Of Community Affairs	Windborne Debris Study - Phase IV	2011-04-20	$25,000
270	Masters, Forrest J	UF	NSF	CAREER: Behavior of Hurricane Wind and Wind-Driven Rain	2011-02-08	$402,482
271	Masters, Forrest J	UF	UT-BATTELLE	Residential Roof Covering Investigator of Wind Resistance	2011-03-03	$705,000
272	Middelkoop,Timothy	UF	New Hope Power Company	Proposal for an Energy Audit of Florida Crystals Co-gen Facility	5/10/2011	$9,523
273	Middelkoop,Tim	UF	Sponsored Programs Holding Account	Industrial Assessment Center Energy Audit Report for Flo	2011-05-01	$9,523
274	Min, Kyoungwon	UF	Korea Inst Of Geoscience & Mineral Resou	Understanding Thermal Histories of Meteorites using (U-T	2011-03-24	$17,728
275	Mishra, Prabhat Kumar	UF	NSF	CSR: Small: Energy-Aware Scheduling and Dynamic Reconfig	2010-12-17	$493,328
276	Mishra, Prabhat Kumar	UF	NSF	NEB: Collaborative Research: Energy-Efficient Adaptive N	2011-01-19	$300,000
277	Moghaddam,Saeed	UF	US DOE	Nanoengineered Membrane Based Absorption Cooling for Buildings Using Unconcentrated Solar and Waste Heat"	8/2/2010	$1,000,531
278	Mohseni, Kamran	UF	NSF	Digitized Heat Transfer: A New Paradigm for Thermal Man	2011-07-01	$48,068
279	Muller, Guido	UF	NSF	Research on Thermal Correction System and Thermal Coatin	2010-10-01	$657,892
280	Muller, Guido	UF	NSF	Research on Thermal Correction System and Thermal Coatin	2010-10-01	$43,393
281	Nair, Vimala D	UF	NSF	Soil carbon under shaded coffee systems in India	2010-12-17	$14,550
282	Nino, Juan C	UF	US DOE	Very Low-Temperature (<1300K) Sintering of SiC for Am-bearing Fuel Concepts	3/9/2011	$1,057,988
283	Nino, Juan C	UF	US Israel Binational Sci Fou	Linking Solid State Flexoelectricity with Heterogeneous	2010-11-16	$91,425

284	Peter,Gary Frank	UF	US DOE ARPA-E	Commercial Production of Terpene Biofuels in Pine	7/15/2011	$5,000,000
285	Phillpot, Simon R	UF	UCLA	Thermally transparent Buffers for GaN Power Amplifiers	2011-02-18	$300,000
286	Phillpot, Simon R	UF	US DOE Idaho Operation Office	Centralized Facility for the Nuclear Materials Research	2011-04-04	$290,559
287	Phlips,Edward J	UF	Sponsored Programs Holding Account	Algae Biomass Production Phase 1	2011-05-12	$53,354
288	Phlips,Edward J	UF	UCF	Farm Based Aquatic Biomass Production for Fuel, Feed and	2011-06-13	$0
289	Powers, Kevin William	UF	NSF	Hydrothermal Flow Manufacturing of Tunable NIR Quantum D	2011-02-15	$349,428
290	Prevatt, David	UF	FL Division Of Emergency Management	Measurement & Modeling of Wind Field & Wind Loads on Res	2011-09-09	$61,645
291	Prevatt, David	UF	FL Division Of Emergency Management	Mitigation Hurricane Damage and Reducing Energy Consumption through State-of-the-Art Retrofits in a Florida Home	8/12/2010	$75,000
292	Prevatt, David	UF	US DOE	Wind Resistance of PV Module Systems: Multi-Scale Experimental Approach to Develop Consensus Wind Loading	5/9/2011	$1,500,000
293	Reynolds,John R	UF	BASF CORP	Black to Transmissive electrochromic Windows	2011-02-16	$236,936
294	Richard,Jean-Philippe P	UF	CSX Transportation	Optimization-based Decision Support System for Coal/Bulk	2011-02-07	$63,049
295	Ranka, Sanjay	UF	NSF CNS	CSR: Medium: Collaborative Research: A Performance, Energy and Temperature Optimizing Framework for Scheduling Hierarchical Computer Systems	9/23/2010	$704,903
296	Ranka, Sanjay	UF	NSF CNS	CPS: Medium: Collaborative Research: Collective Optimization of Performance, Energy and Temperature for Scheduling Parallel Tasks on the Next Generation Multicore Processors	3/23/2011	$664,482
297	Riley, Kristen	UF	Indian County of Res & Ed	Renewable Energy Feasability Proposal	6/30/2011	$86,982
298	Riley, Kristen	UF	US DOE	Biomass to Energy Feasability Study	5/12/2011	$262,588
299	Ries, Robert	UF	USF	Solar Decathon 2011	2011-09-01	$17,727
300	Saab,Tarek	UF	US DOE	Advancing the Reaches of Dark Matter Detectors	2010-11-09	$654,327
301	Sahni,Sartaj	UF	AFRL	Energy-Efficient High-Performance Internet Routers	7/7/2010	$124,995
302	Sankar, Bhavani	UF	Advanced Solar Photonics	Development of bifacial glass-glass BIPV modules with ra	6/9/2011	$446,383
303	Sankar, Bhavani	UF	Advanced Solar Photonics	Thermal-Mechanical Stress and Fracture Analysis of Lamin	2011-06-09	$0
304	Sankar, Bhavani V	UF	NASA	Structurally Integrated Thermal Protection Systems (SITP	2010-11-23	$600,000

305	Sankar, Bhavani V	UF	UCF	Structurally Integrated Thermal Protection System for Sp	2011-05-17	$50,000
306	Sansalone, John Joseph	UF	City Of Gainesville	Demonstration of Hydrologic, Thermal and Physical	2011-08-25	$99,996
307	Sansalone ,John Joseph	UF	City Of Gainesville	Demonstration of Hydrologic, Thermal and Physical	2010-10-18	$99,996
308	Sawyer, Wallace Gregory	UF	US DOE	Mitigation of Fretting Failures in Grid to Rod Contacts	2011-03-15	$1,200,000
309	Sawyer,Wallace Gregory	UF	US DOE	Mitigation of Fretting Failures in Grid to Rod Contacts	2011-03-15	$600,000
310	Schuur, Edward A	UF	US DOE	From Community Structure to Function:Metagenomics-Enable	2010-11-02	$278,245
311	Schuur, Edward A	UF	US DOE	Effects of Warming the Deep Soil and Permafrost on	2011-09-28	$212,341
312	Schuur, Edward A	UF	US DOE	Effects of Warming the Deep Soil and Permafrost on	2011-09-28	$67,717
313	Sheplak, Mark	UF	US DOE NETL	Development of Miniature Dynamic Sensors for Power Systems	2011-05-16	$1,318,397
314	Sherif, Sherif	UF	FPL	Investigation of Data Center Energy Efficiency	2011-08-22	$91,965
315	Sigmund, Wolfgang Michael	UF	SANDIA NL	Graduate Student Research Program: Development of Novel Nanoarchitectures to Enhance High-Temperature Thermoelectric Oxides for Clean Energy Harvesting	7/22/2010	$100,000
316	Sigmund, Wolfgang Michael	UF	UCF	Large-Scale Energy Storage for Military Bases	2010-12-01	$500,000
317	Sigmund, Wolfgang Michael	UF	U of Western Australia	TiO2-Based High-Performance Dye-sensitised Solar Cells	2011-03-07	$175,218
318	Silveira, Maria Lucia	UF	US DOE	Temperature Effect on Soil C in Subtropical Grasslands	2011-09-12	$0
319	Silverman, David N	UF	NSF	Inorganic Carbon Uptake and Catalysis in Carboxysomes fr	2011-09-06	$916,615
320	Singh,Rajiv K	UF	NSF	Microlens Enhanced Light Extraction in LED Devices	2011-02-07	$286,794
321	Singh, Rajiv K	UF	SINMAT INC	Characterization/Fabrication of Clean Energy Semiconduct	2011-01-21	$250,000
322	Sinnott ,Susan	UF	US DOE	Unit Defect and Microstructural Processes at Metal/Dielectric Interfaces: An Integrated Experimental and Simulation Approach	9/16/2010	$900,000
323	Skvarch Jr.,Edward A	UF	US Dept of Ag Research Serv.	Adoption of Solid-Tarp Soil Solarization by Cut-Flower G	2011-08-24	$14,000
324	SollenbergerL,VendraminiJ, GilbertJ, EricksonJ	UF	USDA-AFRI	An Integrated Systems Approach to Sustainable Commercial Production of Biofuels and Biobased Products for the Southeast Coastal Region	10/5/2010	$43,000,000
325	So,Franky	UF	NANOHOLDINGS LLC	Infrared Sensors and Broadband Absorbing Solar Cells	6/8/2011	$1,428,956
326	So,Franky	UF	US ONR	Materials and Devices Compatible with High Volume Roll-to-Roll Manufacturing of Polymer Solar Cells	10/1/2010	$750,000

327	So,Franky	UF	MESOLIGHT	High-Efficiency and Stable Nanocomposites Light Emitting	2011-06-28	$40,955
328	Sodano, Henry	UF	NSF	Multifunctional Piezoelectric Carbon Fibers for Enhanced	2011-02-22	$65,281
329	Srinivasan, Sivaramakrishnan	UF	NREL	Support for Transportation Energy Futures Study	2011-02-23	$17,500
330	Stewart,John	UF	NSF	Improving Alkene Reductases for Applications in Asymmetric Synthesis		$497,851
331	Taylor, Curtis	UF	NSF	Engineering Multifunctional and Damage-Tolerant Nanostructured Composite Films for Energy Applications	2/15/2011	$366,117
332	Taylor, Curtis	UF	US DOE	Atomically Precise Synthesis of Novel Nanostructures via Nanomechanical Alloying	11/9/2010	$756,867
333	Tulenko, ames	UF	US DOE	Development of UO2-Mo Cermet Fuel for LWR and Fast Reactors	6/13/2011	$312,716
334	Tulenko, James	UF	TX A&M	Aging of Used Nuclear Fuel in Storage: Accelerated Char	2011-05-18	$95,159
335	Tulenko, James	UF	TX A&M	Aging of Used Nuclear Fuel in Storage: Accelerated Char	2011-05-18	$195,950
336	Tulenko ,James	UF	TX A&M	Aging of Used Nuclear Fuel in Storage: Accelerated Char	2011-05-18	$217,319
337	Tulenko, James S	UF	US DOE	Development of a Spark Plasma Sintering (SPS) Technique	2011-03-15	$958,737
338	Vendramini,Joao Mauricio Bueno	UF	TX A&M	Woody legumes for sustainable cellulosic biofuel feed stock	2011-03-01	$8,000
339	Vermerris,Willem	UF	U of TN	Improved Bioenergy Sorghums for the Southeastern US	2011-03-15	$99,981
340	W.E. Lear	UF	Emerald Energy	Cleaner, More Efficient Gas Turbine	3/10/2011	$50,000
341	W.E. Lear	UF	US Army CERDEC/Univ of N Florida	Militarized Direct Methanol Fuel Cell Laptop Power Supply	12/10/2010	$561,778
342	Wang, Jianping	UF	US DOE	Desirable Alleles in Saccharum Germplasm	2011-02-25	$363,042
343	Wang ,Jianping	UF	US DOE	Desirable Alleles in Sccharum Germplasm	2011-02-25	$133,140
344	Wilkie,Ann Christina	UF	Alachua County	Algae Cultivation on Landfill Leachate	2010-10-29	$10,000
345	Wright, Alan Lee	UF	US Dept of Ag Research Serv.	Prec & Mgmt Effects on Wind Erodibility of Organic Soils	2011-09-16	$4,822
346	Xue,Jiangeng	UF	NSF	Development of Scalable Bottom-Up Nanomanufacturing Platforms	1/28/2011	$1,284,072
347	Xue,Jiangeng	UF	RESEARCH CORP FOR SCIENCE ADV	A Modular Supramolecular Approach to Organic Photovolt Materials	1/18/2011	$250,000
348	Xue,Jiangeng	UF	US DOE GOLDEN	Solution-processed, Earth-abundant Semiconductors for High Efficiency Solar Cells	2011-06-30	$3,000,000
349	Xue,Jiangeng	UF	NSF	Solar Collaborative: Solar Energy Harvesting Using Photo-Driven Molecular Nanomotor Assembly	1/24/2011	$1,284,072

350	Xue,Jiangeng	UF	SCIALOG	Bottom-up Supramolecular Assembly of Organic Electronic Materials for Photovoltaic Applications	1/18/2011	$105,000
351	Xue,Jiangeng	UF	US DOE GOLDEN	Multi-Junction, Hybrid Photovoltaic Cells Based on Polymer and Colloidal Nanocrystal Blends	5/9/2011	$1,500,000
352	Xue,Jiangeng	UF	US DOE GOLDEN	Next-Generation Organic Photovoltaic Cells with Controlled Bulk Heterojunction	5/9/2011	$1,500,000
353	Yang,Yong	UF	US DOE	Diffusion Coating of Vanadium on the F/M Cladding for Minimizing the Fuel Cladding Chemical Interactions (FCCI)	2011-03-15	$843,203
354	Yang,Yong	UF	US DOE	Critical Study on the Re-irradiation Response of the Reactor Pressure Vessel Steels and Welds after Post-irradiation	2011-03-15	$801,553
355	Yoon,Yong Kyu	UF	ENCELL TECH.	High Energy Density 3-D Electrodes for Energy Storage Ap	2011-07-08	$30,034
356	Ziegler,Kirk	UF	Camille and Henry Dreyfus Foundation	Maximizing the Photovoltaic of DSSCs with New Electrolyte Systems	8/20/2010	$120,000
357	Ziegler,Kirk	UF	Mainstream Eng. Corp.	Thermoeletric Solar Cells Based on Hierarchical Nanostructures	9/13/2010	$33,500
358	Ziegler,Kirk	UF	Mainstream Eng. Corp.	Ultra-High Surface Area Architectures for Thermal Energy Storage	9/13/2010	$33,500
359	Ziegler,Kirk	UF	US DOE	Fabricating Organic-based Photovoltaics with Large Inter	6/30/2011	$1,000,000
360	Ziegler,Kirk Jeremy	UF	US DOE	Creating Novel Functionality to Carbon Nanostructures by	2010-11-09	$778,564
361	Ziegler,Kirk Jeremy	UF	US DOE-GOLDEN	Organic-based Photovoltaics with Large Interfacial Area	2011-05-09	$499,999
362	Yogi Goswami	USF	NSF	MRI: Development of an Automated Engineering Test bed for evaluating THz devices	Feb 2011	$ 722,903
363	Shekhar Bhansali	USF	NSF	Nanoscale Organic Dielectric Based Planar Tunnel Junction as High Frequency Rectifiers	Feb 2011	$ 395,736
364	Yogi Goswami	USF	NSF	Development of Plasmon Emitter for High Efficiency Solar Energy Conversion	Mar 2011	$ 296,060
365	Lee Stefanakos	USF	US NAVY	Plasmonic Enhancement of Rectifier Circuits for Energy Harvesting	Apr 2011	$ 150,000
366	Yogi Goswami	USF	NSF	NSF Nanosystems Engineering Research Center for Transformational Sensor and Detection Systems	Sept 2011	$ 3,515,257
367	Stanley Russell	USF	DOE	Solar Decathlon	8/10	$100,000
368	Don Morel	USF	DOE	High Deposition Rate CIGS Pilot Level Production Using 2SSS Processing	5/11	$1,165,000

369	Don Morel	USF	DOE	Development of Kesterite Materials for High Efficiency Thin-Film Solar Cells Using 2SSS Processing Technology	5/11	$1,339,000
370	Don Morel	USF	DOE	Rapid Laser Annealing of CIGS Thin Films	9/11	$700,000
371	M Stewart, J Cunningham, M Trotz	USF	DOE	Evaluation of wastewater flooding on the efficiency and safety of geologic sequestration of carbon dioxide	9/2011	$1,000,000
372	Dr. B. Joseph	USF	NSF	An Integrated Approach to design and evaluation of bimetallic catalysts	03/1/2011	$ 508,956
373	B. Joseph	USF	DOE	Catalytic upgrading of thermochemical intermediates to hydrocarbons	06/1/2011	$2,934,871
374	B. Joseph	USF	DOE	Base catalyzed biomass methanolysis	2/7/2011	$298,706
375	Yogi Goswami Lee Stefanakos	USF	WateReuse Research Foundation	Desalination and Power Cogeneration using solar energy and low grade waste heat sources.	03/07/2011	$100,000
376	Yogi Goswami Lee Stefanakos	USF	Department of Interior- Bureau of Reclamation	Desalination and Power Cogeneration using solar energy and low grade waste heat sources.	03/25/2011	$100,000
377	Tapas K. Das	USF	DOE	IAC-USF: A Center for Creating a New Generation of Energy Efficiency Experts to Innovate Energy Management, Technology, and Markets	8/1/2011	$1,920,690
378	E. Stefanakos, Y. Goswami, L. Fan and Z. Miao	USF	DOE	PV Systems: Smart Grid Integration, Real Time Digital Simulation, and Demos	6/23/11	$2,300,000
379	Yogi Goswami	USF	US DOE ARPA-E	Development of a Low Cost Thermal Energy Storage System Using Phase Change Materials with Enhanced Radiation Heat Transfer	2011	$2,439,450
380	Yogi Goswami	USF	SunBorne Energy Technologies Pvt. Ltd.	Development of a Modular Central Receiver Concentrated Solar Power Plant for Decentralized Power Generation	2010	$118,000
381	Yogi Goswami	USF	E-On International	Innovative Latent Thermal Energy Storage System for Concentrating Solar Power Plants	2011	$814,108
382	Rick Meeker	FSU	US DOE	The Sunshine State Solar Grid Initiative, Sun-Grin		$4,500,000
383	Rick Meeker	FSU	DHS S&T DIRECTORATE	Reliable, Resilient, and Rapidly Recoverable Critical Infrastructures, Rapid		$30,000,000
384	Rick Meeker	FSU	LEE County Electric Co-op	Smart Grid Opportunity Planning and Analysis for Lee County Electric Co-Op		$540,000
386	Rick Meeker	FSU	Southern CA EDISON	Aggregation of Antelope-Bailey Wind Generation System Models for Rtds Studies (Proposal)		$100,000

Total: $388,519,936

2. Competitive Grants Received by All SUS Faculty in Energy Area During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

All SUS energy faculty information is listed below to show the scope of the SUS research program. This information might be helpful in forming collaborative teams, informing the outside world (e.g., industry) of FESC's research interests. The information was collected through the databases at each university, published news releases, and faculty input.

The SUS faculty received 514 research and education awards totaling $117,813,842 during the twelve-month period of Oct 1, 2010 through Sep 30, 2011. Note many of the awards were based on proposals submitted prior to this period, but the number demonstrates the competitiveness of the SUS faculty in this arena. The information was collected through the databases at each university, published news releases, and faculty input. The database information was reviewed carefully and listings that are not energy related to energy were deleted.

#	Faculty	University	Source/Agency	Project Title	Start Date	End Date	Amount
1	S. Skemp	FAU	U. S. Dept. of Energy (DE-EE0004200	Southeast National Marine Renewable Energy Center - Advanced Water Power Projects (Renamed 2008 Solicitation)	9/30/11	12/31/11	$250,000
2	Cartes, Dave	FSU	DOE	Verdicorp and FSU IESES partners in MegaWatt Ventures Clean Energy Business Competition	03/01/11	9/9/2011	$5,000
3	Feiock, R.	FSU	NSF	Informed Principals And Learning Agents: Endogenous Preferences In Principal Agent Models Of Federal Grants For Sustainable Energy	08/01/11	12/31/13	$317,120
4	Rick Meeker	FSU	DOE	The Sunshine State Solar Grid Initiative, Sun-Grin			$4,500,000
5	Rick Meeker	FSU	City Of Tallahassee Electric Utility	Black-Start Restoration Modeling			$20,000
6	Rick Meeker	FSU	Southern CA Edison	Aggregation Of Antelope-Bailey Wind Generation System Models for Rtds Studies			$100,000
7	PI: John Del Mar; CoPI(s): John Harrison, Houtan Moaveni	UCF/FSEC	NREL	ARRA - Technical Support for the American Recovery and Reinvestment Act (ARRA) Technical Assistance Project (TAP)	8/4/2011	8/3/2012	$50,000
8	PI: Neil Moyer; CoPI(s): Tei Kucharski, Robin Vieira	UCF/FSEC	Florida Department of Community Affairs	ARRA Florida Weatherization Training	7/10/2009	2/28/2012	$187,500
9	PI: Neil Moyer; CoPI(s): Tei Kucharski, Robin Vieira	UCF/FSEC	University of Florida	ARRA UF Weatherization Training Center	9/8/2010	9/7/2012	$44,467
10	PI: James Cummings; CoPI(s): Charles Withers	UCF/FSEC	City of Satellite Beach	ARRA: Energy Audit and Implementation for City of Satellite Beach Buildings	3/15/2011	4/30/2012	$23,875
11	PI: Charles Withers; CoPI(s): Danny Parker, Jeffrey Sonne, Robin Vieira	UCF/FSEC	Florida Department of Community Affairs	ARRA: Energy Code Compliance and Effectiveness Measurement	11/10/2010	9/30/2012	$751,726

12	PI: John Sherwin; CoPI(s): Danny Parker	UCF/FSEC	US Department of Energy-NETL	ARRA: Technical Subtopic 4.1: Improving Best Air Conditioner Technology by 20-30% through a High Efficiency Fan and Diffuser Stage Coupled with an Evaporative Condenser Pre-Cooler	7/1/2010	6/30/2012	$60,129
13	PI: Richard Raustad; CoPI(s): Lixing Gu	UCF/FSEC	US Department of Energy-NETL	ARRA: Technical Topic 2.1: Modeling Variable Refrigerant Flow Heat Pump and Heat Recovery Equipment	7/1/2010	6/30/2012	$137,686
14	PI: Lixing Gu	UCF/FSEC	Syracuse University	ARRA-Integrate EnergyPlus and CHAMPS-Multizone to perform simultaneous energy and IAQ simulations	8/9/2010	8/8/2013	$140,000
15	PI: Philip Fairey;	UCF/FSEC	National Renewable Energy Lab	Building America Partnership for Improved Residential Construction (BA-PIRC)	10/21/2010	4/30/2011	$723,323
16	PI: Philip Fairey	UCF/FSEC	National Renewable Energy Lab	Building America Partnership for Improved Residential Construction (BA-PIRC) Task Order 2	7/27/2011	2/28/2012	$2,699,550
17	PI: Nazim Muradov	UCF/FSEC	U. S. Department of Energy	Chemochromic Reversible Hydorgen Leak Detectors - Split #2	4/8/2010	6/30/2012	$90,677
18	PI: Nazim Muradov	UCF/FSEC	U. S. Department of Energy	Chemochromic Reversible Hydorgen Leak Detectors for Safety Monitoring (Match for 20127054)	4/8/2010	6/30/2011	$50,097
19	PI: Bereket Nigusse	UCF/FSEC	Southern Company Services	Commercial Building Energy Simulation and Analysis	1/4/1999	12/31/2012	$40,079
20	PI: Lixing Gu; CoPI(s): Richard Raustad	UCF/FSEC	National Renewable Energy Lab	Continuity and Innovation in the Development and support of Energy Plus	6/20/2011	5/31/2012	$1,180,000
21	PI: Raju Sen Sharma	UCF/FSEC	Residential Energy Service Network, Inc.	Development of Webservices for RESNET's Building Registry Registration System	5/16/2011	11/30/2011	$35,933
22	PI: Robert Reedy; CoPI(s): David Click, Kristopher Davis	UCF/FSEC	U. S. Department of Energy	Development, Demonstration and Commercialization of Smart-Grid Inverters for Wider PV Technology Utilization	6/25/2008	10/31/2011	$429,214
23	PI: Colleen Kettles; CoPI(s): Susan Schleith	UCF/FSEC	Workforce Florida, Inc.	Employ Florida Banner Center for Clean Energy	7/1/2011	6/30/2012	$100,000
24	PI: John Harrison; CoPI(s): David Click, John Del Mar	UCF/FSEC	Florida Power and Light	FPL Contractor Representative Training Proposal	5/16/2011	11/1/2011	$9,572
25	PI: David Click; CoPI(s): Donard Metzger, Houtan Moaveni	UCF/FSEC	H W Davis Construction, Inc.	Inspection and Training at NASA KSC	9/1/2010	3/1/2011	$4,400
26	PI: James Fenton; CoPI(s): Darlene Slattery, Nahid Mohajeri	UCF/FSEC	U. S. Department of Energy	Lead Research and Development Activity for DOE's High Temperature, Low Relative Humidity Membrane Program (Topic 2 of DE-PS36-05GO95020)	4/1/2006	2/29/2012	$240,000
27	PI: Jong Baik; CoPI(s): Ali Raissi	UCF/FSEC	ASRC Aerospace Corporation	Liquid Hydrogen Zero Boil-Off Storage Tests	9/28/2010	2/28/2011	$50,000

28	PI: Stephen Barkaszi	UCF/FSEC	National Renewable Energy Lab	Measurements for Validating the Accuracy of Models for Predicting the Performance of PV Modules	11/4/2010	3/15/2012	$36,036
29	PI: William Young	UCF/FSEC	North Carolina State University	NCSU Clean Transportation Education Project	9/16/2010	8/30/2011	$2,000
30	PI: Susan Schleith	UCF/FSEC	Progress Energy	Pasco County Solar Education Program for Teachers	7/5/2011	7/31/2012	$6,919
31	PI: David Click; CoPI(s): Houtan Moaveni	UCF/FSEC	Florida Municipal Power Agency	Photovoltaic System Technical Assistance	9/17/2010	4/9/2011	$426
32	PI: David Click; CoPI(s): Houtan Moaveni	UCF/FSEC	Progress Energy	Progress Energy - Site Inspections and Training	3/11/2011	3/30/2011	$2,932
33	PI: David Click; CoPI(s): Stephen Barkaszi, Sherri Shields	UCF/FSEC	New Mexico State University	PV Solar Codes and Standards	8/1/2007	1/15/2012	$128,600
34	PI: Susan Schleith; CoPI(s): William Young, William Young	UCF/FSEC	Florida Power and Light	RF: FPL SunSmart Schools DAS program	5/1/2009	6/30/2012	$9,764
35	PI: John Sherwin; CoPI(s): Danny Parker, Danny Parker	UCF/FSEC	Progress Energy	RF-Improving Best Air Conditioner Technology by 20-30% Through a High Efficiency Fan and Diffuser Stage Coupled with an Evaporative Condenser Pre-Cooler	7/1/2010	6/30/2012	$35,000
36	PI: David Click	UCF/FSEC	FL DEP/Office of Coastal and Aquatic Managed Areas	Site Visit to Cayo Costa State Park	4/1/2011	5/31/2011	$1,200
37	PI: John Harrison; CoPI(s): David Click, Houtan Moaveni, John Del Mar	UCF/FSEC	Orlando Utilities Commission	Solar Technical Services to OUC	7/30/2008	7/29/2012	$33,651
38	PI: John Del Mar; CoPI(s): Safvat Kalaghchy	UCF/FSEC	National Renewable Energy Lab	Solar Testing and Standards Development	1/4/2011	1/3/2012	$500,000
39	PI: William Young	UCF/FSEC	Leonardo Technologies, Inc	Space Coast Clean Cities Coalition Support 2010	11/16/2009	10/31/2011	$50,000
40	PI: Ujjwala Magdum; CoPI(s): James Huggins	UCF/FSEC	Solar Rating & Certification Corporation	SRCC Portal Development	4/20/2011	11/30/2011	$83,965
41	PI: Neelkanth Dhere	UCF/FSEC	The Dow Chemical Company	Study of Dow Chemical c-Si PV modules prepared with specially developed encapsulant in hot and humid climate	4/1/2008	8/31/2011	$13,151
42	PI: Neelkanth Dhere	UCF/FSEC	United Solar Ovonic, Uni-Solar	Study of United Solar a-Si: H PV Modules	6/1/2007	5/31/2012	$30,000
43	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Subtask 1.1- SERES Inverter High Risk Comp. Operating Temp Study	5/4/2010	7/30/2011	$17,558
44	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Subtask 2.2- SERES Evaluate Commercial PV Monitoring Systems	5/4/2010	7/30/2011	$13,051

45	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Subtask 3.1- SERES System Long Term Exposure Study	5/4/2010	7/30/2011	$10,731
46	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Subtask 3.2- SERES Inverter Long Term Exposure Study	5/4/2010	7/30/2011	$10,402
47	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Subtask 3.4- SERES Testing and Certification	5/4/2010	7/30/2011	$15,460
48	PI: Susan Schleith; CoPI(s): David Click, William Young, Mary Huggins	UCF/FSEC	Progress Energy	SunSmart Schools E-Shelter Plus-UP (Utility Program) AKA SunSense Plus UP	8/31/2011	12/31/2011	$1,096,785
49	PI: Stephen Barkaszi; CoPI(s): David Click	UCF/FSEC	Sandia National Laboratories	TA Task 1 - SAC Orlando	2/20/2010	3/29/2014	$5,166
50	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 1.1 Inverter High-Risk Component Operating Temperature Study	8/9/2011	11/30/2011	$13,136
51	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 1.2 Design and Install Monitoring on Sanford Federal Center GSA PV System	8/9/2011	11/30/2011	$19,213
52	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 1.3 Completion of Standard Field Test Protocol Document	8/9/2011	11/30/2011	$7,388
53	PI: Robin Vieira	UCF/FSEC	State of Florida	Task 10 Energy Efficient Buildings: BA-PIRC	1/27/2011	6/30/2011	$66,539
54	PI: John Del Mar; CoPI(s): James Huggins, Robert Reedy, Joseph Walters	UCF/FSEC	State of Florida	Task 3 Enhancement of Solar Thermal Research and Test Capabilities	7/1/2008	6/30/2012	$55,000
55	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.1 System Long Term Exposure Study	8/9/2011	11/30/2011	$14,965
56	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.2 Inverter Long Term Exposure Study	8/9/2011	11/30/2011	$15,332
57	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.3 High Voltage Bias Tests	8/9/2011	11/30/2011	$17,883
58	PI: Stephen Barkaszi	UCF/FSEC	Sandia National Laboratories	Task 3.4 Module Testing and Certification	8/9/2011	11/30/2011	$12,083
59	PI: David Chasar	UCF/FSEC	Atlantic Housing Partners	Task 3: Energy Analysis and Performance Testing of Multifamily Dwellings	8/10/2007	12/31/2011	$10,613
60	PI: Stephanie Thomas-Rees	UCF/FSEC	University of South Florida	Team Florida US DOE 2011 Solar Decathlon Application; Environmental, Health & Safety Plan	4/5/2010	11/22/2011	$8,000
61	PI: Houtan Moaveni; CoPI(s): David Click	UCF/FSEC	TECO Energy	TECO-Energy Training	3/24/2011	8/11/2011	$4,440
62	PI: Joseph Walters	UCF/FSEC	University of New Haven	Thermal Test Facility Training	10/18/2010	10/22/2010	$4,605
63	PI: David Block; CoPI(s): James Fenton, Ali Raissi	UCF/FSEC	US Department of Energy/Golden Field Office	Transfer of DOE Agreement DE-FC36-04GO14225 Florida Hydrogen Initiative to Florida Solar Energy Center	5/1/2009	6/30/2012	$1,544,160
64	PI: Richard Raustad; CoPI(s):	UCF/FSEC	Associated Gas Distributors of Florida	Updating G-RIM and Participants Test Model for the Associated Gas Distributors of Florida	8/31/2011	1/31/2012	$13,032

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65	PI: Jeremy Nelson; CoPI(s): Robin Vieira, Lawrence Abdullah	UCF/FSEC	Indian River County Public Schools	Utility Report Cards Implementation in Indian River County Public School District	4/3/2008	6/30/2011	$1,400
66	PI: Jeremy Nelson; CoPI(s): Robin Vieira	UCF/FSEC	Indian River County Public Schools	Utility Report Cards Implementation in Indian River County Public School District	7/1/2011	6/30/2013	$5,600
67	PI: Dr. Zhihua Qu	UCF/CECS	Petra Solar	Grid Stability with Distributed Generations and Varying Topologies (ID: 1049824)	2/1/2010	5/30/2013	$240,000
68	PI: Dr. Zhihua Qu	UCF/CECS	L3 Communications Link Simulation & Training	Modeling and Control of Unmanned Aerial Vehicles (ID: 1051676)	7/1/2011	12/31/2011	$40,000
69	PI: Dr. Zheng Shen	UCF/CECS	Advanced Power Electronics (APECOR)	NASA SBIR Phase II: High-Temperature, Wirebondless, Ultra-Compact Wide Bandgap Power Semiconductor Modules for Space Power Systems (ID: 1052021)	7/1/2011	10/30/2011	$24,988
70	PI: Dr. Issa Batarseh CoPI(s): Dr. Xinzhang Wu, Dr. Zhihua Qu	UCF/CECS	US Department of Energy/Golden Field Office	Photovoltaic Power Electronics Research Initiative (PERI) for developing low cost, ultra-compact, three-phase micro inverters or "AC bricks" (ID: 1050914)	9/1/2010	12/31/2012	$700,000
71	PI: Dr. Zhihua Qu	UCF/CECS	Harris Corporation	Power-generation buoy and deep-sea monitoring system (ID: 1051436)	9/1/2010	8/31/2011	$4,000
72	PI: Dr. Zheng Shen	UCF/CECS	Texas Instruments	Student Support - Boyi Yang (ID: 1051354)	6/1/2010	6/1/2012	$75,000
73	Adams C R	UF	US DEP AGR	Control of invasive ruellia simplex through induced sterilization and improved management in invaded natural....	5/2/2011	8/31/2012	$16,000
74	Adams D C	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$49,851
75	Adams P N	UF	NSF	Collaborative research: coastal geomorphic consequences of wave climate change	9/15/2011	8/31/2014	$231,632
76	Allen M S	UF	US DEPT OF COMMERCE	Recruiting training & research program	9/1/2011	8/31/2012	$200,000
77	Altpeter, F	UF	USDA-CSREES	Developing non-invasive genotypes of the biofuel and forage crop napiergrass	9/1/2010	8/31/2012	$120,000
78	Altpeter, F	UF		Syngenta: Characterization of regulatory elements for gene expression in transgenic sugarcane	11/1/2010	10/31/2012	$319,675
79	Anderson T J	UF	NSF	Goali: mechanism-based approaches for cvd/ald of cu barriers	9/1/2009	8/31/2012	$130,000
80	Anderson T J	UF	NSF	Career development workshops for new and prospective faculty	10/1/2009	9/30/2011	$20,500
81	Anderson T J	UF	US DOE	Information-driven semiconducting materials discovery	12/1/2010	9/30/2011	$50,000
82	Anderson T J	UF	US DOE	Thin film solar cell device fabrication	1/21/2011	9/30/2011	$10,000

83	Andraka B	UF	US DOE	Investigation of novel strongly correlated electron states with the emphasis on pr-based systems	6/30/2011	1/31/2014	$108,679
84	Andraka B	UF	US DOE	Investigation of novel strongly correlated electron states with the emphasis on pr-based systems	2/1/1999	1/31/2014	$108,679
85	Andreu M G	UF	US DEP AGR	Wildland urban interface research and technology transfer	3/8/2011	8/1/2015	$24,000
86	Andreu M G	UF	US DEP AGR	Denitrification potential in the Tampa bay watershed	7/25/2011	8/31/2013	$25,700
87	Andreu M G	UF	US DEP AGR	Denitrification potential in the Tampa bay watershed	9/2/2011	8/31/2013	$10,000
88	Andrew J	UF		Improved contacts for solar cells	5/1/2011	4/30/2012	$5,000
89	Ankersen T T	UF	US DEPT OF COMMERCE	Secc risa: science and partnerships for adaptation and resilience to climate change and climate variability	9/1/2010	8/31/2011	$26,924
90	Ankersen T T	UF	US DEPT OF COMMERCE	Sea grant coastal communities r/c p-31	2/1/2010	1/31/2012	$25,000
91	Ankersen T T	UF	US DEPT OF COMMERCE	Secc risa: science and partnerships for adaptation and resilience to climate change and climate variability	9/1/2010	8/31/2012	$27,463
92	Arnold D P	UF	US ARMY	Pecase:development of fully-integrated micromagnetic actuator technologies	8/24/2011	9/30/2014	$200,000
93	Avery P R	UF	NSF	Sustaining and extending the open science grid: science inn ovation on a petascale nationwide facility	9/1/2006	12/31/2011	$5,000
94	Balachandar S	UF	US AIR FORCE	Center for high performance reconfigurable computing (CHREC)	9/17/2010	2/28/2012	$223,351
95	Balachandar S	UF	US AIR FORCE	Operation of a research and engineering education facility at eglin AFB, FL	5/15/2010	5/14/2012	$100,000
96	Balachandar S	UF	NSF	Pire: collaborations with japan and france on complex and multiphase fluid technologies	7/1/2010	6/30/2012	$63,962
97	Balachandar S	UF		Hines/progress energy eminent scholar chair	9/1/2005	8/31/2011	$29,250
98	Balachandar S	UF		Hines/progress energy eminent scholar chair	9/1/2005	8/31/2012	$44,500
99	Balachandar S	UF	US DOE	Modeling and simulation of explosive dispersal of liquids - fellowship for mina mankabadi	8/15/2009	8/14/2012	$25,000
100	Baney R H	UF	US ARMY	Use of novel bio-mimicking microscale surface topographies as adhesion resistance	3/24/2011	7/31/2011	$16,580
101	Baney R H	UF	US ARMY	Use of novel bio-mimicking microscale surface topographies as adhesion resistance	4/12/2011	7/31/2011	$14,620
102	Baney R H	UF	US NAVY	The chemical control of marine biofouling/foul release with engineering chemical and nano patterned surfaces	1/1/2010	12/31/2012	$15,510
103	Barbazuk W B	UF	US DEP AGR	Analysis of imprinted genes with development functions in the maize seed	3/4/2011	3/31/2015	$145,535
104	Barooah P	UF	NSF	CPS: medium: collaborative research: goali: methods for network-enabled embedded monitoring and control for	12/1/2009	2/28/2012	$125,000

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105	Barooah P	UF		REU supplement: career: distributed estimation and control for energy efficient buildings	2/1/2010	1/31/2015	$6,000
106	Barrick R K	UF	US DEP AGR	USDA cooperative agreement, national food and agricultural sciences teaching, extension and research awards	10/5/2010	8/31/2011	$100,000
107	Bartlett R J	UF	US ARMY	Quantum chemical methods for molecular structures, spectra, and reaction paths and their applications to energetic.....	2/4/2011	2/28/2012	$120,000
108	Bartlett R J	UF	US AIR FORCE	Molecules and their interactions: the development of new theory and its implementation	6/1/2011	5/31/2014	$150,000
109	Baucum L E	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$6,300
110	Bjorndal K A	UF		Sea turtle conservation	3/15/2005	3/14/2016	$25,000
111	Boginski V L	UF	US AIR FORCE	Reliability of complex networks under certainty	5/16/2011	6/15/2012	$66,981
112	Bolch W E	UF	US DOE	Updating the gamma emitter contamination assessment tool (GECAT)	11/24/2010	9/30/2011	$99,306
113	Boote K J	UF	NSF	Development of a gene-based ecophysiology model	7/15/2010	6/30/2012	$106,605
114	Bosman G	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	8/14/2011	$79,248
115	Bosman G	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	2/14/2012	$58,870
116	Bowen W T	UF	US DEP AGR	Borlaug agricultural policy executive leadership course, kazahkstan and ukraine	10/20/2010	2/1/2012	$64,000
117	Bowen W T	UF	US DEP AGR	Scientific exchanges ecuador	10/18/2010	12/31/2011	$69,146
118	Bowen W T	UF	US DEP AGR	Agriculture extension workshop for Haiti	12/6/2010	9/30/2011	$7,888
119	Bowen W T	UF	US DEP AGR	Guatemala Borlaug fellowship program	9/7/2011	9/30/2011	$7,445
120	Bowers C R	UF	NSF	Inducing molecular single file diffusion by co-adsorption in one dimensional channels for gas separations and catalysis	6/22/2010	8/31/2013	$168,147
121	Boyer T H	UF	US DEPT OF INTERIOR	2011fl267b: coupled biological/chemical systems for maximizing phosphorus from natural waters	3/1/2011	2/28/2012	$8,036
122	Brecht J K	UF		Evaluation and testing of produce wizard controlled fruit ripening and produce storage units	4/27/2011	10/15/2011	$14,654
123	Brennan A B	UF	US NAVY	The chemical control of marine biofouling/foul release with engineering chemical and nano patterned surfaces	1/1/2010	12/31/2012	$209,940
124	Brennan A B	UF	US ARMY	Militarized direct methanol fuel cell (DMFC) laptop power supply - year 3	1/19/2011	1/18/2012	$176,669

125	Brlansky R H	UF	US DEP AGR	Psyllid mediated completion of pathogenicity tests (kochs postulates) with a pure culture of the associated huanglongbin	6/9/2011	3/31/2012	$17,500
126	Brown M T	UF	US EPA	Florida s participation in the national wetland condition assessment 2011	4/1/2011	3/31/2014	$434,700
127	Brown M T	UF	US EPA	Monitoring initiative funds: water monitoring program	3/9/2011	3/8/2014	$173,999
128	Brown M T	UF	NSF	IGERT program in adaptive management: wise use of water, wetlands and watersheds (cost of education allowance)	9/15/2005	8/31/2012	$6,991
129	Brown M T	UF	NSF	IGERT program in adaptive management: wise use of water, wetlands and watersheds (participant support)	9/15/2005	8/31/2012	$3,240
130	Buss E A	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	8/23/2011	7/31/2012	$5,000
131	Butler J E	UF	NSF	PIRE: collaborations with japan and france on complex and multiphase fluid technologies	7/1/2010	6/30/2012	$73,170
132	C Gonzalez	UF		Identification of small molecules that disrupt pathogenicity determinants of Liberibacter asiaticus	4/1/2011	3/31/2012	$126,175
133	Cao Y	UF	US NAVY	Semiochemical-mediated nano-taggants	12/11/2008	9/30/2011	$150,000
134	Cao Y	UF	NSF	Career: position-controlled doping of semiconductor nanocrystals	3/1/2007	2/28/2012	$100,000
135	Cao Y C	UF	US NAVY	Semiochemical-mediated nano-taggants	12/11/2008	9/30/2011	$127,965
136	Carter D R	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$51,369
137	Casella G	UF	US DEP AGR	Collaborative research: how are archaeal diversity, abundance, and function regulated in agroecosystems	10/5/2010	7/31/2012	$4,035
138	Castellano R K	UF		A modular supramolecular approach to organic photovoltaic materials	7/1/2011	6/30/2014	$145,000
139	Cattafesta Iii L N	UF	US NAVY	Circulation control experiment at nuwc keyport facility	4/1/2011	3/31/2013	$30,000
140	Cattafesta Iii L N	UF	US AIR FORCE	An integrated study of separation control: flow physics, nonlinear dynamics and effective control strategies	3/1/2009	11/30/2011	$184,625
141	Cattafesta Iii L N	UF	NSF	PIRE: collaborations with japan and france on complex and multiphase fluid technologies	7/1/2010	6/30/2012	$76,415
142	Cattafesta Iii L N	UF		Anechoic wind tunnel experiments of landing gear noise	3/5/2010	8/31/2011	$40,000
143	Cazacu O	UF	US AIR FORCE	Development of constitutive model for description of the role of texture on void growth in metallic materials...	8/12/2008	8/11/2012	$50,000
144	Chalfin B H	UF	US DEPT OF COMMERCE	E/st-42 NOAA Sea Grant Dean John Knauss marine policy fellowship	2/1/2011	1/31/2012	$44,600
145	Chen S	UF	NSF	Career: traffic differentiation in multihop wireless networks	5/1/2007	4/30/2012	$73,632

146	Chen Y	UF	US NAVY	Predicting materials properties from their microstructural architecture	6/29/2010	6/28/2012	$150,000
147	Chen Y	UF	US DOE	Prediction of thermal transport properties of materials with microstructural complexity	7/15/2011	7/14/2012	$151,082
148	Cheng H P	UF	US DOE	A computational approach to complex junctions and interfaces	1/10/2011	11/30/2011	$220,000
149	Cheng H P	UF		Understanding and reducing thermal noise via atomistic simulations	9/1/2011	8/31/2014	$105,000
150	Chini A R	UF	US DOE	Energy efficient housing research partnerships	3/30/2011	4/28/2011	$24,395
151	Christou G	UF	NSF	Transition metal clusters as single-molecule magnets	9/1/2009	8/31/2012	$174,000
152	Clark D G	UF	US DEP AGR	Development of cdna microarrays for gene expression researchin floricultural crops	10/27/2010	9/30/2011	$43,902
153	Clark D G	UF	US DEP AGR	Development of cdna microarrays for gene expression researchin floricultural crops	8/10/2011	9/30/2014	$53,674
154	Cleaver B D	UF		Stability testing product storage and regulatory support	9/1/2008	12/31/2011	$29,555
155	Clouser R L	UF	US DEP AGR	Florida agriculture mediation service	9/6/2011	9/30/2011	$18,714
156	Consolazio G R	UF	US DEPT OF TRANSPORTATION	Pendulum impact testing of an impact-breakaway, wind-resistant base connection for multi-post ground signs	2/4/2011	12/31/2011	$89,379
157	Consolazio G R	UF	US DEPT OF TRANSPORTATION	Bridge girder drag coefficients and wind-related bracing recommendations	5/13/2010	3/1/2012	$54,423
158	Crane J H	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	7/14/2011	7/31/2012	$22,500
159	Crisalle O D	UF	US ARMY	Militarized direct methanol fuel cell (DMFC) laptop power supply	1/19/2011	1/18/2012	$94,888
160	Cropper Jr W P	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$56,584
161	Cuda J P	UF	US DEP AGR	Sustainable approach for integrated management of herbicide resistant hydrilla in the us	10/7/2010	8/31/2014	$311,684
162	Davis J M	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$7,558
163	De Crecy-Lagard V	UF	NSF	GEPR: comparative genomics-driven discovery of maize metabolic functions	1/15/2011	12/31/2012	$211,685
164	Dempere L A	UF	US DEP AGR	Next-generation sweet sorghums-sustainable production of feedstocks for fuels, chemicals and value-added products	8/30/2011	4/30/2015	$94,635
165	Dewdney M M	UF	US DEP AGR	Understanding guignardia citricarpa ascospore production and potential inoculums reduction strategies in Florida	8/10/2011	7/15/2012	$76,891
166	Diehl D	UF	US DEP AGR	Climate variability to climate change: extension challenges and opportunities in the southeast USA	4/27/2011	3/31/2013	$170,645

167	Dittmar P	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	7/14/2011	7/31/2012	$125,500
168	Dukes M D	UF		Determination of maximum acceptable irrigation deficit on turfgrass for water conservation(b284)	10/1/2009	12/31/2013	$18,467
169	Duncan K	UF	EMISSION & POWER SOLUTION	Gas sensor development project for improved efficiency/reduced pollution in automotive applications	8/1/2010	2/19/2011	$28,571
170	Ellis J D	UF	US DEPT OF INTERIOR	Evaluation of native and non native plants in agricultural landscapes for the conservation	7/1/2009	2/28/2013	$50,556
171	Emerson R D	UF	US DEP AGR	Assessing agricultural labor risk for specialty crops	10/27/2010	6/30/2012	$250,000
172	Erickson J E	UF	US DEP AGR	Next-generation sweet sorghums - sustainable production of feedstocks for fuels, chemicals and value-added products	5/31/2011	4/30/2015	$548,574
173	Fan Z H	UF	NSF	Pire: collaborations with japan and france on complex and multiphase fluid technologies	7/1/2010	6/30/2012	$74,573
174	Fishel F M	UF	US DEP AGR	Extension integrated pest management program for the university of Florida	7/25/2011	9/30/2011	$18,000
175	Fisher P	UF	US DEP AGR	Developing cost-effective and efficient floriculture production methods	8/29/2011	9/21/2013	$24,390
176	Fitz H C	UF	US ARMY	Applying everglades landscape model (elm) to dynamically integrate hydrology, water quality, soils, periphyton	3/1/2011	3/1/2012	$38,559
177	Flood I	UF	US AIR FORCE	Rapid simulation of blast wave propagation in complex built environments using coarse-grain neural. . .	7/1/2010	8/30/2014	$75,000
178	Fogarty K	UF	US DEP AGR	Florida sustainable communities project: grandfamily resilience and sustainability (grands) program	5/13/2011	3/31/2012	$92,797
179	Fortes J A	UF	NSF	Collaborative research: unified cloud computing and management	8/15/2011	7/31/2012	$50,000
180	Fortes J A	UF	NSF	Futuregrid: an experimental high performance grid test-bed	10/1/2009	9/30/2013	$57,292
181	Foster J S	UF	NASA	Molecular and metabolic mechanisms of carbon sequestrations in marine thrombolites	7/13/2011	7/31/2012	$30,000
182	Fraisse C W	UF	US DEP AGR	Climate variability to climate change: extension challenges and opportunities in the southeast USA	4/27/2011	3/31/2013	$1,385,752
183	Franky So	UF	ONR	Materials and Devices compatible with high volume roll-to-roll manufacturing of polymer solar cells	1/1/2011	12/31/2013	$750,000
184	Franky So	UF	DOE	High efficiency OLEDs for lighting	6/1/2009	5/1/2012	$780,000
185	Frederick P C	UF	US ARMY	Monitoring of woodstock and wading bird reproduction in the water conservation areas of the everglades	2/25/2011	2/15/2012	$246,915
186	Fuchs G E	UF	US DOE	Comparison of the single crystal ni-base superalloys,pwa1484and cmsx-486, for igt applications	1/11/2011	9/15/2011	$25,834
187	Funderburk J E	UF	US DEP AGR	Extension integrated pest management program for the university of Florida	7/25/2011	9/30/2011	$24,000

188	Funderburk J E	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	8/23/2011	7/31/2012	$2,500
189	Gao B	UF	NSF	Career: an integrated research and education program to improve environmental sustainability with bichar technology	1/15/2011	12/31/2015	$407,910
190	Gary Peter	UF	DOE/ ARPA-E	Commercial Production of Terpene Biofuels in Pine			$5,000,000
191	George A D	UF	NSF	Nsf center for high-performance reconfigurable computing "chrec"	11/15/2006	12/31/2012	$30,000
192	George A D	UF	US DOE	Chrec: system level formulation and design with shmem: 2009 2010 ornl participation in chrec	6/9/2009	7/31/2011	$70,000
193	Ghosh M	UF	US DEP AGR	Developing small area models for improved county-level estimation of agricultural cash rents	7/25/2011	9/30/2012	$5,800
194	Giblin-Davis R M	UF	US DEP AGR	Real time internet invasive pest identification training	9/8/2011	8/31/2012	$25,000
195	Gilbert R A	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$75,119
196	Gillett-Kaufman J L	UF	US DEP AGR	Sustainable approach for integrated management of herbicide resistant hydrilla in the us	10/7/2010	8/31/2014	$121,726
197	Giuliano W M	UF		Private lands conservation monitoring survey	1/18/2011	6/30/2012	$40,150
198	Gopalakrishnan J	UF	DOD	Lightning initiation, propagation, attachment and ionospheric effects	6/1/2010	5/31/2012	$15,044
199	Graham Jr J H	UF	US DEP AGR	Testing new hybrid rootstocks for tolerance to phytophthora and diaprepes	10/4/2010	5/5/2012	$17,953
200	Graham W D	UF	US DEPT OF COMMERCE	Collaborative development of public water supply utility relevant climate information for improved operations . . .	9/1/2011	8/31/2013	$143,756
201	Graham W D	UF	US DEPT OF INTERIOR	Water resources research institute annual base program	3/1/2011	2/28/2012	$8,000
202	Greenslet H Y	UF	NSF	Magnetic field assisted nanomachining of ultraprecision surfaces	11/16/2010	4/30/2013	$12,000
203	Greenslet H Y	UF	NSF	Reu: surface functionalization by magnetic field assisted finishing	9/1/2009	8/31/2012	$6,000
204	Gregory Iii J F	UF	NSF	GEPR: comparative genomics-driven discovery of maize metabolic functions	1/15/2011	12/31/2011	$733
205	Gregory Iii J F	UF	NSF	GEPR: comparative genomics-driven discovery of maize metabolic functions	1/15/2011	12/31/2012	$55,226
206	Grunwald S	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$210,788
207	Guan Y	UF	US NAVY	Multi-stage formulations and solution methods for mixed integer programming under uncertainty	5/1/2010	4/30/2013	$121,971
208	Guan Y	UF	US DOE	Power system optimization under uncertainty	1/1/2011	12/31/2011	$20,831
209	Guan Y	UF	US DOE	Multi-stage stochastic integer programming for power grid systems	5/1/2011	4/30/2012	$60,000

210	Guo J	UF	US NAVY	Large scale graphene nanoribbon electronics	6/1/2008	5/31/2011	$26,667
211	Guo J	UF	US NAVY	Atomistic design of graphene electronics at the nanoscale	8/1/2011	7/31/2014	$35,000
212	Gurley K R	UF		Public outreach and dissemination of residential mitigation research applicable to structural and energy retrofits in flo	2/17/2011	6/30/2011	$99,937
213	Haftka R T	UF	NASA	Uncertainty propagation in the analysis and design of integrated thermal protection system	12/7/2010	6/30/2011	$11,955
214	Hager W W	UF	US NAVY	Next-generation framework for real-time solutions of nonlinear optimal control problems	11/1/2010	9/30/2013	$44,375
215	Hahn D W	UF		Novel magnetically fluidized bed reactor development for the looping process: coal to hydrogen production	10/1/2009	9/30/2012	$99,278
216	Hanlon Jr E A	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$729,057
217	Hanlon Jr E A	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$6,396
218	Hannah L C	UF	NSF	Gene, enzyme and physiological characterization of maize shrunken-2 and brittle-2 alleles	8/1/2008	7/31/2012	$100,000
219	Hanrahan R J	UF	US DOE	Gas phase hydrogen - halogen systems	10/1/1995	9/30/2012	$1,200
220	Hanson A D	UF	NSF	GEPR: comparative genomics-driven discovery of maize metabolic functions	1/15/2011	12/31/2011	$317,129
221	Harmon C L	UF	US DEP AGR	Southern plant diagnostic network	10/26/2010	6/30/2012	$975,899
222	Harmon C L	UF	US DEP AGR	Identifying, prioritizing and managing invasive species in Florida	5/10/2011	3/13/2012	$5,499
223	Harmon C L	UF	US DEP AGR	Southern plant diagnostic network	9/6/2011	6/30/2012	$500,000
224	Harris J G	UF	US AIR FORCE	Location and navigation with ultra-wide signals	3/15/2009	11/30/2011	$100,000
225	Harrison N A	UF	US DEP AGR	Texas phoenix decline, a newly emerging disease threatens Sabal Palm survival in Florida	10/4/2010	8/31/2012	$112,147
226	Hatfield K	UF	US DEPT OF INTERIOR	Water resources research institute annual base program	3/1/2011	2/28/2012	$22,341
227	He Z	UF	US DEP AGR	Evaluation of soil quality parameters (SQP) in tropical soils and assessment of elemental composition in tropical. .	6/28/2011	1/14/2013	$10,000
228	Heaney J	UF	US EPA	Conserve Florida Clearinghouse	7/1/2011	6/30/2013	$325,000
229	Heaney J	UF	US DEPT OF INTERIOR	Sustainable urban infrastructure and water loss management including a case study of Sanford Florida	3/1/2011	2/28/2012	$9,640
230	Heaney J	UF	WATER MGMT DISTRICTS	Perform spatial and temporal analyses and develop conservation goals for city of Sanford conservation c share	10/1/2010	9/30/2013	$150,000
231	Heaney J	UF	WATER MGMT DISTRICTS	Optimization and reliability of selected indoor water conservation retrofits	3/31/2011	3/30/2014	$84,000
232	Heaney, James	UF	FDEP	Conserve Florida Water Clearinghouse	7/1/2011	6/30/2012	$162,500

233	Heaney, James	UF	Sanford and SJRWMD	Water Loss Control Options	1/1/2011	12/31/2013	$150,000
234	Heaney, James	UF	U.S. G.S.	Sustainable Urban Water Infrastructure Systems	5/1/2011	4/31/14	$66,000
235	Hebard A F	UF	NSF	Physics of proximate metallic and insulating phases	9/1/2010	8/31/2012	$130,000
236	Hinton C	UF	US EPA	Florida's water wastewater agency response network (flawarn)	10/1/2010	9/30/2012	$70,000
237	Hirschfeld P J	UF	US DOE	Grains, wires and interfaces of cuprate superconductors	11/1/2010	2/28/2012	$105,000
238	Hochmuth R C	UF	US DEP AGR	Extension integrated pest management program for the university of Florida	7/25/2011	9/30/2011	$50,000
239	Hoctor T S	UF	US DEPT OF INTERIOR	The cooperative conservation blueprint (CCB) regional pilot project	8/16/2010	3/15/2013	$112,044
240	Hodges A C	UF	US DEP AGR	Identifying, prioritizing and managing invasive species in Florida	5/10/2011	3/13/2012	$5,499
241	Hodges A C	UF	US DEP AGR	Collaborative pest detection education	8/30/2011	7/31/2012	$42,700
242	Hodges A W	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$18,900
243	Hong S	UF		Self-assembled catalysts for asymmetric ring opening reactions	2/15/2010	1/31/2013	$120,000
244	Ifju P G	UF	US ARMY	Collection of digital aerial imagery in support of aquatic invasive species program and cerp	6/30/2011	12/31/2011	$74,671
245	Inglett P W	UF	US DEPT OF INTERIOR	Patterns of soil biogeochemistry in the hole-in-the-donut region with implications for restoration management	7/22/2011	5/31/2012	$159,381
246	Ingram K T	UF	US DEPT OF COMMERCE	Collaborative development of public water supply utility relevant climate information for improved operations.	9/1/2011	8/31/2013	$81,488
247	Ingram L O	UF	US DEP AGR	Next-generation sweet sorghums - sustainable production of feedstocks for fuels, chemicals and value-added products	5/31/2011	4/30/2015	$1,319,887
248	Irani T A	UF	US DEPT OF COMMERCE	Collaborative development of public water supply utility relevant climate information for improved operations .	9/1/2011	8/31/2013	$74,814
249	Issa R R	UF		Energy conservation features of new homes in Fla.	7/1/2011	6/30/2012	$21,542
250	Jenshan Lin	UF	NEC	Collaborative Research on High Frequency Wireless Power Transfer System	5/16/2011	5/15/2012	$35,000
251	Jenshan Lin	UF	RIST	Research on a RF power amplifier for the wireless power transmission	6/1/2011	5/31/2012	$48,000
252	Jiang P	UF	NSF	Scalable self-assembly of colloidal nanoparticles	8/1/2010	7/31/2013	$189,982
253	Jokela E J	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$342,574
254	Jones J L	UF	US ARMY	PECASE: domain wall evolution in phase transforming oxides	4/12/2011	8/17/2014	$200,000

255	Jones J L	UF	NSF	IRES: australian international research experience for students: materials for energy technologies	10/1/2011	9/30/2014	$79,380
256	Jones J L	UF	US DOE	Enabling self-powered ferroelectric nano-sensors:fundamentalscience of interfacial effects under extreme conditions	1/5/2010	9/30/2011	$62,000
257	Jones J L	UF	US DOE	Development of stroboscopic techniques and application to phase switching in ferroelectrics	4/6/2010	5/31/2011	$15,000
258	Jones J L	UF	US DOE	Development of stroboscopic techniques and application to phase switching in ferroelectrics	4/6/2010	5/31/2012	$14,000
259	Jones J W	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/26/2011	2/28/2012	$21,146
260	Jones J W	UF	US DEPT OF COMMERCE	SECC RISA: science and partnerships for adaptation and resilience to climate change and climate variability	9/1/2010	8/31/2011	$396,076
261	Jones J W	UF	US DEPT OF COMMERCE	SECC RISA: science and partnerships for adaptation and resilience to climate change and climate variability	9/1/2010	8/31/2011	$695,000
262	Jones J W	UF	US DEPT OF COMMERCE	SECC RISA: science and partnerships for adaptation and resilience to climate change and climate variability	9/1/2010	8/31/2012	$357,754
263	Jones J W	UF	US DEPT OF COMMERCE	SECC RISA: science and partnerships for adaptation and resilience to climate change and climate variability	9/1/2010	8/31/2012	$530,000
264	Jones J W	UF	NSF	Development of a gene-based ecophysiology model	4/15/2010	6/30/2012	$110,572
265	Jones K S	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	8/14/2011	$101,415
266	Jones K S	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	2/14/2012	$68,031
267	Jones K S	UF	US DOE	ARPA-E BEEST: solid state lithium battery:solid-state all inorganic rechargeable lithium batteries	7/1/2010	6/30/2012	$12,302
268	Jones K S	UF	US DOE	ARPA-E BEEST: solid state lithium battery:solid-state all inorganic rechargeable lithium batteries	7/1/2010	6/30/2012	$46,000
269	Jones P H	UF	US DOE	Energy tracking software platform	10/15/2010	3/18/2011	$19,843
270	Jones P H	UF	US DOE	Energy efficient and renewable energy retrofits for multi-family housing	6/29/2011	4/30/2012	$499,114
271	Jones P H	UF	US DOE	Osceola county energy initiative	5/10/2011	9/30/2012	$373,000
272	Jourdan D	UF	US DEPT OF COMMERCE	Gulf of mexico regional natural hazard & climate change projection model for hurricane flooding	2/1/2010	1/31/2013	$49,000
273	Kahveci T	UF	NSF	Career: new technologies for querying pathways databases	2/15/2009	1/31/2012	$81,143
274	Kainer K A	UF	US AGCY INTL DEV	Bridging academia and practice: integrative leadership for biodiversity conservation in managed landscapes	1/1/2011	9/30/2013	$122,323
275	Kang B	UF	US DEP AGR	Cell type-specific epigenetic gene regulation in the maize endosperm during seed development	4/8/2011	3/14/2014	$480,153

276	Kang B	UF		Control of Huanglongbing by reducing callose formation in the phloem plasmodesmata	9/1/2010	8/31/2011	$73,890
277	Katritzky A R	UF	US NAVY	Applications of heterocyclic chemistry to high energy (i) robust binders for propellants and (ii) high density energetic	11/5/2008	11/5/2011	$198,730
278	Kaufman P E	UF	US DEP AGR	Development and delivery of an innovative alternative pest management program for the brown dog tick	10/11/2010	2/2/2011	$135,225
279	Kent H C	UF	US DEP AGR	Climate variability to climate change: extension challenges and opportunities in the southeast USA	4/27/2011	3/31/2013	$93,884
280	Kernaghan N J	UF	US DEPT OF EDUCATION	Export markets for alternative energy: preparing small businesses, faculty and students for trade opportunities in	1/1/2011	5/31/2011	$2,160
281	Khargonekar P P	UF	NSF	Collaborative research: integrating random energy into the smart grid	9/15/2011	8/31/2014	$273,424
282	Kiker G A	UF	US ARMY	Integrated climate change & threatened bird population modeling to mitigate operations risks on Florida military...	2/23/2011	4/3/2012	$217,000
283	Klausner J F	UF		Sunlight to fuel: high temperature thermochemical reactor science and technology	5/1/2011	4/30/2012	$11,940
284	Klausner J F	UF		Solar thermal energy storage research	8/4/2009	8/3/2012	$44,457
285	Klausner J F	UF		Novel magnetically fluidized bed reactor development for the looping process: Coal to hydrogen production R&D	10/1/2009	9/30/2012	$96,903
286	Kleiman V D	UF	US DOE	Conjugated polyelectrolytes: disrupted interactions, self- assembled structures and hybrid polymer solar photcopy	4/15/2011	3/14/2013	$74,550
287	Kobziar L N	UF	US DEP AGR	Southern fire exchange: putting fire science on the ground	3/17/2011	4/30/2012	$48,464
288	Kobziar L N	UF	US DEPT OF INTERIOR	The influence of prescribed fire and understory fuels mastication on soil carbon respiration rates in flatwoods forests	7/7/2011	2/1/2013	$13,494
289	Kobziar L N	UF	US DEPT OF INTERIOR	Will climate change alter wildfire behavior and effects in seasonally-dry wetlands?	7/10/2011	3/30/2013	$22,277
290	Kobziar L N	UF	US DEPT OF INTERIOR	Dendrochronological analysis of fire regime and climate response on wassaw island, savannah national wildlife refuge	6/16/2011	12/31/2011	$3,453
291	Kobziar L N	UF	US DEPT OF INTERIOR	Does high severity lead to delayed tree mortality in cypressdomes	7/1/2010	9/30/2011	$1,280
292	Kruse J K	UF		Determination of maximum acceptable irrigation deficit on turfgrass for water conservation	10/1/2009	12/31/2013	$131,533
293	Ladd A J	UF	US DOE	Multiscale modeling of dissolution in rough fractures	7/13/2011	8/31/2012	$92,451
294	Langeland K A	UF	US DEP AGR	IFAS assessment of non-native plants	10/11/2010	8/31/2012	$116,982
295	Larkin S L	UF	US DEPT OF COMMERCE	E/NMFS-MRE2, a.ropicki nme fellowship	6/1/2011	5/31/2012	$64,166

296	Law M E	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	8/14/2011	$157,882
297	Law M E	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	2/14/2012	$138,969
298	Law M E	UF	DOD	Fundamental studies and modeling of radiation effects in gan-based heterostructures	4/27/2011	5/1/2014	$120,000
299	Lear Jr W E	UF	US DOE	New mea materials for improved dmfc performance, durability and cost	1/1/2010	6/30/2012	$14,537
300	Lear Jr W E	UF	US DOE	Advanced direct methanol fuel cell for mobile computing	1/1/2010	12/31/2011	$112,322
301	Lear Jr W E	UF	US ARMY	Militarized direct methanol fuel cell (DMFC) laptop power supply - year 3	1/19/2011	1/18/2012	$290,222
302	Lear Jr W E	UF		Fesc: integrated biofuel, hydrogen, and electricity cogeneration from biomass and solid waste	1/1/2009	6/30/2012	$20,000
303	Li T	UF		Csr:small:enabling renewable energy powered sustainable highperformance computer architectures and systems	8/15/2011	7/31/2014	$200,000
304	Li X A	UF	NSF	Career:smart:scalable adaptive runtime management algorithmsand toolkit for large scale dynamic scientific applications	9/1/2010	2/28/2013	$222,250
305	Li Y	UF	US DOE	Bio-diesel cellulosic ethanol research project	7/1/2011	2/28/2013	$31,500
306	Lichstein J	UF	US DEP AGR	Modeling the response of the us forests to global change	7/26/2011	9/30/2013	$78,000
307	Lind Jr R C	UF	NASA	Control allocation to optimize flight performance and minimize aeroservoelastic interactions	7/7/2011	7/31/2012	$30,000
308	M. Kirst	UF	USDA	Advanced pine breeding through association genetics and biotechnology	2/1/2010	1/31/2014	$680,668
309	Ma L Q	UF	US EPA	Effectiveness of best management practices to slow down pb weathering in a shooting range in Florida	1/1/2011	12/31/2011	$20,000
310	Macdonald G E	UF	US DEP AGR	Potential for a widespread horticultural cultivar to breed with a federal noxious weed	5/25/2011	3/31/2012	$25,300
311	Mai V	UF	NSF	ABI development: advanced computational algorithms for deep interrogation of microbial communities using millions	5/1/2011	4/30/2014	$222,831
312	Manuel M V	UF	NSF	Ultrafine-grained tia1-based alloys for high temperature applications	9/15/2009	8/31/2012	$125,000
313	Manuel M V	UF	US DOE	Center for materials science of nuclear fuel	10/8/2009	9/30/2014	$99,342
314	Marois J J	UF	US DEP AGR	Climate variability to climate change: extension challenges and opportunities in the southeast USA	4/27/2011	3/31/2013	$158,926
315	Martin C R	UF	US DOE	Science of precision multifunctional nanostructures for electrical energy storage	8/1/2009	7/31/2012	$150,000
316	Martin T A	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$2,834,266

317	Martinez C J	UF	US DEPT OF COMMERCE	Needs, uses, perceptions, and attitudes towards weather and climate forecast info by water resource mgrs in the SE US.	8/1/2010	7/31/2011	$45,194
318	Martinez C J	UF	US DEPT OF COMMERCE	Needes, uses, perceptions, and attitudes towards weather andclimate forecast info by water resource mgrs in the SE US.	8/1/2010	7/31/2011	$104,644
319	Martinez C J	UF	US DEPT OF COMMERCE	Needes, uses, perceptions, and attitudes towards weather andclimate forecast info by water resource mgrs in the SE US	8/1/2010	7/31/2012	$49,194
320	Martinez C J	UF	US DEPT OF COMMERCE	Needes, uses, perceptions, and attitudes towards weather andclimate forecast info by water resource mgrs in the SE US	8/1/2010	7/31/2012	$100,805
321	Maslov D	UF	NSF	Materials world network: control of the electron nuclear interaction in nanoelectronic devices	8/1/2009	7/31/2013	$85,000
322	Masters F J	UF	NSF	Career: behavior of hurricane wind and wind-driven rain in the coastal suburban roughness sublayer	3/1/2011	2/28/2016	$39,141
323	Masters F J	UF		Career: behavior of hurricane wind and wind-driven rain in the coastal suburban roughness sublayer	3/1/2011	2/29/2016	$363,341
324	Masters F J	UF	CHEVRON RESEARCH & TECH CO	Analysis of the spatial and temporal characteristics of hurricane winds offshore	10/18/2010	12/31/2011	$20,000
325	Masters F J	UF	US DEPT OF HOMELAND SECURITY	Residential roof covering investigation of wind resistance of wind resistance of asphalt shingles	5/28/2010	8/31/2012	$705,000
326	Matyas C	UF	NSF	Career: geospatial modeling of tropical cyclones to improve the understanding of rainfall patterns	8/15/2011	7/31/2012	$79,751
327	Mazzotti F J	UF	US DEPT OF INTERIOR	Climate envelope models in support of landscape conservation	10/1/2010	9/30/2012	$309,795
328	Mazzotti F J	UF	US DEPT OF INTERIOR	Climate change envelope modeling for evaluating anticipated effects of climate change on threatened and endangered . . .	7/1/2011	6/30/2012	$159,490
329	Mcavoy E J	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$6,300
330	Mccarty D R	UF	US DEP AGR	Epigenetic regulation of the b3 transcription factor network in maize seed development	2/17/2011	3/31/2015	$499,048
331	Mccarty D R	UF	NSF	Uniformmu: a transposon resource for functional genomics of maize	9/1/2011	8/31/2013	$2,111,109
332	Mccarty D R	UF	NSF	Gepr: comparative genomics-driven discovery of maize metabolic functions	1/15/2011	12/31/2012	$50,837
333	Mcelwee-White L A	UF	NSF	CCII: electronic materials for beyond moores law	8/26/2010	9/30/2013	$7,844
334	Mcelwee-White L A	UF	NSF	Mechanism-based approaches for CVD/ALD of cu barriers	9/1/2009	8/31/2012	$130,000
335	Mcgovern R J	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	8/23/2011	7/31/2012	$5,000
336	Meert J G	UF	NSF	Ediacaran paleomagnetism and geochronology of eastern baltica: a key to paleogeography and climatic history . . .	7/1/2011	6/30/2014	$287,334

337	Mei R	UF		Novel magnetically fluidized bed reactor development for the looping process: coal to hydrogen production R&D	10/1/2009	9/30/2012	$76,203
338	Mitselmakher G	UF	US DOE	LPC fellowships in physics	2/1/2011	1/31/2012	$129,040
339	Mohseni K	UF	US NAVY	A multi-scale investigation of liquid-solid-gas interactions	2/1/2011	1/31/2014	$40,334
340	Mohseni K	UF	US NAVY	A global nonlinear reduced order modeling technique for continuum mechanic problems	6/15/2011	5/31/2015	$26,303
341	Mohseni K	UF	NSF	Digitized heat transfer: a new paradigm for thermal management of compact micro systems	3/31/2011	1/31/2012	$65,056
342	Momcilovic P	UF	NSF	Career: scalability limits of wireless networks	9/1/2010	12/31/2011	$52,685
343	Monroe M C	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change	4/27/2011	2/28/2012	$214,104
344	Monroe M C	UF	US DEPT OF INTERIOR	Producing evaluating your environment education programs: a workbook for practitioners	5/1/2009	5/1/2011	$6,467
345	Moore R C	UF	DOD	Lightning initiation, propagation, attachment and ionospheric effects	6/1/2010	5/31/2012	$89,622
346	Moore R C	UF	DOD	Lightning initiation, propagation, attachment and ionospheric effects	6/1/2010	5/31/2012	$363,485
347	Muir J M	UF	US DEPT OF COMMERCE	EDA university center	7/1/2011	6/30/2012	$142,880
348	Muller G	UF	NSF	Research on the thermal correction system and thermal coating noise	11/1/2010	10/31/2013	$701,285
349	Munoz-Carpena R	UF	NSF	US - Costa Rican workshop: interdisciplinary workgroup on water sustainability in the tempisque basin...April 2012	10/1/2011	9/30/2012	$30,246
350	Murie D J	UF		Ranking Florida's marine and freshwater fish species of greatest conservation need	6/16/2011	3/31/2012	$18,095
351	Narayanan R	UF	NASA	Patterns in interfacial convection and patterns in faraday waves	2/24/2011	11/3/2015	$115,920
352	Narayanan R	UF	NSF	Pire: collaborations with japan and france on complex and multiphase fluid technologies	4/2/2010	6/30/2012	$231,600
353	Nino J C	UF	US DOE	Advanced hifoil (tm) bipolar plates	7/28/2011	6/30/2012	$99,998
354	Nino J C	UF	US DOE	User facility agreement for the use of the Idaho national advanced test reactor	7/8/2008	9/30/2012	$32,653
355	Nishida T	UF	US NAVY	Tissue, electrical, and material responses in electrode failure	11/17/2010	11/16/2011	$9,165
356	Nishida T	UF	US NAVY	Tissue, electrical, and material responses in electrode failure	11/17/2010	11/16/2011	$11,112
357	Nishida T	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	8/14/2011	$75,357
358	Nishida T	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	2/14/2012	$54,900

359	No Keyhani	UF	CRDF	Application of Asian Citrus Psyllid Diaphorina citri tissue culture lines	4/1/2010	3/31/2011	$57,637
360	No Keyhani	UF	USDA NIFA	Development of a new generation of fungal based biological	9/1/2010	8/31/2012	$111,908
361	Norman D J	UF	US DEP AGR	Bacterial wilt host relationships	7/28/2011	8/31/2013	$53,659
362	Norman D J	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	8/23/2011	7/31/2012	$5,000
363	Orazem M E	UF	US DOE	Impedance investigation of lithium batteries	1/19/2011	9/9/2011	$55,000
364	Orazem M E	UF	US DOE	Impedance investigation of lithium batteries	1/19/2011	9/9/2011	$10,900
365	Orazem M E	UF	US DOE	Arpa-e beest: solid state lithium battery:solid-state all inorganic rechargeable lithium batteries	7/1/2010	6/30/2012	$58,302
366	Osborne L S	UF	US DEP AGR	Invasive species management with an initial emphasis on thrips	8/26/2011	9/16/2013	$147,317
367	Osborne T Z	UF		Hydrologic effects on soil stability - loss, formation, and nutrient storages	11/17/2010	9/30/2011	$50,000
368	Overholt W A	UF	US DEP AGR	Sustainable approach for integrated management of herbicide resistant hydrilla in the us	10/7/2010	8/31/2014	$78,969
369	Overholt W A	UF	US DEP AGR	Will local natural enemies and winter temperatures prevent mikania micrantha from becoming invasive	8/2/2011	7/24/2012	$11,394
370	Ozores M P	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$6,300
371	Palmateer A J	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	8/23/2011	7/31/2012	$2,600
372	Pearton S J	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	8/14/2011	$92,809
373	Pearton S J	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	2/14/2012	$66,731
374	Pearton S J	UF	DOD	Fundamental studies and modeling of radiation effects in gan-based heterostructures	4/27/2011	5/1/2014	$120,000
375	Pearton S J	UF	SINMAT	Low cost, scalable manufacturing of surface-engineered superhard (sesh) substrates for next generation electronic & phot	2/1/2011	1/31/2014	$141,000
376	Percival H F	UF	US ARMY	Collection of digital aerial imagery in support of aquatic invasive species program and cerp	3/7/2011	12/31/2011	$44,133
377	Perry S S	UF	US NAVY	Rapid recovery of tribological materials with improved performance using materials informatics	1/1/2010	12/31/2012	$21,046
378	Perry S S	UF	US NAVY	Rapid recovery of tribological materials with improved performance using materials informatics	1/1/2010	12/31/2012	$63,139
379	Peter G F	UF	US DEP AGR	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	4/27/2011	2/28/2012	$211,760
380	Petrasch J	UF		Novel magnetically fluidized bed reactor development for the looping process: coal to hydrogen production r&d	10/1/2009	9/30/2012	$78,354

381	Phillpot S R	UF	US DOE	The consortium for advanced simulation of light-water reactors (casl)	9/1/2010	8/31/2011	$120,170
382	Phillpot S R	UF	US DOE	Center for materials science of nuclear fuel	10/8/2009	9/30/2014	$100,658
383	Phlips E J	UF	US EPA	Monitoring of toxic algae in the Indian river lagoon	11/15/2010	9/30/2011	$26,225
384	Pollman C	UF	US EPA	Task 4 - model development, validation and final report	3/17/2011	7/1/2012	$59,975
385	Powers K W	UF		Powder characterization and beneficiation for nickel metal hydride battery manufacturing	1/1/2010	2/29/2012	$25,000
386	P. Khargonekar, Poolla, Varaiya (Berkeley)	UF	NSF	Integrating Random Energy Into the Smart Grid			$273,000
387	Pratap	UF		Effect of bulking additive on biochemical conversion of biomass of high-solids fermentors	1/1/2011	8/31/12	$49,659
388	Preston Iii J F	UF	US DEP AGR	Next-generation sweet sorghums - sustainable production of feedstocks for fuels, chemicals and value-added products	5/31/2011	4/30/2015	$653,712
389	Prevatt D O	UF	NSF	Rapid: collection of perishable data on wood-frame building failure mechanisms during the 2011 tuscaloosa Alabama tornado	4/27/2011	7/31/2012	$18,484
390	Prevatt D O	UF		Mitigation hurricane damage and reducing energy consumption through state-of-the-art retrofits in a Florida home	2/17/2011	6/30/2011	$75,000
391	Prevatt D O	UF	US DEPT OF HOMELAND SECURITY	Measurement and modeling of wind field and wind loads on residential housing planning project	4/15/2011	6/30/2012	$216,000
392	Principe J C	UF	US NAVY	Surprise metric for sensor contact fusion in sparse data environments	11/1/2009	9/30/2011	$110,000
393	Principe J C	UF	US NAVY	Self-organizing functional hierarchical memories with wake-sleep cycle consolidation	1/1/2010	12/31/2012	$111,604
394	Ranka S	UF		Csr: medium: collaborative research: gridpac: a resource management system for energy and performance optimization ..	9/1/2009	8/31/2012	$84,975
395	Rao A	UF	US NAVY	Next-generation framework for real-time solutions of nonlinear optimal control problems	11/1/2010	9/30/2013	$18,738
396	Rathinasabapathi B	UF	US DOE	Engineering glutaredoxins for stress tolerance & yield	1/1/2009	6/30/2012	$47,200
397	Reddy K R	UF		Phorphorus retention and storage by wetlands in the lake Okeechobee basin	2/24/2011	12/31/2011	$150,000
398	Ren F	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	8/14/2011	$85,212
399	Ren F	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	2/14/2012	$61,928
400	Ren F	UF	DOD	Fundamental studies and modeling of radiation effects in gan-based heterostructures	4/27/2011	5/1/2014	$120,000
401	Ren F	UF	SINMAT	Low cost, scalable manufacturing of surface-engineered superhard (sesh) substrates for next generation	2/1/2011	1/31/2014	$141,000

				electronic & phot			
402	Reynolds J R	UF	US DOE	Conjugated polyelectrolytes: disrupted interactions, self- assembled structures and hybrid polymer solar photcopy	4/15/2011	3/14/2013	$125,763
403	Reynolds J R	UF	US NAVY	Optimized electroactive polymer supercapacitors	6/1/2010	10/31/2012	$103,418
404	Reynolds J R	UF	US NAVY	Tissue, electrical, and material responses in electrode failure	11/17/2010	11/16/2011	$30,178
405	Reynolds J R	UF	US NAVY	Materials and devices compatible with high volume roll-to- roll manufacturing of polymer solar cells	1/1/2011	12/31/2013	$75,412
406	Reynolds J R	UF	US NAVY	Tissue, electrical, and material responses in electrode failure	11/17/2010	11/16/2011	$36,588
407	Reynolds J R	UF		Black to transmissive electrochromic windows	2/15/2011	2/14/2012	$236,936
408	Richard J P	UF		Optimization-based decision support system for coal/bulk monthly reservations planning	2/1/2011	1/31/2012	$37,000
409	Rowland D L	UF		Enhancing the water-use efficiency & drought sustainability of peanut production through crop management & cultivar	1/1/2011	12/31/2011	$38,000
410	Roy S	UF	US AIR FORCE	Dct-tci: real gas characterization of plasma flow control - an integrated approach	6/1/2009	11/30/2011	$99,677
411	Ruppert T K	UF	US DEPT OF COMMERCE	R/gom-rp-3-b implications of takings law on innovative planning for sea level rise in gulf of mexico	2/1/2010	1/31/2012	$49,273
412	Sahni S K	UF	US AIR FORCE	Energy-efficient high-performance internet routers	8/19/2010	8/18/2011	$19,857
413	Sahni S K	UF	NSF	Nets: medium: collaborative research: building an intelligent uncertainty-resilient detection and tracking ..	6/1/2010	5/31/2012	$82,666
414	Sahni S K	UF	NSF	Nets: medium: collaborative research: building an intelligent uncertainty-resilient detection and tracking ..	6/1/2010	5/31/2013	$86,231
415	Sankar B V	UF	NASA	Probabilistic micromechanics for ceramic matrix textile composites (student: Marlana Behnke)	6/30/2011	6/30/2012	$30,000
416	Sawyer W G	UF	US NAVY	Rapid recovery of tribological materials with improved performance using materials informatics	1/1/2010	12/31/2012	$22,088
417	Sawyer W G	UF	US NAVY	Rapid recovery of tribological materials with improved performance using materials informatics	1/1/2010	12/31/2012	$66,264
418	Schanze K S	UF	US AIR FORCE	Chromophores and materials for temporal and frequency agile nonlinear absorption	3/1/2009	11/30/2011	$156,157
419	Schanze K S	UF		Conjugated polyelectrolytes: disrupted interactions, self- assembled structures and hybrid polymer solar photcopy	3/15/2010	3/14/2013	$149,687
420	Schanze K S	UF	US DOE	Solar fuels and next generation photovoltaics - efrc	8/1/2009	7/31/2012	$163,871
421	Schaub D A	UF	US DOE	Industrial assessment center	3/15/2011	8/31/2011	$20,000
422	Schmitz T L	UF	NSF	Reu supplement: collaborative research: unified dynamic model for drilling and milling tool assemblies (starc-3d)	11/16/2010	7/31/2012	$6,000

423	Schneider M	UF	NASA	Moving objects database technology for weather event analysis and tracking	7/6/2011	4/30/2012	$129,250
424	Schneider M	UF	NSF	Iii: small: spal3d -- design and implementation of a type system for three-dimensional spatial data in databases	9/15/2009	8/31/2012	$138,952
425	Schuur T	UF	NSF	Collaborative research: rcn: vulnerability of permafrost carbon	6/1/2010	5/31/2012	$14,000
426	Schuur T	UF	NSF	Collaborative research: rcn: vulnerability of permafrost carbon	6/1/2010	5/31/2012	$82,411
427	Schuur T	UF	US DOE	From community structure to functions: metagenomics-enabled predictive understanding of temperature sensitivity of soil	7/15/2010	7/14/2012	$278,245
428	Segal C	UF	US NAVY	Fundamental studies of scramjet combustion during transients	10/16/2006	9/30/2011	$55,561
429	Settles A M	UF	US DEP AGR	Analysis of imprinted genes with development functions in the maize seed	3/4/2011	3/31/2015	$353,785
430	Shanmugam K T	UF	US DEP AGR	Next-generation sweet sorghums - sustainable production of feedstocks for fuels, chemicals and value-added products	5/31/2011	4/30/2015	$669,749
431	Sheng Y P	UF	UNITED ARAB EMIRATES	Proposal to determine the probable maximum storm surge (pmss) at the proposed nuclear power plant site in Persian gulf	5/7/2010	12/31/2010	$65,000
432	Sheng Y P	UF	UNITED ARAB EMIRATES	Proposal to determine the probable maximum storm surge (pmss) at the proposed nuclear power plant site in Persian gulf	5/7/2010	12/31/2010	$39,470
433	Sheng Y P	UF	UNITED ARAB EMIRATES	Proposal to determine the probable maximum storm surge (pmss) at the proposed nuclear power plant site in Persian gulf	5/7/2010	6/30/2012	$26,000
434	Sheplak M	UF	NASA	Mems capacitive shear stress sensor and supporting instrumentation (gsrp fellowship for Jessical Meloy)	6/30/2011	5/31/2012	$30,000
435	Sheremet A	UF	US NAVY	Development of a numerical 3-wave interactions module for operational wave forecasts in intermediate-depth ...	4/20/2010	4/30/2014	$145,237
436	Sherif S A	UF	US DOE	Industrial assessment center	3/15/2011	8/31/2011	$20,000
437	Sherif S A	UF	US DOE	Industrial assessment center	7/7/2011	8/31/2011	$80,000
438	Shukla S	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$65,325
439	Shukla S	UF		Water use of two biofuel crops in southwest Florida	10/1/2009	8/31/2013	$60,000
440	Silliman B	UF	US DEPT OF COMMERCE	Do grazers and drought stress interact to drive die off and foundation plant species shifts in fl	6/1/2009	5/31/2012	$20,000
441	Sinclair J S	UF	NSF	Pire: collaborations with japan and france on complex and multiphase fluid technologies	7/1/2010	6/30/2012	$81,437
442	Singh R K	UF	SINMAT	Characterization/fabrication of clean energy semiconductor devices	2/1/2011	1/31/2012	$125,000
443	Sinnott S B	UF	US NAVY	Rapid recovery of tribological materials with improved performance using materials informatics	1/1/2010	12/31/2012	$31,866

444	Sinnott S B	UF	US NAVY	Rapid recovery of tribological materials with improved performance using materials informatics	1/1/2010	12/31/2012	$95,597
445	Sinnott S B	UF	US DOE	Computational catalysis and atomic-level synthesis of materials: building effective catalysts from first principles	8/1/2009	7/31/2014	$76,729
446	Sinnott S B	UF	US DOE	Computational study of fission product clustering in nuclear fuels	4/2/2010	10/1/2011	$25,000
447	Sinnott S B	UF	US DOE	Computational catalysis and atomic-level synthesis of materials: building effective catalysts from first principles	8/1/2009	7/31/2014	$122,270
448	Skvarch E A	UF		Adoption of 'solid tarp' soil solarization by cut-flower growers	5/1/2011	9/30/2013	$14,000
449	Smith J A	UF	US DEP AGR	Biology and management of fusarium canker disease of floridatorreya (torreya taxifolia) a critically endangered conifer	6/10/2011	9/30/2012	$20,000
450	Smith J C	UF	DOD	Mathematical approaches to wmd defense and vulnerability assessments on dynamic networks	4/12/2010	4/11/2013	$147,780
451	Smith J C	UF	NSF	Integrating dynamic programming within mixed-integer programtechniques	4/1/2011	3/31/2014	$60,000
452	Smith S E	UF	US ARMY	Collection of digital aerial imagery in support of aquatic invasive species program and cerp	4/11/2011	12/31/2011	$22,196
453	So F	UF	US DOE	High efficiency organic light emitting devices for lighting	3/15/2011	8/28/2012	$260,000
454	So F	UF	US DOE	Luminescence in conjugated molecular materials under sub-bandgap excitations	3/31/2011	5/31/2013	$160,000
455	So F	UF	US NAVY	Materials and devices compatible with high volume roll-to- roll manufacturing of polymer solar cells	1/1/2011	12/31/2013	$174,587
456	So F	UF		Infrared sensors and broadband absorbing solar cells	7/15/2011	7/14/2013	$1,428,956
457	Sodano H	UF	US AIR FORCE	Near wall shear stress modification using an active piezoelectric nanowire surface	7/1/2011	6/30/2012	$148,329
458	Sodano H	UF	NSF	Multifunctional piezoelectric carbon fibers for enhanced structural safety and performance	12/1/2010	8/31/2011	$65,281
459	Sodano H	UF	NSF	Career: nanowire interfaces for increased strength and multifunctionality	12/1/2010	6/30/2014	$410,356
460	Sollenberger L E	UF	US DEP AGR	Reproduction, mechanisms of spread, and control strategies for elephantgrass, a candidate biomass crop in the caribbean	10/5/2010	8/31/2012	$120,000
461	Soloviev A	UF	US AIR FORCE	Task order 0005: multi-sensor integration strategies: multi-aperture sensors integration and synthetic apeture gps...	3/27/2009	2/13/2012	$50,000
462	Southworth J	UF	NASA	Understanding and predicting the impact of climate variability and climate change on land use and land cover change	3/18/2011	4/30/2012	$295,901

463	Spranger M S	UF	US DEPT OF COMMERCE	Sgep-15 fsg 2010-2011 noaa/doc fl sea grant extension prog.	2/1/2010	1/31/2014	$200,000
464	Stanton C J	UF	NSF	Carrier, phonon and THz dynamics in narrow gap and carbon based nanostructures	9/15/2011	8/31/2012	$100,000
465	Stanton C J	UF	NSF	Coherent phonon dynamics in semiconductor nanostructures and nanotubes	12/15/2007	11/30/2012	$90,000
466	Stewart G R	UF	US DOE	Fe pnictide and f-electron novel materials: magnetism, superconductivity, and quantum criticality	1/7/2011	11/30/2011	$150,000
467	Sullivan N S	UF	NSF	Revitalization of university of Florida helium liquefaction and recovery system	9/1/2010	8/31/2013	$1,683,544
468	Svoronos S A	UF		Ippd 2010 - 2011: flue gas desulfurization FGD wastewater mitigation via electrocoagulation & and water softening	8/15/2010	8/19/2011	$15,000
469	T Romeo	UF		Next-generation sweet sorghums - sustainable production of feedstocks for fuels, chemicalsm and value-added products	5/1/2011	4/30/2015	$653,712
470	Talham D R	UF	NSF	Mri: acquisition of a maldi tof-tof mass spectrometer	10/1/2010	9/30/2013	$273,827
471	Talham D R	UF	NSF	Acquisition of an ftir spectrometer for biochemical and materials research and education	12/15/2010	11/30/2013	$219,272
472	Talham D R	UF	NSF	Magnetic and photomagnetic coordination polymer heterostructures	7/1/2010	6/30/2012	$130,000
473	Tanner D B	UF	US DOE	Time-resolved far-infrared experiments: implications for nanotechnology	4/20/2011	5/14/2012	$165,000
474	Thai M	UF	DOD	Mathematical approaches to wmd defense and vulnerability assessments on dynamic networks	4/12/2010	4/11/2013	$62,881
475	Thai M	UF	NSF	Career: optimization models and approximation algorithms fornetwork vulnerability and adaptability	2/15/2010	1/31/2012	$80,000
476	Thompson S E	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	8/14/2011	$77,193
477	Thompson S E	UF	US AIR FORCE	A 21st century approach to electronic device reliability	5/15/2008	2/14/2012	$56,772
478	Tim Martin, S. Grunwald, Gary Peter And Other Co-PI's	UF	USDA/NIFA	Integrating research, education and extension for enhancing southern pine climate change mitigation and adaptation	3/1/2011	2/28/2016	$20,000,000
479	Tong Z	UF	US DEP AGR	Next-generation sweet sorghums - sustainable production of feedstocks for fuels, chemicals and value-added products	5/31/2011	4/30/2015	$501,493
480	Torres N I	UF	US DEP AGR	Family resilience conference facilities and registration coordination	2/2/2011	8/31/2011	$300,000
481	Torres N I	UF	US DEP AGR	Family resilience conference facilities and registration coordination	7/11/2011	8/31/2012	$138,327
482	Trickey S B	UF	US DOE	Tms: orbital-free quantum simulation methods for application to warm dense matter	7/18/2011	8/31/2012	$425,000

483	Uman M A	UF	NASA	Lightning research and testing at camp blanding	6/29/2011	2/28/2012	$21,350
484	Uman M A	UF	DOD	Lightning initiation, propagation, attachment and ionospheric effects	6/1/2010	5/31/2012	$667,387
485	Uman M A	UF	DOD	Lightning initiation, propagation, attachment and ionospheric effects	6/1/2010	5/31/2012	$1,655,733
486	Uman M A	UF	US DOE	Identifying the physics important to an electrical spark in air	1/25/2011	11/30/2011	$30,000
487	V de Crecy-Lagard	UF	NSF GEPR	Comparative genomics-driven discovery of maize metabolic functions	1/15/2011	12/31/2014	$2,430,750
488	V de Crecy-Lagard	UF	NIH:	Emerging roles of theronylcarbamoyladenosine in translation and DNA maintenance.	4/1/2011	2/29/2012	$1,158,786
489	Vallad G E	UF	US DEP AGR	Southern region program to clear pest control agents for minor uses	8/23/2011	7/31/2012	$2,000
490	Vasenkov S	UF	NSF	Inducing molecular single file diffusion by co-adsorption inone-dimensional channels for gas separations and catalysis	9/1/2010	8/31/2013	$54,949
491	Vermerris W	UF	US DEP AGR	Next-generation sweet sorghums - sustainable production of feedstocks for fuels, chemicals and value-added products	5/31/2011	4/30/2015	$1,146,616
492	W. Vermerris, J. Erickson	UF	Biomass R&D Development Initiative	Next-Generation Sweet Sorghums: Sustainable Production of Feedstocks for Fuels, Chemicals and Value-Added Products	9/1/2011	9/1/2014	$4,500,000
493	W. Vermerris, J. Preston	UF		Next Generation – Sweet Sorghums – Sustainable production of feedstocks for fuels, chemicals, and value added products	5/11/2011		$509,915
494	Wagener K B	UF	US ARMY	Precision morphology in sulfonic, phosphonic, boronic, and carboxylic acid polyolefins	2/7/2011	1/31/2012	$140,000
495	Weaver J F	UF	US DOE	Growth and reactivity of oxide phases on crystaline pd and pt surfaces	8/8/2011	8/31/2012	$200,000
496	Weaver J F	UF	NSF	International collaboration in chemistry: oxidation chemistry of model rare earth oxide surfaces - factors determining	7/3/2010	9/30/2013	$40,000
497	Weaver J F	UF	US DOE	New mea materials for improved dmfc performance, durability and cost	1/1/2010	6/30/2012	$16,949
498	Webb S E	UF	US DEP AGR	Collaborative research on transmission of insect-vector vegetable viruses	7/27/2011	6/30/2016	$70,000
499	Wei W	UF	NSF	Ccii: electronic materials for beyond moores law	8/26/2010	9/30/2013	$287,292
500	White T L	UF	US DEP AGR	Forest tree - insect interactions and implications for pest management	8/5/2011	6/30/2012	$55,000
501	Wright A L	UF	US DOE	Bio-diesel cellulosic ethanol research project	9/1/2010	2/28/2013	$6,300
502	Wright D L	UF	US DEP AGR	Characteristics of soybean pathogens and disease management	9/7/2011	6/30/2012	$44,346
503	Wu D	UF	NSF	Nets:small:qos assured multimedia communication over non- stationary wireless-channels	8/1/2011	7/31/2014	$351,143

504	Wu W	UF	SINMAT	Low cost, scalable manufacturing of surface-engineered superhard substrates for next generation electronics	2/1/2011	1/31/2014	$18,000
505	Xue J	UF		Bottom-up supramolecular assembly of organic electronic materials for photovoltaic applications	7/1/2011	6/30/2014	$105,000
506	Yang Y	UF	US DOE	Bulk nanostructured authentic steels with enhanced radiation tolerance	10/1/2010	9/30/2011	$42,181
507	Yang Y	UF		Startup funds for dr. Yong yang in the nuclear and radiological engineering department	1/4/2011	12/31/2012	$250,000
508	Yoon Y	UF	NSF	Exploration of multidirectional 3-d uv lithography for advanced microfabrication	8/1/2010	8/31/2012	$69,811
509	Yoon Y	UF		High energy density 3-d electrodes for energy storage applications	7/15/2011	11/14/2011	$44,000
510	Young L J	UF	US DOE	Eia survey data editing	1/3/2011	5/31/2011	$21,943
511	Ziegler K J	UF	NSF	Modeling the charge transport of nanowire-based dye-sensitizing solar cells	8/15/2010	7/31/2013	$101,544
512	Yogi Goswami	USF	US DOE ARPA-E	Development of a Low Cost Thermal Energy Storage System Using Phase Change Materials with Enhanced Radiation Heat Transfer	2011	2014	$2,439,450
513	Yogi Goswami	USF	SunBorne Energy Tech. Pvt. Ltd.	Development of a Modular Central Receiver Concentrated Solar Power Plant for Decentralized Power Generation	2010	2012	$118,000
514	Yogi Goswami	USF	E-On International	Innovative Latent Thermal Energy Storage System for Concentrating Solar Power Plants	2011	2013	$814,108

# of Grants Received: 514 and Total Awards Received: $117,813,842

3. Publications for FESC Faculty

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

Total # of Publications: 253

#	University	Publications
1	FAMU	D. L. Wiggins, C. T. Raynor, J. A. Johnson III, "Evidence of inverse bremsstrahlung in laser enhanced laser-induced plasmas," *Physics of Plasmas* 17, 103303 (2010)
2	FAMU	D. L. Wiggins, C. T. Raynor, J. A. Johnson III, "Turbulence changes in laser enhanced laser induced plasmas," *J. Plasma Physics* S0022377810000656 (2010)
3	FAMU	B. Alexander, C. T. Raynor, D. L. Wiggins, M. K. Robinson, C. C. Akpovo and J. A. JOHNSON Turbulence changes from magnetic fields in a stationary plasma. Journal of Plasma Physics, (2010) Available on CJO doi:10.1017/S0022377810000711
4	FAMU	G.L. Gutsev, C.A. Weatherford, K. Pradhan, and P. Jena, "Structure and Spectroscopic Properties of Iron Oxides with the High Content of Oxygen: FeO_n and FeO_n^- (n=5–12)," Journal of Physical Chemistry A 114, 9014-9021 (2010).
5	FAMU	D.C. Joseph, J-P. Gu, C.A. Weatherford, and B.C. Saha, "Slow Collisions of Si^{3+} With H," Proceedings of the NSF JAM Conference, p. 29, June 6-9, 2010, Washington, D.C.
6	FAMU	G. L. Gutsev, M. D. Mochena, B. C. Saha, C. A. Weatherford and P. A. Derosa, "Structure and Properties of $(GaAs)_n$ clusters", J. Comp. and Theo. Nano S. ", 7, 254 - 263 (2010).
7	FAMU	P. Karamanis, C. Pouchan, C.A. Weatherford, G.L. Gutsev, "Evolution of Properties in Prolate (GaAs)n Clusters", Journal of Physical Chemistry C, 115, 97-107 (2011).
8	FAMU	G. L. Gutsev, K. G. Belay, C. A. Weatherford, V. N. Vasilets, E. M. Anokhin, A. V. Maksimychev, O. V. Val'ba, V. M. Martynenko, S. A. Baskakov, E. S. Leskova, and Y. M. Shulga "Dimerization of Defect Fullerenes and the Orientational Phase Transition in Oxidized C_{60} Fullerite," Journal of Nanoscience and Nanotechnology 11, 1887-1896 (2011).
9	FAMU	Y. M. Shulga, S. A. Baskakov, V. E. Muradyan, D. N. Voilov, V. A. Smirnov, K. G. Belay, C. A. Weatherford, and G. L. Gutsev, "Colorful Polymer Compositions by Incorporation of Dyed Graphene Oxide Nanosheets", submitted to the Journal of Physical Chemistry Letters. (2011)
10	FAMU	K. Pradhan, G. L. Gutsev, C. A. Weatherford, P. Jena, "A systematic study of neutral and charged 3d-metal trioxides and tetraoxides", Journal of Chemical Physics 134, 144305-1-10 (2011).
11	FAMU	G.L. Gutsev, C.A. Weatherford, K. Pradhan, and P. Jena, "Density Functional Study of Neutral and Anionic AlOn and ScOn with High Oxygen Content," Journal of Computational Chemistry 2011, in press.
12	FAU	M.Mjit, P.-P.J. Beaujean, D. Vendittis, Design and analysis of a rotor blade optimized for extracting energy from the Florida Current, Proceedings of the ASME 2011 International Conference on Ocean, Offshore, and Arctic Engineering, Rotterdam, Netherlands, no. OMAE2011-49140, June, 2011.
13	FAU	J.H. VanZwieten Jr., C.M. Oster, and A.E.S. Duerr, Design and analysis of a rotor blade optimized for extracting energy from the Florida Current, Proceedings of the ASME 2011 International Conference on Ocean, Offshore, and Arctic Engineering, Rotterdam, Netherlands, no. OMAE2011-49140, June, 2011
14	FAU	A. Fisher, J.H. VanZwieten Jr., and N. Xiros, Station keeping adaptive control of a boat with twin gasoline outboard motors: synthesis, simulation, and sea-trialsProceedings of the ASME 2011 International Conference on Ocean, Offshore, and Arctic Engineering, Rotterdam, Netherlands, no. OMAE2011-49827, June, 2011

15	FAU	J.A. Duhaney, T.M. Khoshgoftaar, and J.C. Sloan, A survey of data fusion algorithms for reliability analysis. Proceedings of the 17th ISSAT Reliability and Quality in Design Conference, Vancouver BC, Canada, pages 344 – 348, Aug. 4-6 2011, August, 2011
16	FAU	R. Wald, T. M. Khoshgoftaar, J.C. Sloan, "Fourier transforms for vibration analysis: A review and case study," 12th IEEE International Conference on Information Reuse and Integration, 2011, 366–371
17	FAU	R. Wald, T.M. Khoshgoftaar , J.C. Sloan, P-P..J. Beaujean, "A streaming wavelet packet decomposition approach for real-time vibration analysis," Proc. 17th ISSAT International Reliability and Quality in Design Conference, 2011, 359–363
18	FAU	J.C. Sloan, T.M. Khoshgoftaar, B. Alhalabi, "A strategy for data-driven testing of an ocean turbine drivetrain," Proc. 17th ISSAT Reliability and Quality in Design Conference, Vancouver BC, Canada, Aug. 4-6, 2011, 364-368,
19	FAU	I. Cardei, A. Agarwal, B. Alhalabi, T.Tavtilov, T. Khoshgoftaar , P-P.J Beaujean, "Software and communications architecture for prognosis and health monitoring of ocean-based power generator," Proc. 5th IEEE Systems Conference, Montreal, Canada
20	FAU	H.P. Hanson, A. Bozec, A.E.S. Duerr, "The Florida current as an energy resource: Reliable, clean, renewable; But challenging," Eos: Transactions of the American Geophysical Union, 92, 29-30.
21	FAU	M.Mjit, P.-P.J. Beaujean, D. Vendittis, "Fault detection and diagnostics in an ocean turbine using vibration analysis" ASME International Mechanical Engineering Congress and Exposition, Vancouver, Canada, November, 2010
22	FAU	S. Bulek, N. Erdol, H. Zhuang, "Application of blind source separation to underwater acoustic signals," IEEE Digital Signal Processing and Signal Processing Education Workshop, Sedona, AZ, (submitted), January, 2011
23	FAU	H.P. Hanson, "Marine renewable energy: A Florida reality check," Sea Technology, 52 (4), 13-20April, 2011
24	FAU	L.T. Rauchenstein, J.H. VanZwieten Jr., H.P. Hanson , "Model-based global assessment of OTEC resources with data validation off Southeast Florida," Proceedings of the IEEE Oceans Conference, Santander, Spain, no. 110115-112, June, 2011
25	FAU	J.H. VanZwieten Jr., L.T. Rauchenstein, H.P. Hanson, M.R. Dhanak. "Assessment of HYCOM as a tool for estimating Florida's OTEC potential," Proceedings of the IEEE Oceans Conference, Kona, Hawaii, no. 110422-145, September, 2011
26	FAU	J.H. VanZwieten Jr., W.E. Laing Jr., C.R. Slezycki, "Efficiency assessment of an experimental ocean current turbine generator," Proceedings of the IEEE Oceans Conference, Kona, Hawaii, no. 110422-215, September, 2011
27	FAU	J. Nagurny, L. Martel, D. Heimiller, P. Gray-Hann, H. Hanson, E. Jansen, A. Plumb, L. Rauchenstein, "Modeling of ocean thermal energy extraction visualization, Proceedings of the IEEE Oceans Conference, Kona, Hawaii, no. 110422-055, September, 2011
28	FAU	A.D. Fisher, "Development and implementation of an adaptive controller for station keeping of small outboard-powered vessels,"Master's Thesis, Florida Atlantic University, 2010
29	FAU	A.R. Cribbs, "Model analysis of a mooring system for an ocean current turbine testing platform, Master's Thesis, Florida Atlantic University, 2010
30	FAU	M.G. Seibert, "Determining anchoring systems for marine renewable energy devices moored in a western boundary current, Master's Thesis, Florida Atlantic University, 2011
31	FAU	A. Singh, "Mathematical modeling of wave-current interactions in marine current turbines, Master's Thesis, Florida Atlantic University, 2010
32	FAU	N. Gantiva, "Design of cathodic protection using BEM for components of the pilot ocean energy system," Master's Thesis, Florida Atlantic University, 2010
33	FAU	M.W. Akramm "Fatigue modeling of composite ocean current turbine blade," Master's Thesis, Florida Atlantic University, 2010

34	FAU	W. Reza, “Remote gaming on resource constrained devices,” Master’s Thesis, Florida Atlantic University, 2010
35	FAU	R. Guisti, “A systematic evaluation of object detection and recognition approaches,” Master’s Thesis, Florida Atlantic University, 2010
36	FAU	S. Aghera, “Design and development of video acquisition system for aerial surveys, Master’s Thesis, Florida Atlantic University, 2010
37	FAU	K. Cook, “A power quality monitoring system for a 20 kW ocean turbine,” Master’s Thesis, Florida Atlantic University, 2010
38	FAU	J. Guerra, “Estimates of water turbine noise levels,” Master’s Thesis, Florida Atlantic University, 2010
39	FAU	T. Tavtilov, “Web services traffic management for PHM applications using wireless networks,” Master’s Thesis, Florida Atlantic University, 2010
40	FSU	R. Feiock, “Strategic Policy Networks among Orlando Economic Development Organizations: An Exponential Random Graph Model (ERGM) Approach,” with Youngmi Lee and In Won Lee, Policy Studies Journal, forthcoming 2011.
41	FSU	R. Feiock, “Competitors and Cooperators: A Micro-Level Analysis of Regional Collaboration Networks,” with In-Won Lee and Youngmi Lee, Public Administration Review 71, forthcoming, 2011.
42	FSU	R. Feiock, “The Influence of Institutional Conditions on the Application of Cost-Benefit Analyses: Political Institutions and Decision Environments,” with Hyunsang Ha, Korean Journal of Policy Analysis and Evaluation, forthcoming 2011.
43	FSU	R. Feiock, “Joint Ventures, Economic Development Policy, and the Role of Local Governing Institutions,” with Christopher Hawkins, American Review of Public Administration, forthcoming, 2011.
44	FSU	Zhao, T., Horner, M.W., and Sulik J. 2011. A Geographic Approach to Sectoral Carbon Inventory: Examining the Balance between Consumption-Based Emissions and Land-Use Carbon Sequestration in Florida. Annals of the Association of American Geographers.
45	FSU	Zhao, T. 2010. Sprawl and its carbon consequences in two U.S. Consolidated Metropolitan Statistical Areas. In: J. Wu and F. Li (Eds.), Lectures in Modern Ecology (V): Large-Scale Ecology and Sustainability Science. Beijing, China: High Education Press.
46	FSU	Zhao, T. 2011. Impacts of urban growth on vegetation carbon sequestration. In: X. Yang (Ed.), Urban Remote Sensing: Monitoring, Synthesis and Modeling in the Urban Environment. Wiley.
47	FSU	Feiock, Richard C. and Anthony Kassekert. "Local Government Institutions, Capacity and Policy Networks: Implications for Smart Grids, Energy Infrastructure and Policy Innovation," What's Next for American Cities? Infrastructure and Economic Development in the Post-Boom Era, edited by Benoy Jacob and Annette Steinacker. Cambridge: Lincoln Institute for Land Policy, forthcoming, 2011.
48	FSU	Feiock, Richard C. and Keith Dowding, "Intra-local Competition and Cooperation," Oxford Handbook of Urban Politics, Karen Mossberger, Susan Clarke, and Peter John (eds.), Oxford University Press, 2010.
49	FSU	WeatherLink® Installation Guide for FSU CWOP Stations, version 1.2, Paul Ruscher, February 2011,FSU Department of Earth, Ocean and Atmospheric Science, Tallahassee, 25 pp.
50	FSU	Feiock, Richard C. and Sejin Lee. "The Role of Local Governments in the Florida Communities Trust in Open Space Preservation and Land Acquisition," Timothy Chapin and Harrison Higgins (eds.) Growth Management and Land Acquisition in Florida. Ashgate, forthcoming, 2011.
51	FSU	McGee, C. and A. B. Chan Hilton (2011). Analysis of Federal and State Policies and Environmental Issues for Bioethanol Production Facilities. Environmental Science & Technology, 45(5), 1780-1791.dx.doi.org/10.1021/es1014696.
52	FSU	S. Balathandayuthapani, C. S. Edrington, S. Henry, and J. Cao, “Analysis and Control of a Photovoltaic System: Application to a High-penetration Case Study”, accepted to the IEEE Systems Journal, expected publication date 2011.

53	FSU	T. Bevis, C. S. Edrington, and J. Leonard, "Application of Power Hardware in the Loop for Electric Vehicles: A Case Study Utilizing Switched Reluctance Machines", Proceedings of the 36th Annual Conference of the IEEE Industrial Electronics Society, Phoenix, Arizona, November 2010.
54	FSU	C. S. Edrington, S. Balathandayuthapani, and J. Cao, "Analysis of Integrated Storage and Grid Interfaced Photovoltaic System via Nine-switch Three-level inverter", Proceedings of the 36th Annual Conference of the IEEE Industrial Electronics Society, Phoenix, Arizona, November 2010.
55	FSU	S. F. Azongha, S. Balathandayuthapani, C. S. Edrington, and J. P. Leonard, "Grid Integration Studies of a Switched Reluctance Generator for Future Hardware in the Loop Experiments", Proceedings of the 36th Annual Conference of the IEEE Industrial Electronics Society, Phoenix, Arizona, November 2010.
56	FSU	M. Saghaleini, B. Mirafzal, and C. Edrington, "Regenerative Energy Management for Pulse-Loads in Dual DC-AC Micro-grids", Proceedings of the 36th Annual Conference of the IEEE Industrial Electronics Society, Phoenix, Arizona, November 2010.
57	FSU	C. S. Edrington, S. Balathandayuthapani, and J. Cao, "Analysis and Control of a Multi-string Photovoltaic (PV) System Interfaced with a Utility Grid", Proceedings of the IEEE Power and Energy Society General Meeting, Minneapolis, Minnesota, 2010.
58	FSU	S. Leng, I. Chung, C. Edrington, D. Cartes," Real-Time Coordination of Multiple Reconfigurable Adjustable Speed Drives for Power Quality Improvement," Proceedings of the IEEE Power and Energy Society General Meeting, Minneapolis, Minnesota, 2010.
59	FSU	B. Ramachandran, S. Srivastava, D. Cartes, and C. Edrington, "Distributed Energy Resource Management in a Smart Grid by Risk Based Auction Strategy for Profit Maximization," Proceedings of the IEEE Power and Energy Society General Meeting, Minneapolis, Minnesota, 2010.
60	FSU	Jinglin Xu and U. Meyer-Baese. Real Time Digital Signal Processing in Power Systems using FPGAs. 148 pages ISBN:3844321721. Lambert Academic Publishing, 2011
61	FSU	T. Alquthami, T. Baldwin, O. Faruque, J. Langston, S. Dale, P. McLaren, R. Meeker, M. Steurer, K. Schoder, "Load and generation forecasts for reliable and resilient electrical energy transmission and delivery system," in Proceedings of the IEEE PES General Meeting, Minneapolis, MN, July 25-29, 2010.
62	FSU	M. Allman, R. Meeker, B. Reedy, E. Senkowicz, "Integrating solar PV into the grid," FMEA Relay Magazine, Fall 2010.
63	FSU	T. Alquthami, H. Ravindra, M.O. Faruque, M. Steurer, T. Baldwin, "Study of photovoltaic integration impact on system stability using custom model of PV arrays integrated with PSS/E," in Proceedings of the 2010 North American Power Symposium, Arlington, TX, USA, September 26-28, 2010.
64	FSU	T. Alquthami, T. Baldwin, O. Faruque, J. Langston, S. Dale, P. McLaren, R. Meeker, M. Steurer, K. Schoder, "The future florida grid: Reliable and resilient electrical energy systems in a changing environment", presentation at the Florida Energy Systems Consortium 2nd Annual Summit, 28 September 2010, Orlando, FL.
65	FSU	T. Alquthami, "Wind and solar power characterization for grid stability", A thesis submitted to the Electric and Computer Engineering Department in partial fulfillment of the requirements for the degree of Master of Science, Degree Awarded: Spring Semester, 2011.
66	UCF/FSEC	Jia, H., Lu, J., Wang, X., Padmanabhan, K., & Shen, Z. "Integration of a Monolithic Buck Converter Power IC and Bondwire Inductors with Ferrite Epoxy Glob Cores," IEEE Tran. Power Electronics, Sept. 2011
67	UC/FSEC	Landowski, M., & Shen, Z., "TCAD Based Power Semiconductor Device eLearning Tools," Journal of Power Electronics, December, 2010
68	UCF/FSEC	Hu, H., Al-Hoor, W., Kutkut, N., Batarseh, I., & Shen, Z., "Efficiency Improvement of Grid-Tied Inverters at Low Input Power Using Pulse Skipping Control Strategy," IEEE Tran. Power Electronics, Vol. 25, No. 12, December 2010, pp. 3129-3138

69	UCF/FSEC	Muradov, N.Z., Fidalgo, B., Gujar, A., T-Raissi, A. “Bio-oil Production by Pyrolysis of Fast-growing Aquatic Biomass – Lemna Minor (Duckweed),” *Bioresource Technology* (2010), 101(21), 8424-8.
70	UCF/FSEC	Fang, X., Kutkut, N., Shen, Z., & Batarseh, I., "Analysis of generalized parallel-series ultracapacitor shift circuits for energy storage systems," Renewable Energy, Elsevier, 2010
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177	UF	Jamison, Mark A., Janice Hauge, and James Prieger, "Oust the Louse: Does Political Pressure Discipline Regulators?" Journal of Industrial Economics (forthcoming).
178	UF	Jamison, Mark A., "Liberalization and Regulation of Telecoms, Electricity, and Gas in the United States." In International Handbook of Network Industries: The Liberalization of Infrastructure, ed. Matthias Finger and Rolf W. Künneke, 366-383. United Kingdom: Edward Elgar, 2011.
179	UF	Jamison, Mark A. and Araceli Castaneda, "Reset for Regulation and Utilities: Leadership for a Time of Constant Change." The Electricity Journal, 24(4): 86-93, 2011.
180	UF	Holt, Lynne and Theodore Kury. 2011. "Florida's Storm Hardening Effort: A New Paradigm for State Utility Regulators." The Electricity Journal, 24(4):1-10.
181	UF	Kury, Theodore. 2011. "Addressing the Level of Florida's Electricity Prices." University of Florida, Department of Economics, PURC Working Paper.
182	UF	Kury, Theodore. 2011. "Price Effects of Independent Transmission System Operators in the United States Electricity Market." University of Florida, Department of Economics, PURC Working Paper.
183	UF-PREC	Knowles, H.S., "GHG Case Study: Reducing Landscape Inputs," 2010, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
184	UF-PREC	Haldeman, B., W. Sigmund, "Batteries for Home Electronics," 2010, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
185	UF-PREC	Larson, B., N. Taylor, "GHG Case Study: Green Building Ordinance (Gainesville, FL)," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
186	UF-PREC	Knowles, H.S., M. Hostetler, "GHG Case Study: Preserving Natural Areas for Carbon Sequestration (Restoration, FL)," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273

187	UF-PREC	Knowles, H.S., "GHG Case Study: Reducing VMT (Vehicle Miles Traveled) via Clustered Development (Restoration, FL)," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
188	UF-PREC	Knowles, H.S., "GHG Case Study: Reducing Road Infrastructure via Clustered Development (Restoration, FL)," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
189	UF-PREC	Knowles, H.S., "GHG Case Study: Reducing the Area and Inputs of Managed Landscapes (Restoration, FL)," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
190	UF-PREC	Knowles, H.S., N. Taylor, "GHG Case Study: Utility Home Energy Efficiency Rebate Programs (Gainesville Regional Utilities)," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
191	UF-PREC	Knowles, H.S., "Green Jobs: What, Why, How, When & Where," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
192	UF-PREC	Haldeman, B., R.E. Hummel, W. Sigmund, "Batteries for Automobiles," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
193	UF-PREC	Ziewitz, K., B. Larson, J. Kipp, W. MacLeod, "Tips for Becoming a Water-Wise Floridian," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
194	UF-PREC	Haldeman, B., "Programmable Thermostats," 2011, available through Florida Energy Systems Consortium (FESC) on their website at http://www.floridaenergy.ufl.edu/?page_id=273
195	UF-PREC	D'Arelli, P., P. Jones, L. Ostema, "Options for Clean Energy Financing Programs: Scalable Solutions for Florida's Local Governments," October 2010, Available through UF Program for Resource Efficient Communities.
196	UF-PREC	Jarrett, L., J. Kipp, M. Clark, E. Bardi, S. Hofstetter, "Low Impact Development (LID) Design Manual for Alachua County, Florida, September 2011.
197	UF-PREC	Borisova, T., L. Racevskis, J. Kipp, "Stakeholder Analysis of a Collaborative Watershed Management Process: a Florida Case Study," September 2011, Journal of the American Water Resources Association. Forthcoming: tentatively scheduled for publication in April 2012 issue; accepted for publication September, 2011.
198	UF-PREC	Kipp, J., C. Lathrop, M. Hostetler, M. Clark, P. Jones, "Implementing Low-Impact Development in Florida: Practitioners' Perspective," Florida Watershed Journal (2011): 12-18. Online at http://www.floridawatershedjournal.com/home.asp
199	UF-PREC	Taylor, Nicholas W., Pierce H. Jones, M. Jennison Kipp, and Craig R. Miller. "Evaluating the Energy Performance of HERS-Rated Homes Using Annual Community Baselines." Conference proceedings of Strengthening the Green Foundation: Research & Policy Directions for Development & Finance, New Orleans, LA, March 10-11, 2011. Forthcoming in Journal of Sustainable Real Estate.
200	USF	Matt Wetherington and Babu Joseph . Cost Models for a Biomass Based Transportation Fuels Plant. Florida Energy Systems Consortium Annual Summit. University of Central Florida, Orlando, Sept 2010.
201	USF	M. Pinilla, Q. Zhang, B. Joseph. LCA: Mixed Alcohol Synthesis via Indirect Liquefaction of Biomass, Paper presented at AEESP distinguished lecture series Symposium, USF, Feb 2011.
202	USF	M. Pinilla, Qiong Zhang, and Babu Joseph, " Comparative Life Cycle Assessment of Biofuels and Electricity Production from Algal Biomass, 2011 FESC Summit, University of Florida, Gainesville, Florida, Sept 27-28, 2011.

203	USF	M. Pinilla, Qiong Zhang, and Babu Joseph, "Comparative Life Cycle Assessment of Lignocellulosic Biomass Conversion into Different Energy Products", 2011 FESC Summit, University of Florida, Gainesville, Florida, Sept 27-28, 2011.
204	USF	R.Ratnadurai, S.Krishnan, E. Stefanakos, Y. Goswami, S. Bhansali, "Rectification properties of inorganic MIM Tunnel Junctions: A Review," Advanced Energy Materials, 2011. (Under Review)
205	USF	S. Krishnan, J. Boone, S. Bhansali, "Membrane Supported 94 GHz Slot Antenna for Wideband Applications," IEEE Journal of Antennas and Propagation, 2011. (Under Review)
206	USF	J. Boone, S. Krishnan, S. Bhansali, "CPW-fed Folded Dipole-Slot Antenna for WLAN Applications," IET Microwaves, Antenna and Propagation, 2011. (Under Review)
207	USF	M. Celestin, S. Krishnan, E. Stefanakos, Y. Goswami, S. Bhansali, " Advances in SAM based MIM Tunnel Junctions," Chemical Review, 2011. (Under Review)
208	USF	R.Ratnadurai, S. Koiry, S. Krishnan, S. Bhansali, E. Stfanakos, Y. Goswami, " NiO based thin film Clipper devices," FESC Summit, Gainesville, Sept 27-28, 2011.
209	USF	M. Celestin, S. Krishnan, S, Bhansali, E. Stefanakos, Y. Goswami, " Current Trends in Micro and Nanotechnology based Energy Harvesting," NanoFL, Miami, Sept 30- Oct 1, 2011.
210	USF	J. Boone, S. Krishnan, S. Bhansali, T. Weller, "Micromachined Vertical Coaxial Probes for Nanoscale Device Characterization," NanoFL, Miami, Sept 30- Oct 1, 2011.
211	USF	S.P. Koiry, S. Krishnan, R. Ratnadurai, D.Y. Goswami, S. Bhansali, "Controlled ex-situ doping of electrochemically polymerized 5,10,15,20 tetrakis (4-hydroxyphenyl)-porphyrin (THPP) for hybrid switching circuits," ECS 220th meeting, Boston, Oct 9-14, 2011.
212	USF	M. Celestin, S. Krishnan, D.Y. Goswami, E. Stefanakos, S. Bhansali, " Organic Tunnel Diodes Fabricated for Rectenna based IR Sensing Applications," Advances in Applied Physics and Materials Science Congress, Antalya, Turkey, May 12 -15, 2011.
213	USF	M. Celestin, S. Krishnan, D.Y. Goswami, E. Stefanakos, S. Bhansali, " Fabrication and Modeling of Organic Tunnel Diodes," 3rd Annual USF Research Day, Tampa, FL, Oct 2010.
214	USF	R. Ratnadurai, S.Krishnan, E. Stefanakos, D.Y. Goswami, S. Bhansali, "Design Analysis of MIM tunnel junctions," 3rd Annual USF Research Day, Tampa, FL, Oct 2010.
215	USF	J. Boone, S.Krishnan, E. Stefanakos, D.Y. Goswami, S. Bhansali, "Design and Simulation of a Scalabe Dipole Fed Slot Antenna," 3rd Annual USF Research Day, Tampa, FL, Oct 2010.
216	USF	S. A. Gardezi, L. Landrigan, B. Joseph. J. T. Wolan, "Synthesis of Tailored Eggshell Cobalt Catalysts for Fischer-Tropsch Synthesis Using Wet Chemistry Techniques", Submitted to Industrial & Engineering Chemistry (2011).
217	USF	S. A. Gardezi, B. Joseph, Y. D. Goswami, J. T. Wolan, " Modeling the Start up Phase of Fischer Tropsch Synthesis in a Fixed Bed Reactor: Effect of Pore Filling and Heat Transfer Through the Catalyst Bed", AIChE 2011 Spring Meeting & 7th Global Congress on Process Safety, Mar-2011
218	USF	B. D. Mankidy, C. A. Coutinho, and V. K. Gupta*, "Probing the Interplay of Size, Shape, and Solution Environment on Macromolecular Diffusion using a Simple Refraction Experiment", Journal of Chemical Education 87(5), 515-518 (2010)

219	USF	C. A. Coutinho, B. D. Mankidy, and V. K. Gupta*, “A Simple Refraction Experiment for Probing Diffusion in Ternary Mixtures”, Chemical Engineering Education 44(2), 134 (2010).
220	USF	A.H. Kababji, B. Joseph, J.T. Wolan; “Silica-Supported Cobalt Catalysts for Fischer–Tropsch Synthesis: Effects of Calcination Temperature and Support Surface Area on Cobalt Silicate Formation;” Catal. Lett (2009) 130: 72-78
221	USF	S. A.Z. Gardezi, J. T. Wolan, B. Joseph, An Integrated Approach to the preparation of effective catalyst for Biomass-to-liquid (BTL) process, 33rd Annual AIChE Clearwater conference, June-2009
222	USF	S.A. Z. Gardezi, B. Joseph, J. T. Wolan, Metal support interaction effects in Fischer Tropsch synthesis: significance of catalyst preparation, AIChE annual meeting Nov-2009.
223	USF	C. A. Coutinho and V. K. Gupta*, “Photocatalytic Degradation of Methyl Orange Using Polymer-Titania Microcomposites”, J Colloid and Interface Science 333(2), 457-464 (2009).
224	USF	Balakrishnan, N.; Bhethanabotla, V. R.; Joseph, B. In Effect of Cluster Size on CO Adsorption and Dissociation on Cobalt Catalysts: DFT Studies Using Cluster Models, Accepted for presentation in AIChE Annual Meeting, Conference Proceedings, Nashville, TN, United States, 2009.
225	USF	Balakrishnan, N.; Bhethanabotla, V. R.; Joseph, B. In Effect of Cluster Size on CO Adsorption and Dissociation on Cobalt Catalysts: DFT Studies Using Cluster Models, presented in FESC summit, USF, Tampa, United States, 2009.
226	USF	Choudhury, P.; Balakrishnan, N.; Bhethanabotla, V. R.; Stefanakos, E. In Complex Borohydride for Reversible Hydrogen Storage Accepted for presentation in AIChE Annual Meeting, Conference Proceedings, Nashville, TN, United States, 2009.
227	USF	Balakrishnan, N.; Choudhury, P.; Bhethanabotla, V. R.; Joseph, B. In Density Functional Theory Studies on a Reversible Hydrogen Storage "Li-Mg-B-N-H" System, Annual Meeting, Conference Proceedings, Philadelphia, PA, United States, 2008.
228	USF	Bijith D. Mankidy and Vinay K. Gupta, "Novel Composite Particles for Catalysis: Cobalt Nanoparticles on Silica Colloids", The Southeastern Regional Meeting of American Chemical Society, Nashville (TN), November, 2008.
229	USF	Bijith Mankidy and Vinay K. Gupta, “Cobalt Nanoparticles on Surface Modified SiO2 Colloids for Fischer Tropsch Synthesis”, Florida Energy Systyems Consortium Summit, University of South Florida, Tampa (FL), September 29-30, 2009.
230	USF	Babu Joseph, Y. Goswami, V. Bhethanabotla, J. Wolan and V. Gupta, Production of Biomass via Thermochemical Process, FESC Summit, Tampa, Florida,Sept 2009.
231	USF	Babu Joseph, SURA Workshop on Energy: A brief update and summary, FESC Summit, Tampa, FL, Sept 2009.
232	USF	Balakrishnan, N.; Bhethanabotla, V. R.; Joseph, B. In DFT studies on the promotional effect of platinum for the reduction of CoPt bimetallic catalyst in Fischer Tropsch Synthesis, AIChE Annual Meeting, Conference Proceedings, Salt Lake City, UT, United States, November 2010.
233	USF	Balakrishnan, N.; Bhethanabotla, V. R.; Goswami, Y.; Joseph, B. In DFT studies on the promotional effect of platinum for the reduction of CoPt bimetallic catalyst in Fischer Tropsch Synthesis, Poster presented in FESC summit, USF, Tampa, United States, 2009.
234	USF	Balakrishnan, N.; Joseph, B; Bhethanabotla, V. R. In Influence of Pt Promoter On Fischer-Tropsch Initiation Pathways Over Cobalt Catalysts, Accepted for presentation in AIChE Annual Meeting, Conference Proceedings, Minneapolis, MN, United States, 2011.

235	USF	Balakrishnan, N.; Bhethanabotla, V. R.; Joseph, B. In The Role of Added Promoters In Reducing the Deactivation of Co Catalyst Used In Fischer Tropsch Synthesis, Accepted for presentation in AIChE Annual Meeting, Conference Proceedings, Minneapolis, MN, United States, 2011.
236	USF	Balakrishnan, N.; Bhethanabotla, V. R.; Goswami, Y.; Joseph, B. In Influence of platinum promoter on CO activation pathway of cobalt catalyst in Fischer Tropsch Synthesis, Poster presented in FESC summit, USF, Tampa, United States, 2009.
237	USF	Okwen R, Stewart M, Cunningham JA. 2011. Effect of well orientation (vertical vs. horizontal) and well length on the injection of CO2 in deep saline aquifers. Transport in Porous Media, 90(1), 219-232. doi: 10.1007/s11242-010-9686-5.
238	USF	Okwen R, Stewart M, Cunningham J. 2011. Analytical model for screening potential CO2 repositories. Computational Geosciences, 15(4), 755–770. doi: 10.1007/s10596-011-9246-2
239	USF	Okwen R, Stewart M, Cunningham J. 2011. Temporal variations in near-wellbore pressures during CO2 injection in confined aquifers. International Journal of Greenhouse Gas Control, 5, 1140–1148. doi: 10.1016/j.ijggc.2011.07.011
240	USF	Okwen R, Pu R, Cunningham JA. 2011. Remote sensing of temperature variations around major power plants as point sources of heat. International Journal of Remote Sensing, 32(13), 3791–3805. doi: 10.1080/01431161003774723.
241	USF	Roberts-Ashby, Tina, Stewart, M., 2011. Evaluation of the Sunniland Formation of the South Florida Basin for carbon sequestration. International Journal of Greenhouse Gas Control, accepted 9/2011, in press.
242	USF	Thomas MW, Trotz MA, Stewart M, Cunningham JA. Geochemical modeling of CO2 sequestration in deep, saline, dolomitic-limestone aquifers: 1, Critical evaluation of thermodynamic sub-models. Under review at Chemical Geology, submitted July 2011.
243	USF	Z. Miao, A. Domijan, and L. Fan, "Investigation of Microgrids with Both Inverter Interfaced and Direct AC Connected Distributed Energy Resources," IEEE Trans. Power Delivery, vol. 26, no. 3, pp. 1634-1642, July 2011.
244	USF	L. Xu, Z. Miao and L. Fan, "Control of a back-to-back VSC system from grid-connected to islanded mode in microgrids," in Proc. Of IEEE EnergyTech, May 2011
245	USF	Z. Miao, A. Domijan, and L. Fan, "Negative Sequence Compensation for Unbalance in Distributed Energy Resources Interfacing Inverters," International Journal of Power and Energy Systems (accepted)
246	USF	L. Fan, Z. Miao, and A. Domijan, "Impact of Unbalanced Grid Conditions on PV Systems," IEEE
247	USF	Power & Energy Society General Meeting 2010.
248	USF	L. Xu, Z. Miao and L. Fan, "Control of a battery system to improve operation of a microgrid," submitted to IEEE Trans. Sustainable Energy.
249	USF	L. Xu, Z. Miao and L. Fan, "Coordinated Control of a Solar and Battery System in a Microgrid," submitted to IEEE T&D meeting 2012.
250	USF	L. Piyasinghe, Z. Miao and L. Fan, "Investigate the Microgrid Operation with Pulsed Power Loads," to be submitted to IEEE PES general meeting 2012. .
251	USF	L. Xu, Z. Miao and L. Fan, "Control of a battery system to improve operation of a microgrid," submitted to IEEE Trans. Sustainable Energy.
252	USF	L. Xu, Z. Miao and L. Fan, "Coordinated Control of a Solar and Battery System in a Microgrid," submitted to IEEE T&D meeting 2012.
253	USF	L. Piyasinghe, Z. Miao and L. Fan, "Investigate the Microgrid Operation with Pulsed Power Loads," to be submitted to IEEE PES general meeting 2012. .

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4. Professional Presentations Made for FESC faculty

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

Total # of Presentations: 196

#	Presenter	University	Title	Date
1	Charles A. Weatherford and Gennady L. Gutsev	FAMU	"Structure of Iron Oxides FeO_n with High Oxygen Content", Proceedings of the Florida Energy Systems Consortium: 2010 FESC Summit, University of Central Florida, September 28-29, 2010.	9/28/2010
2	C. Weatherford, D. Gebremedhin, G. Tanaka, and X. Zhang.	FAMU	"Quantum Control of Helium", Gordon Conference on Quantum Control of Light and Matter, Mt. Holyoke College, MA, July 31-August 5, 2011.	7/31/2011
3	C. Weatherford, Daniel Gebremedhin, and Genzo Tanaka	FAMU	"Multicentre Integrals Over Exponential-Type Orbitals", Proceedings of the Fifteenth International Workshop on Quantum Systems in Chemistry and Physics (QSCP-XV), p. 35, August 31-September 5, 2010, Cambridge, England	8/31/2010
4	C. Weatherford	FAMU	"Standoff Detection of Acetylene Using Femtosecond Laser Pulses," March 9, 2010, Program Review, Laser Interactions with Materials for Identification Technologies, SMDC, Huntsville, AL.	3/9/2010
5	C. Weatherford		"Standoff Detection of Acetylene", Strategic Missile Defense Command, July 20, 2010, Huntsville, AL.	7/20/2010
6	C. Weatherford	FAMU	"Computational Model of a LIBS Plasma", Alakai Inc. , August 24, 2010, Tampa, FL.	8/24/2010
7	C. Weatherford	FAMU	"Closed-Loop Simulation of the Light Detection of Explosives", Alakai Inc., September 8, 2010, Tampa, FL.	9/8/2010
8	C. Weatherford	FAMU	"Quantum Control Simulation for Laser Identification of Hazardous Materials", Delaware State University, October 14, 2010, Dover, Delaware.	10/14/2010
9	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, ORREG Conference Vancouver, BC	10/1/2010
10	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, SNMREC Environmental Conference, Palm Beach Gardens FL	11/1/2010
11	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, BDB Green Energy Cluster Meeting, Boca Campus	12/1/2010
12	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, Sunshine State Scholars Program, Orlando FL	2/1/2011
13	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, Renewable Ocean Energy, Raleigh NC	4/1/2011
14	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, ORRAP Conference, Washington DC	5/1/2011
15	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, Rio Global Green Conference, Rio de Janeiro, Brazil	5/1/2011
16	Susan Skemp	FAU	Overview of FAU's Southeast National Marine Renewable Energy Center, CLEANDEF, Washington DC	7/1/2011
17	HP Hanson	FAU	Marine Renewable Energy: A Resource for the Future, Florida International University	10/1/2011
18	HP Hanson	FAU	Assessing Resource Assessment for MRE, Fall Meeting, American Geophysical Union	12/1/2011
19	HP Hanson	FAU	MHK Device Modeling: Florida Current Applications, National Renewable Energy Laboratory	3/1/2011

20	HP Hanson	FAU	Energy from the Oceans: A New Renewable, Broward College	4/2/2011
21	HP Hanson		An East-Coast Center for MRE, Ocean Renewable Energy Coalition Annual Meeting (Washington, DC)	4/2/2011
22	C.M. Oster	FAU	Design and analysis of a rotor blade optimized for extracting energy from the Florida Current, ASME 2011 International Conference on Ocean, Offshore, and Arctic Engineering, Rotterdam, Netherlands	6/19/2011
23	N. Xiros	FAU	Station keeping adaptive control of a boat with twin gasoline outboard motors: synthesis, simulation, and sea-trials, ASME 2011 International Conference on Ocean, Offshore, and Arctic Engineering, Rotterdam, Netherlands	6/19/2011
24	L.T. Rauchenstein	FAU	Model-based global assessment of OTEC resources with data validation off Southeast Florida, IEEE Oceans Conference, Santander, Spain	6/6/2011
25	L.T. Rauchenstein	FAU	Assessment of HYCOM as a tool for estimating Florida's OTEC potential, IEEE Oceans Conference, Kona, Hawaii,	9/19/2011
26	W.E. Laing Jr.	FAU	Efficiency Assessment of an Experimental Ocean Current Turbine Generator, IEEE Oceans Conference, Kona, Hawaii	9/19/2011
27	Alana Duerr	FAU	Resource Assessment of the Hydrokinetic Power in the Florida Current, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
28	Manhar Dhanak	FAU	Representing Impact of Subsurfac Current Turbines in Ocean Models, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
29	Tamara Frank	FAU	The Need for Pelagic Ecosystem Monitoring Studies, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
30	Amy Hirons	FAU	Distribution of Zooplankton Densities Associated with the Florida Current and Subsurface Counter Current, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
31	Erin McMichael	FAU	Ocean Energy Technology and Marine Turtles within the Southern Gulf Stream Current, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
32	John Reed	FAU	Distribution and Characterization of Deep Water Reef and Hard Bottom Habitats off Eastern Florida, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
33	John Sloan	FAU	Building Reliable Turbines for Harvesting Ocean Energy, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
34	James VanZwieten	FAU	MHK Device Modeling: Florida Current Applications, National Renewable Energy Laboratory - Numeric Modeling Workshop	3/1/2011
35	James Lovenbury and Matthew Young	FAU	Projects Utilizing Nortek Systems at Florida Atlantic University's Southeast National Marine Renewable Energy Center (SNMREC), Nortek Technical Symposium, Newport, Rhode Island	3/1/2011
36	Michael Seibert	FAU	Comparing Benthic impact of Anchor Systems for Marine Renewable Energy Systems off the Coast of Southeast Florida, Renewable Ocean Energy and the Marine Environment, Palm Beach Gardens, Florida	11/1/2010
37	James VanZwieten	FAU	Marine Renewable Energy in Florida: Towards Implementation, Third Annual FESC Summit, Gainesville, FL	9/1/2011
38	Mahfuz, H. and Akram, M.W.	FAU	Life Prediction of Composite Turbine Blades under Random Ocean Current and Velocity Shear, OCEANS'11 Conference, Santander, Spain	6/1/2011
39	M.Mjit, P.-P.J. Beaujean, D. Vendittis	FAU	Remote Health Monitoring for Offshore Machines, using Fully Automated Vibration Monitoring and Diagnostics, Annual Conference of the Prognostics and Health Management Society	10/1/2010

			2010, Portland, Oregon	
40	G. Alsenas	FAU	In Catching the Stream - Overview of FAU's Southeast National Marine Renewable Energy Center dustry Partner Presentation, FAU Dania Beach, FL	10/19/10
41	G. Alsenas	FAU	Catching the Stream - Overview of FAU's Southeast National Marine Renewable Energy Center Industry Partner Offices, Orlando, FL	10/26/10
42	G. Alsenas	FAU	SNMREC Test Capabilities, Energy Oceans 2011 Conference, Portland, ME	6/15/11
43	Laurie Bransdorf	FAU	Hydrokinetic Energy Stakeholders Workshop, Provide a public forum for parties interested in coastal and marine environments to offer perspectives on potential conflicts with alternative energy projects on the outer continental shelf off the coast of Florida	
44	Laurie Bransdorf	FAU	Ocean Energy teacher training workshops, High school teacher training workshops based on the SNMREC curriculum. Engaged teachers from Dade County to St Lucie County 2010-2011	
45	Laurie Bransdorf	FAU	Federal and State representative roundtable discussions, Presentations and groups discussions with various state and federal representatives, congressional and senatorial on the future of ocean renewable energy for the state of Florida.	
46	Laurie Bransdorf	FAU	Media engagement articles and interviews. Five magazine interviews with SNMREC directors highlighting on going ocean renewable energy research. One radio and one local television interview with engineers from SNMREC	
47	Laurie Bransdorf	FAU	Local business councils, Engagement with four local business councils to examine future workforce development in ocean renewables.	
48	Laurie Bransdorf	FAU	International conferences Hosted two international conferences with participants from business, government research, academia, private sector and non profits to have a dialog on offshore ocean renewable energy	
49	Laurie Bransdorf	FAU	Educational and public engagements, Four school visits and presentations on FAU's SNMREC research; elementary, middle and high school. Two local museum engagements with a display of SNMREC research in one, and SNMREC scientist presentations with the other. Collaboration with a national vide	
50	Laurie Bransdorf	FAU	Professional organization engagements, Three presentations and panel discussions with professional organizations relating to FAU SNMREC research.	
51	Englander, O., et al	FSU	"Preparation And Integration Of Beta Amyloid Protein Nanofibers With Microfabricated Electrodes"	11/15/10
52	Shi, D.	FSU	" A Review and Study on Household Energy Saving Decision Making Models. The FSU Sustainable Energy and Climate Change Policy Workshop",Tallahassee, FL. (local)	12/1/10
53	Kelleher, T.C	FSU	Local Regulatory Effects on Carbon Emissions. The FSU Sustainable Energy and Climate Change Policy Workshop"	12/1/10
54	Zhao. T.	FSU	"How does land-use regulation influence vegetation primary production? ICA Workshop on Advances in Sensors and Algorithms for Topographic and Thematic Mapping", Tallahassee, FL. (local).	11/1/10
55	Zhao. T.	FSU	Sprawl and Its Carbon Consequences in Two U.S. Metropolitan Areas. The 5th International Symposium on Modern Ecology, Lanzhou, China. (international)	12/1/2010
56	Kostka, J., Kristina Welch, Michael S. Wetz, William	FSU	Algal Growth Optimization on Treated Wastewater Effluent. Thalassic Society Student Symposium , Florida State University, November 10, 2010.	11/10/10

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57	Kostka, J., Claire Smith, Michael S. Wetz,	FSU	Algal Growth Optimization on Treated Wastewater Effluent. Thalassic Society Student Symposium , Florida State University, November 10, 2010.	11/10/10
58	Pevnitskaya, S.	FSU	"The effect of access to clean technology and communication on pollution reduction: an experiment." Chapman University, invited speaker in the ESI/IFREE Lectures series	10/29/10
59	Pevnitskaya, S.	FSU	"The effect of access to clean technology and communication on pollution reduction: an experiment." Southern Economic Association meeting, Atlanta	11/20/10
60	Rios, J.F., M.Ye, L. Wang, and P.Z. Lee	FSU	Development of a GIS-Based Software for Estimating Nitrate Load from Septic Systems to Surface Water Bodies,Submitted to MODFLOW and More 2011, Golden, CO., 2011	6/5/11
61	Rios, J.F., M.Ye, L. Wang, and P.Z. Lee	FSU	McGee, C. and A. B. Chan Hilton (2011). Analysis of Federal and State Policies and Environmental Issues for Bioethanol Production Facilities. Environmental Science & Technology, 45(5), 1780-1791. dx.doi.org/10.1021/es1014696. Available at http://pubs.acs.org/articlesonrequest/AOR-XQMsNUhe2chACwj8Ur9u	6/5/11
62	L. Wang, J.F. Rios, M.Ye, and P.Z. Lee	FSU	Use of a Arc-GIS Based Software for Estimation of Nitrate Loads from Septic Tanks to St. Johns River in Jacksonville, FL, Submitted to MODFLOW and More 2011, Golden, CO., 2011.	6/5/11
63	McGee, C. and A. B. Chan Hilton	FSU	Analysis of Water Use and Wastewater Discharges from Biofuel Production Facilities. To be presented at the 2011 ASCE EWRI World Water and Environmental Resources Congress, Palm Springs, CA.	5/22/11
64	Outka, Uma	FSU	Pace University Law School, Invited Research Presentation: "The Renewable Energy Footprint"	12/7/10
65	Outka, Uma	FSU	West Virginia University College of Law, Invited Research Presentation: "The Renewable Energy Footprint"	11/30/10
66	Outka, Uma	FSU	Florida International University College of Law, Invited Research Presentation: "The Renewable Energy Footprint"	11/22/10
67	Outka, Uma	FSU	Florida Climate Institute Interdisciplinary Seminar Series: "The Renewable Energy Footprint"	11/15/10
68	Outka, Uma	FSU	University of Kansas School of Law, Invited Research presentation: "The Renewable Energy Footprint"	11/12/10
69	Outka, Uma	FSU	University of Washington School of Law, Invited Research Presentation: "The Renewable Energy Footprint"	11/8/10
70	Outka, Uma	FSU	Vermont Law School, Annual Colloquium on Environmental Scholarship (accepted paper submitted in response to call for papers): "The Renewable Energy Footprint"	10/22/10
71	Outka, Uma	FSU	Georgia State University College of Law, Invited Research Presentation: "The Renewable Energy Footprint"	10/13/10
72	Outka, Uma	FSU	St. Mary's University School of Law, Invited Research Presentation: "The Renewable Energy Footprint"	10/8/10
73	Ruscher, P.	FSU	"On the efficiency of solar energy in the tropics,"" Second Conference on Weather, Climate, and the New Energy Economy, AMS, Seattle (Appendix B of this report	1/26/11
74	Collier, C.,	FSU	Collier, C., S. Smith, M. Powell, S. Cocke, and M. Bourassa "Offshore Wind Power Potential around Florida"	11/16/10
75	T. Alquthami, et al.	FSU	"Reliable and Resilient Electrical Energy Systems in a Changing Environment" poster presented at the Future of Florida Forum, Orlando, FL.	
76	T. Alquthami, et al.	FSU	"The Future Florida Grid: Reliable and Resilient Electrical Energy	09/28/10

			Systems in a Changing Environment" presented at the Florida Energy Systems Consortium 2nd Annual Summit, Orlando, FL.	
77	T. Alquthamiet al.	FSU	"Notional dynamic model development of Florida grid for assessing the impact of renewable energy integration" poster presented at the 4th International Conference on Integration of Renewable and Distributed Energy Resources, Albuquerque, New Mexico.	12/10/10
78	Gujar, A	UCF/FSEC	Gujar, A., Baik, J., Garceau, N., Hinkamp, E., T-Raissi, A., Muradov, N.Z "Biomass to liquid hydrocarbon fuels – Production of Syngas by Oxygen-blown Gasification of Biomass," *presentation at the 19th World Hydrogen Energy Conference*, Toronto, Canada, 2012.	2012
79	T-Raissi, A.	UCF/FSEC	T-Raissi, A., Muradov, N.Z., Gujar, A., Baik, J., Garceau, N., Fenton, S., Block D.L., Hinkamp, E."Development and Costing of an Integrated Biomass Gasification/Fischer-Tropsch Synthesis Process for Co-production of Transportation Fuels, Heat and Power," presentation at the 3rd Florida Energy Systems Consortium Summit, Gainesville, FL, Sept. 28, 2011.	9/28/2011
80	T-Raissi, A.	UCF/FSEC	T-Raissi, A., Muradov, N.Z., Gujar, A., Baik, J., Garceau, N."Production of Drop-in Transportation Fuels via Combined Biomass Gasification – Fischer-Tropsch Synthesis," presentation at the 2nd Florida Energy Systems Consortium Summit, Orlando, FL, Sept. 29, 2010.	9/29/2010
81	Cromer, Charles J	UCF/FSEC	"Determination of the Historical Solar resource for any Latitude-Longitude location in Florida,"2011 FESC Summit, University of Florida, Reitz Union, Gainesville, FL, September 28, 2011	9/28/2011
82	Carlos Velez	UCF	*Three Dimensional LES Simulation of Bi-directional Turbine for Wave Energy*, OMAE ASME 2011	6/11
83	Carlos Velez	UCF	Uni-directional Impulse Turbine in Bi-directional Flow, Energy Options Conference	10/11
84	Carlos Velez	UCF	Harris & FESC Offshore Energy Project, Progress Energy Symposium	4/11
85	M.S. Castillo	UF	Castillo, M.S.*, L.E. Sollenberger, J.M.B. Vendramini, K.R. Woodard, Y.C. Newman, and G.A. O'Connor. 2011. Management of municipal biosolids as an alternative nutrient source for biomass production. p. 25-26. *In* 3rd Annual Florida Energy Systems Consortium Summit. Gainesville, FL. 27-28 Sept. 2011. Florida Energy Systems Consortium, Gainesville, FL.	9/27/11
86	J. Fedenko	UF	Fedenko, J.R., J.E. Erickson, L.E. Sollenberger, L.O. Ingram, Z.R. Helsel, K.R. Woodard, J.M.B. Vendramini, and R.A. Gilbert. 2011. Biomass composition and theoretical ethanol potential of six tall grass species grown in Florida. p. 7. *In* 3rd Annual Florida Energy Systems Consortium Summit. Gainesville, FL. 27-28 Sept. 2011. Florida Energy Systems Consortium, Gainesville, FL.	9/27/11
87	B. Kannan	UF	Kannan, B., L.E. Sollenberger, and F. Altpeter. 2011. Genetically improved, interspecific hybrids between elephantgrass and pearl millet as feedstock for biofuel production.. p. 24. *In* 3rd Annual Florida Energy Systems Consortium Summit. Gainesville, FL. 27-28 Sept. 2011.	9/27/11
88	Y. Lopez	UF	López, Y., J. Seib, C.D. Chase, L.E. Sollenberger, K.R. Woodard, and M. Gallo. 2011. Cross-Taxa microsatellite primers transferability from pearl millet (*Pennisetum glaucum* (L.) R. Br.) to elephantgrass (*Pennisetum purpureum* Schumach.). Plant/Animal Genome Conf., San Diego, CA.	1/15/11
89	C. Na	UF	Na, C., L.E. Sollenberger, J.E. Erickson, and K.R. Woodard. 2011. Seasonal changes in physiological and morphological	9/27/11

			characteristics of perennial bioenergy grasses in Florida. p. 27. *In* 3rd Annual Florida Energy Systems Consortium Summit. Gainesville, FL. 27-28 Sept. 2011. Florida Energy Systems Consortium, Gainesville, FL.	
90	L. Sollenberger	UF	Sollenberger, L.E., K.R. Woodard, J.M.B. Vendramini, C.D. Chase, Y. Lopez, M. Gallo, J. Seib, K.A. Langeland, and H. Gerardo-Cuervo. 2011. Characterization of invasive potential of naturalized populations and cultivated types of elephantgrass, a bioenergy species for Florida. p. 14. *In* 3rd Annual Florida Energy Systems Consortium Summit. Gainesville, FL. 27-28 Sept. 2011. Florida Energy Systems Consortium, Gainesville, FL.	9/28/11
91	J. Erickson	UF	Erickson, John E., Zane R. Helsel, Kenneth R. Woodard, Lynn E. Sollenberger, Joao M.B. Vendramini, and Robert A. Gilbert. 2010. Sweet sorghum yield performance across Florida. ASA/CSSA/SSSA, Madison, WI.	11/1/10
92	J. Fedenko	UF	Fedenko, Jeffrey R., John E. Erickson, Lynn E. Sollenberger, Kenneth R. Woodard, Rob A. Gilbert, Joao M.B. Vendramini, and Zane R. Helsel. 2010. Nitrogen and phosphorus removal of potential biofuel grasses. ASA/CSSA/SSSA, Madison, WI.	11/1/10
93	P. Korndorfer	UF	Korndorfer, P.H., R.A. Gilbert, Z.R. Helsel, J.E. Erickson, and L.E. Sollenberger. 2010. Biomass yield and fiber concentration of energycane and giant reed grown on sandy soils in Florida. ASA/CSSA/SSSA, Madison, WI.	11/1/10
94	J. Vendramini	UF	Vendramini, J., L.E. Sollenberger, J.E. Erickson, F. Altpeter, M.L. Silveira, R. Gilbert, and Z. Helsel. 2010. Biomass production in Florida: Faculty, locations, and research topics. Sunbelt Expo. Moultrie, Georgia. October 2010.	10/14/10
95	Jenshan Lin	UF	"Wireless Power Transmission: From Far-Field to Near-Field," IEICE 2nd Microwave Workshop in 2010 – Recent Progress in Microwave/Millimeter-wave Technologies and Applications, Tokyo, Japan, December 6, 2010.	12/6/10
96	Jenshan Lin	UF	"High Efficiency Midrange Wireless Power Transfer System," IEEE MTT-S International Microwave Workshop Series on Innovative Wireless Power Transmission: Technologies, Systems, and Applications, Kyoto, Japan, May 12-13, 2011.	5/12/11
97	James Heaney	UF	Heaney, J., Friedman, K., and M. Morales. 2011. International Perspective on Urban Water Conservation. Proc. 8th Int. Conf. on Urban Watershed Man., Beijing, China, Sept.	9/8/11
98	Heaney, J.	UF	Heaney, J. et al. 2011. Process and Statistical Models for Urban Water Demand Management. World Environmental and Water Resources Congress, Palm Springs, CA	5/23/11
99	James Heaney	UF	Heaney, J. Role of Conservation in Sustainable Urban Water Systems. 2010 Sustainable Florida Conference. Collins Center for Public Policy, West Palm Beach, FL	10/14/10
100	James Heaney	UF	Friedman, K. 2011. Water Demand Optimization Methodology. AWWA Water Conservation Symposium, Orlando	3/15/11
101	James Heaney	UF	Morales, M. 2011. Parcel-level Methodology for Estimating Commercial, Industrial and Institutional Water Use. AWWA Water Conservation Symposium, Orlando	3/15/11
102	H. Weaver/Justin Dodson	UF	Presentation at the FESC summit	9/27/2011
103	Richard Stehle Michael Bobek	UF	FESC Summitt / Steam Iron Process: Examination of Regenerative Cycling	9/28/2011
104	Pando Georgiev		"Game Theoretic Approach for Micro-storage Management in the Smart Grid", by Pando Georgiev, Alexey Sorokin, Marco Carvalho and Panos Pardalos. Presented at the conference "Systems and	4/30/2011

			Optimization Aspects of Smart Grid Challenges", April 28-30, 2011, Gainesville, FL	
105	Hongsheng Xu		Analysis of the N−k Contingency in Power Systems Hongsheng Xu, Neng Fan and Panos Pardalos, UF, **FESC 2011 Summit**	9/28/2011
106	Alexey Sorokin		"Nash Equilibrium Model for Micro-storage Management in the Smart Grid" by Alexey Sorokin, Pando Georgiev, Marco Carvalho and Panos Pardalos. Accepted talk at the INFORMS conference, November 16, 2011	
107	Stewart Jon	UF	"Stereoselective Biocatalytic Functional Group Reductions." Zing Biocatalysis Conference, Puerto Morelos, Mexico	12/12/10
108	Stewart Jon	UF	"Flavoprotein Alkene Reductases for Synthesis." 17th International Symposium on Flavins and Flavoproteins, Berkeley, CA	7/27/11
109	Stewart Jon	UF	"Expanding the Catalytic Repertoires of Alkene Reductases." Enzyme Engineering XXI, Vail, CO	9/19/11
110	Gary Peter	UF	Characterization of woody biofeedstocks for biofuel production, National Renewable Energy Laboratory, Golden, CO	1/7/11
111	Gary Peter	UF	Introgression of loblolly pine alleles into slash pine, Southern Forest Tree Improvement Conference, Biloxi, MS	6/15/11
112	Gary Peter	UF	Association genetics of complex traits in loblolly pine, Universidad de Malaga, Spain	3/12/11
113	Colin Knapp	UF	Economic Impacts of Renewable Energy and Energy Efficiency Policies	4/2011
114	Ted Kury	UF	"Evidence-Driven Utility Policy with Regard to Storm Hardening Activities: A Model for the Cost-Benefit Analysis of Underground Electric Distribution Lines." Presented at the 8th OOCUR Annual Conference, November 2010, Ocho Rios, Jamaica.	10/10
115	Ted Kury	UF	The Marginal Effects of the Price for Carbon Dioxide: Quantifying the Effects on Electric Generation." Presented at the CCRP Winter Policy Workshop, February 2011, Birmingham, UK.	2/11
116	Ted Kury	UF	"The Role of Oil and the Gulf of Mexico in the United States Economy." Presented at the 17th Annual Public Interest Environmental Conference, February 2011, Gainesville, Florida.	2/11
117	Ted Kury	UF	Price Effects of Independent System Operators in the United States Electricity Market. Presented at the 9th Annual International Industrial Organization Conference, April 2011, Boston,Massachusetts.	4/11
118	Mark A. Jamison	UF	"Can We Get This Right? Power, Influence, and Motivations for Coherence." Presented at Reviewing the Global Experience on Economic Regulation – A Forward Looking Perspective, 2nd CUTS-CIRC International Conference, April 2011, New Delhi, India.	4/11
119	Colin Knapp	UF	Renewable Energy's Effect on State-Level Employment: An Ex-Post Analysis. Seminar delivered to an audience of UF Ph.D. students in Economics.	4/11
120	Mark A. Jamison	UF	"Developing Regulatory Institutions: A Leadership Perspective." Presented at *A Regulatory Framework: Making It Good for Everybody*, ASUC and Kolaborativa Symposium, May 2011, Curacao.	5/11
121	Colin Knapp	UF	Economic Impacts of Renewable Energy and Energy Efficiency Policies	9/27/2011
122	Jones, P.	UF-PREC	Carbon Footprint and Development, American Society of Farm Managers and Rural Appraisers, Orlando, FL	11/3/10
123	Kipp, J	UF-PREC	Embedded Energy Costs of Water Supply, ***Florida Section of the American Water Works Association, Water Conservation Symposium,*** Orlando, FL	12/1/10
124	Kipp, J	UF-PREC	The True(r) Costs of Water Supply: A Florida Case Study, River Network Winter Training, Warming Watersheds: Water and Energy Track, Waynesboro, PA	12/6/10
125	Kipp, J	UF-PREC	Addressing the Energy-Water Nexus: A Blueprint for Action and Policy Agenda, invited participant in ACEEE/AWE Workshop to	12/9/10

			Develop a Joint Blueprint for Energy and Water Efficiency, provided input to and feedback on 02/15/11 draft plan Washington, D.C.	
126	Jones, P.	UF-PREC	Resource Efficient Communities: Best Design, Construction & Management Practices, Arbor Day Event, Bradenton, FL	1/21/11
127	Jones, P.	UF-PREC	Climate Change Ramifications in Comprehensive Planning: Restoration's Two Designs, Florida Chamber Growth Management Conference, Orlando, FL	2/23/11
128	Jones, P.	UF-PREC	Evaluating the Energy Performance of Building America Homes Using Annual Community Baselines, Strengthening the Green Foundation: Research and Policy Directions for Green Development and Finance, Federal Reserve Bank of Atlanta, New Orleans, LA	3/10/11
129	Jones, P.	UF-PREC	Florida's Energy Used Versus Energy Spent-When Does it Make "Cents"?, Florida Housing Coalition, Tampa, FL	3/24/11
130	Jones, P.	UF-PREC	Resource Efficient Communities: Best Design, Construction & Management Practices, UF Law School, Gainesville, FL	3/30/11
131	Jones, P.	UF-PREC	Energy & GHG Emissions: HB 697 Impacts on Land Development Practices, UF Law School Public Interest Environmental Law Conference, Gainesville, FL	5/3/11
132	Taylor, N.	UF-PREC	Residential Energy Performance Tracking with Energy Use Data, Northeast Sustainable Energy Conference, Boston, MA	3/10/11
133	Taylor, N.	UF-PREC	Florida's Weatherization Efforts and Energy Impacts, UF/IFAS Sustainable and Healthy Home Ownership In-Service Training, Gainesville, FL	5/4/11
134	Kipp, J	UF-PREC	Accounting for the Carbon Costs of Alternative Water Supplies in the Tampa Bay Region, ***American Water Works Association (AWWA) Water Resources Symposium,*** Orlando, FL.	3/15/11
135	Kipp, J	UF-PREC	The True Cost of Clean and Abundant Water Supplies: A Case Study of Tampa Bay Water, ***Howard T. Odum Florida Springs Institute,*** Florida Springs Restoration Workshop, Otter Springs, FL	3/21/11
136	Kipp, J	UF-PREC	Energy and Carbon Costs of Water Supply: A Case Study of Tampa Bay Water (webinar presentation), ***Southern Regional Water Program, Regional Water Series***	4/12/11
137	Kipp, J	UF-PREC	The Energy-Water Nexus: A Case Study of Tampa Bay Water, UF/IFAS In-Service Training, Gainesville, FL	9/29/11
138	Kipp, J	UF-PREC	Energy and Carbon Costs of Water Supply: A Case Study of Tampa Bay Water, St. Johns River Water Management District Environmental Sciences Seminar Series, Palatka, FL.	7/21/11
139	Knowles, H	UF-PREC	***Clean Energy Financing Programs: Lessons from the Building & Social Sciences, Florida Regional Planning Councils Annual Meeting, Orlando, FL***	6/23/11
140	Knowles, H	UF-PREC	Water Supply & Land Development: Florida Case Studies, FLERA 2011 Annual Conference, Sarasota, FL	7/28/11
141	Knowles, H	UF-PREC	Florida HB 7179 & Energy Efficient Loan Programs, FLERA 2011 Annual Conference, Sarasota, FL	7/29/11
142	Knowles, H	UF-PREC	Jobs in the Clean Energy Supply Chain: Securing Florida's Energy Independence (Panelist), FESC Pre-Summit Workshop hosted by DOE, Gainesville, FL	9/26/11
143	Knowles, H	UF-PREC	Saving Energy and Jobs through Effective Revolving Loan Programs in the Residential Retrofit Sector, FESC Annual Summit, Gainesville, FL	9/27/11
144	Knowles, H	UF-PREC	The Critical Thinker's Guide to Personal Ecological Footprinting, UF/IFAS In-Service Training, Gainesville, FL	9/29/11
145	Jones, P. and N. Taylor	UF-PREC	Characterizing Energy Efficiency Using Utility and Appraiser Data, Building America Technical Meeting, Denver, CO	8/9/11

146	Jones, P.	UF-PREC	A Case Study of Restoration: Quantifying Design Impacts, UF/IFAS County Extension Directors – Region II Meeting, Steinhatchee, FL	8/15/11
147	Jones, P.	UF-PREC	A Case Study of Restoration: Quantifying Design Impacts, UF Faculty Prairie Project, Rochelle, FL	8/15/11
148	Jones, P.	UF-PREC	Florida's Energy Economy: What Makes "Cents"?, Florida Housing Coalition meeting, Orlando, FL	9/26/11
149	Jones, P.	UF-PREC	A Case Study of Restoration: Quantifying Design Impacts, UF/IFAS In-Service Training, Gainesville, FL	9/29/11
150	Taylor, N	UF-PREC	Characterizing Energy Efficiency Using Utility and Appraiser Data, FESC Annual Summit, Gainesville, FL	9/28/11
151	Taylor, N	UF-PREC	Costs and Savings Associate with Easy Home Energy Retrofits, UF/IFAS In-Service Training, Gainesville, FL	9/29/11
152	Miller, C	UF-PREC	Residential Energy Efficiency, Florida Energy Systems Consortium Community College Energy Pre-Summit Workshop, Santa Fe College, Center for Innovative and Economic Development (CIED), Gainesville, FL	9/26/11
153	Marilyn Barger	HCC-FLATE	"An Alternative Energy Credit Certificate and Degree for Florida" IREC Clean Energy, Saratoga Springs, NY	03/9/11
154	Jorge Monreal	HCC-FLATE	"Building the Technician Workforce for Florida's Energy Future", at Green Energy Summit, Wisconsin Technical College System @MATC, Milwaukee, WI	03/9/11
155	Marilyn Barger	HCC-FLATE	Energy Technology Updates, Engineering Technology Forum, Daytona State College, Daytona Beach, FL	04/8/11
156	R.Ratnadurai	USF	NiO based thin film Clipper devices," FESC Summit, Gainesville, FL	09/27/11
157	M. Celestin	USF	Rectenna Arrays For Sensing and Waste Heat Energy Harvesting FESC Summit, Gainesville, FL	09/27/11
158	M. Celestin	USF	Current Trends In Micro and Nanotechnology-Based Energy Harvesting NanoFL, Miami, FL	09/30/2011
159	M. Celestin	USF	Fabrication and Modeling of Organic Tunnel Diodes," 3rd Annual USF Research Day, Tampa, FL,	10/13/2010
160	R. Ratnadurai	USF	Design Analysis of MIM tunnel junctions, 3rd Annual USF Research Day, Tampa, FL	10/13/2010
161	J. Boone	USF	Design and Simulation of a Scalabe Dipole Fed Slot Antenna, 3rd Annual USF Research Day, Tampa, FL	10/13/2010
162	Russell S.R.	USF	Reaching Zero Energy in Florida's Hot Humid Climate, ARCC 2011 CONSIDERING RESEARCH: Reflecting upon current themes in Architectural Research, Detroit MI, spring 2011	Spring 2011
163	Russell S.R.	USF	Flex House, ASME 2011 5th International Conference on Energy Sustainability & 9th Fuel Cell Science, Engineering and Technology Conference, Washington D.C. Summer 2011	Summer 2011
164	Russell S.R.	USF	Eco House Symposium- Kanagawa University, Kanagawa Japan- summer 2011	Summer 2011
165	Russell S.R.	USF	AIA Florida Annual Conference- Naples Florida- summer 2011	Summer 2011
166	Russell S.R.	USF	ASME Tampa Bay Annual Meeting- FLeX House- summer 2011	Summer 2011
167	Russell S.R.	USF	CSI Luncheon - FLeX House- spring 2011	Fall 2010
168	Russell S.R.	USF	AIA Tampa Bay Designer's Luncheon Lecture Series- fall 2010- 2011 Solar Decathlon - FLeX House	Fall 2010
169	Anwar S	USF	Anwar S (presenter), Cunningham JA, Trotz M, Thomas MW, Stewart M. Pore-scale modeling of reactive-multiphase-buoyant flow for carbon capture and storage. Presented at the 2010 Fall Meeting of the American Geophysical Union: December 13-17, San Francisco, California.	12/2010

170	Thomas MW	USF	Thomas MW (presenter), Briley A, Trotz M, Stewart M, Cunningham JA. Geochemical modeling of CO2 sequestration in deep saline aquifers in Florida. Presented at the 2010 Fall Meeting of the American Geophysical Union: December 13-17, San Francisco, California.	12/2010
171	Cunningham JA	USF	Cunningham JA (presenter), Trotz MA, Stewart MA, Goswami DY. 2011. Potential for carbon capture and sequestration (CCS) in Florida. Presented at the 2011 AEESP Research and Education Conference: July 10-12, Tampa, Florida.	7/2011
172	Anwar S	USF	Anwar S, Cunningham J (presenter), Thomas M, Trotz M, Stewart M. 2011. Pore-scale modeling of reactive multi-phase flow for carbon capture and storage. Presented at the 242nd American Chemical Society National Meeting & Exposition: August 28 - September 1, Denver, Colorado.	8/2011
173	Thomas MW	USF	Thomas MW, Cunningham J (presenter), Briley A, Trotz M, Stewart M. 2011. Geochemical modeling of CO2 sequestration in carbonate aquifers: Critical evaluation of thermodynamic models used to predict mineral dissolution and precipitation. Presented at the 242nd American Chemical Society National Meeting & Exposition: August 28 - September 1, Denver, Colorado.	8/2011
174	Cunningham J	USF	Cunningham J (presenter), Goswami DY, Stewart M, Trotz M. 2011. Carbon capture and sequestration: Opportunities in Florida. Presented at the Florida Energy Systems Consortium (FESC) Summit: September 27-28, Gainesville, Florida.	9/2011
175	Okwen R, Thomas M	USF	Okwen R, Thomas M (presenter), Briley A, Stewart M, Trotz M, Cunningham J. 2011. Simulation of alternating wastewater/CO2 injection into a deep saline aquifer. Presented at the Florida Energy Systems Consortium (FESC) Summit: September 27-28, Gainesville, Florida.	9/2011
176	Briley A	USF	Briley A (presenter), Thomas M, Trotz M, Cunningham J, Stewart M. 2011. Practical heuristic for selection of geochemical model basis of supersaturated water and mineral precipitation. Presented at the Florida Energy Systems Consortium (FESC) Summit: September 27-28, Gainesville, Florida.	9/2011
177	Stewart M	USF	Stewart M (presenter), Cunningham J, Trotz M, Okwen R, Thomas M, Briley A, 2011. Geochemical modeling of CO2 and wastewater injection to maximize sequestration efficiency. 2011 Aquifer Storage and Recovery Conference, American Ground Water Trust, Orlando FL	2011
178	B. Mankidy	USF	Bijith Mankidy, John Wolan, Babu Joseph and Vinay K. Gupta (Paper No.351c) A Model Cobalt/Silica Fischer Tropsch Nanocomposite Catalyst Preparation by Surface Functionalization. AIChE Annual Conference, Salt Lake City, Utah, Nov 2010.	11/2010
179	N. Balakrishnan	USF	Nianthrini Balakrishnan; Venkat R. Bhethanabotla,; Babu Joseph, DFT Studies On the Promotional Effect of Platinum for the Reduction of CoPt Bimetallic Catalyst in Fischer Tropsch Synthesis. Paper 559f . University of South Florida AIChE Annual Conference, Salt Lake City, Utah, Nov 2010.	11/2010
180	S. Gardezi	USF	Syed Ali Zeeshan Gardezi, Babu Joseph and John T. Wolan Significance of Pre-Treatment on Surface Interactions and Performance of Eggshell Cobalt/SiO2 Catalyst for Fischer Tropsch Synthesis. Paper 729f. AIChE Annual Conference, Salt Lake City, Utah, Nov 2010.	11/2010
181	J. Wolan	USF	John Wolan, Ali Gardezi, Joseph Babu. Thermochemical Conversion of Biomass to Liquid Fuels. Florida Energy Systems	9/2010

			Consortium Annual Summit. University of Central Florida, Orlando, Sept 2010.	
182	B. Mankidy	USF	Bijith Mankidy, John Wolan, Babu Joseph, and Vinay Gupta. A Model Cobalt/Silica FTS Nanocomposite Preparation by Surface Functionalization . Florida Energy Systems Consortium Annual Summit. University of Central Florida, Orlando, Sept 2010.	9/2010
183	S. Gardezi	USF	Sayed Ali Gardezi, Babu Joseph, John Wolan and Yogi Goswami.Effect of Catalyst Preparation Conditions on the Performance of Eggshell Cobalt/SiO2 Catalysts for Fischer-Tropsch Synthesis. Florida Energy Systems Consortium Annual Summit. University of Central Florida, Orlando, Sept 2010.	9/2010
184	M. Wetherington	USF	Matt Wetherington and Babu Joseph . Cost Models for a Biomass Based Transportation Fuels Plant. Florida Energy Systems Consortium Annual Summit. University of Central Florida, Orlando, Sept 2010.	9/2010
185	S. Gardezi	USF	L. Landgren, S.A. Gardezi, J. Wolan and B. Joseph. Exploiting Metal-Support Interactions to Optimize Dispersion and Reducibility of a Highly Active & Selective Fischer-Tropsch Synthesis Eggshell Catalyst, Accepted at AIChE Spring National Meeting in Chicago, IL March 13, 2011.	3/2011
186	S. Gardezi	USF	S..A. Gardezi, J. Wolan and B. Joseph, Modeling the startup phase of fixed bed Fischer Tropsch reactors. Accepted at AIChE Spring National Meeting in Chicago, IL March 13, 2011.	3/2011
187	M. Pinilla	USF	M. Pinilla, Q. Zhang, B. Joseph. LCA: Mixed Alcohol Synthesis via Indirect Liquefaction of Biomass, Paper presented at AEESP distinguished lecture series Symposium, USF, Feb 2011.	2/2011
188	B. Mankidy	USF	B. Mankidy, B. Joseph and V. Gupta, "Towards Efficient Co/SiO2 FTS Catalysts: Study of Cobalt Nanoparticle Size Effects on Reaction Kinetics", Paper presented at the 2011 Florida Energy Systems Consortium Annual Summit, Gainesville, FL, Sept 2011.	9/2011
189	M. Pinilla	USF	María J. Pinilla, Babu Joseph, Qiong Zhang, " Compartive Life Cycle Assessment of Biofuels and Electricity Production, "Paper presented at the 2011 Florida Energy Systems Consortium Annual Summit, Gainesville, FL, Sept 2011	9/2011
190	M. Pinilla	USF	María J. Pinilla, Babu Joseph, Qiong Zhang , "Comparative Life Cycle Assessment of Lignocellosic Biomass Conversion into Different Energy Products, Paper presented at the 2011 Florida Energy Systems Consortium Annual Summit, Gainesville, FL, Sept 2011	9/2011
191	S. Gardezi	USF	Syed Ali Gardezi, J. W. Wolan, B. Joseph, Y. Goswami, "Fischer Tropsch Synthesis Via Biomass Derived Synthesis Gas," Paper presented at the 2011 Florida Energy Systems Consortium Annual Summit, Gainesville, FL, Sept 2011	9/2011
192	N. Balakrishnan	USF	N. Balakrishanan, B. Joseph, V. Bhethanabotla, Y. Goswami, "Influence of Pt promoter on CO activation pathway", Paper presented at the 2011 Florida Energy Systems Consortium Annual Summit, Gainesville, FL, Sept 2011	9/2011
193	Rocha, P. Das	USF	Generation Expansion in Restructured Electricity Markets under a CO2 Cap-and-Trade Program with an application to the Illinois Electricity Market" presented at INFORMS Annual Meeting, San Diego,CA	10/1/09
194	Rocha, P. Das	USF	Rocha, P. Das, T. K. Optimal recycling of Cap-and-trade revenue. INFORMS Annual Meeting 2010, Austin, TX. (Invited talk)	11/15/2010
195	Demirkaya, G	USF	Conference presentation: Demirkaya, G., Besarati, S.M., Vasquez Padilla, R., Ramos, A.A., Rahman, M.M., Goswami, D.Y., and Stefanaksos, E. "Multi-Objective Optimization of a Combined	August 2011

			Power and Cooling Cycle for Low-Grade and Mid-Grade Heat Sources," in the Proceedings of the ASME ESFuelCell 2011 Conference, Washington, D.C.,	
196	Vasquez Padilla	USF	Conference presentation: Vasquez Padilla, R., Archibold, A.R., Demirkaya, G., Besarati, S., Goswami, D.Y., Rahman, M.M., and Stefanakos, E.K. (2011) "Performance Analysis of a Rankine-Goswami Combined Cycle," Proceedings of the ASME 2011 "ESFuelCell 2011" (5th International Conference on Energy Sustainability and 9th Fuel Cell Science Engineering and Conference), Washington, DC, August.	August 2011

5. Invention Disclosures & Patents for All SUS Faculty in Energy Area

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

#	Faculty	University	Disclosure / Patent # and Date Filed	Title	Licensed (Y/N)	Revenues Received
1	Jesse Smithyman, Zhiyong Liang, Jim Zheng, Ben Wang, Chun Zhang	FSU	Disclosed 10/5/10; US Provisional Patent Application filed 11/9/2009	Binder-Free Nanocomposite Material and Method of Manufacture	Y	NA
2	Aaron T. Dossey	UF	Disclosure	New and Improved Wireless and Other Automated Charging Devices for Electric Vehicles	N	NA
3	Andrew Rinzler; Das Rajib	UF	Provisional filed 12/17/10	Hydrogen Oxidation and Generation Over Single Wall Carbon Nanotube Films (COMB W/13920)	Y	NA
4	Bruce Welt; Ray Bucklin; Melanie Correll	UF	Disclosure	Increasing Greenhouse Longevity With Peel-Away Layers	N	NA
5	David Arnold; Shuo Cheng; Vinod Challa	UF	Provisional filed 11/24/10; PCT filed 8/05/11	Wireless Power Transfer vis Electrodynamic Coupling	N	NA
6	Franky So; B. Pradhan (non UF); Do Young Kim	UF	Provisional filed 4/05/11	Solid State Lighting Window by Transparent One Side Emitting OLED	Y	NA
7	Franky So; B. Pradhan (non UF); Do Young Kim	UF	Provisional filed 4/05/11	Novel Window with A transparent One Side Emitting OLED Lighting & an IR Sensitive Photovoltaic Panel	Y	NA
8	Franky So; B. Pradhan (non UF); Do Young Kim	UF	Provisional filed 4/05/11	Solar Panel Using All Solar Spectrum by Integrating an IR Solar Cell on a Conventional Thin Film	Y	NA
9	Franky So; John Reynolds; Jegadesan Subbiah	UF	Provisional filed 7/08/11	Efficient Inverted Polymer Solar Cells Using Double Interlayer	N	NA
10	Jenshan Lin	UF	United States Patent 7,903,020, issued 3/8/2011	System and Methods for Remote Sensing Using Double-Sideband Signals	N	NA
11	Jenshan Lin	UF	United States Patent 7,848,896, issued 12/7/2010	Non-Contact Measurement System for Accurate Measurement of Frequency and Amplitude of Mechanical Vibration	N	NA
12	Jenshan Lin	UF	US Patent Appl. Publication US-2011-0080056-A1, published 4/7/2011	Method and Apparatus for Contactless Power Transfer	N	NA
13	John Reynolds; Aubrey Dyer	UF	Provisional filed 6/30/11	Infrared-modulating Electroactive Devices with Visible Region Transparency (All Other Except SWNT)	N	NA
14	John Reynolds; Aubrey Dyer; Andrew Rinzler	UF	Disclosure	Infrared-modulating Electroactive Devices with Visible Region Transparency (SWNT) (COMB W/#13245)	N	NA

#	Faculty	University	Disclosure / Patent # and Date Filed	Title	Licensed (Y/N)	Revenues Received
15	Keith L. Duncan; Matthew Allan Camaratta	UF	Disclosure	Novel Anode Architecture for Direct Oxidation of Carbonacceous Fuels in Solid Oxide Fuel Cells	N	NA
16	Kirk Jeremy Ziegler	UF	Provisional filed 6/22/11	Integrating Pre-coated Carbon Nanostructures Into Bulk Composite Matrices	N	NA
17	Lonnie Ingram; Elliot Miller; Xuan Wang; Lorraine Yomano; Keelnatham Shamugam	UF	Provisional filed 7/08/11	Overexpression of Crystic Putative Oxidoreductase ucpA Increases Furtural Tolerance in Escherichia Coli Strains Engineered for the Production of Ethanol and Lactate	N	NA
18	Lonnie Ingram; Elliot Miller; Xuan Wang; Lorraine Yomano; Keelnatham Shamugam; Xueli Zhang (non-UF)	UF	Provisional filed 4/01/11	Overexpression of NADH-dependent Oxidoreductase FucO Increases Furfural Tolerance in Escherichia Coli Strains Engineered For The Production of Ethanol and Lactate	N	NA
19	Michael McVay; David Bloomquist; Scott Wasman; Leith Beriswill (non-UF)	UF	Disclosure	Portable Dynamic Energy Callibrator (PDEC) for Proctor Compaction Machines	N	NA
20	P. Jones, N. Taylor, J. Kipp	UF-PREC	Copyright received	Annual Community Baselines: A Protocol for Using Metered Consumption Data to Measure and Verify Performance of Residential Energy Efficiency Programs	N	NA
21	Pierce Jones; Nicholas Taylor; Mary Kipp	UF	Copyright filed 1/19/11	Quantifying Household Energy Performance Using Annual Community Baselines	N	NA
22	Qun Gu	UF	Disclosure	Lowering Frequency Clock Distribution for Large Array Size Systems (COMB W/13819)	N	NA
23	Sergei V. Shabanov; Remy Ndangali Friends	UF	Provisional filed 5/23/11	Miniaturization of Devices for Generating Higher Harmonics of Monochromatic Electromagnetic Radiation	N	NA
24	Subrata Roy; Jenshan Lin; Raul Chinga' Karl Zawoy	UF	Disclosure	Portable Power Supply Unit for Plasma Sterilization	N	NA
25	Subrata Roy; Ryan Durscher	UF	Provisional filed 6/24/11	Solid State Frequency Modulated Plasma Heating Source (EC)	N	NA
26	Subrata Roy; Ryan Durscher; Poulomi Banajee; Navya Mastanaiah	UF	Provisional filed 4/25/11	Polynuclear Metal Clusters for Water Oxidation Catalysis	N	NA
27	Toshikazu Nishida; David Bloomquist	UF	Provisional filed 1/17/11	Asynchronous Fluidic Impulse Strain-based Energy Harvesting System	N	NA

28	Don Morel	USF	1373 732 PR2C	Advanced 2-Step, Solid Source Deposition Approach to the manufacture of CIGS Solar Modules	N	NA
29	Yogi Goswami and Lee Stefanakos	USF	USF Ref No. 11A070	Method and system for water and power cogeneration using supercritical power cycle for low and mid-grade temperature sources.	N	NA
30	Yogi Goswami and Lee Stefanakos	USF	USF Ref No. 11A071	Method and system for water and power cogeneration using absorptionl power cycle for low and mid-grade temperature sources.	N	NA
31to 63		USF		USF has 23 Disclosures, 9 provisonal patent applications, 1 new license agreement negotiation. USF prefers to keep these confidential.		

Energy Agreements for All SUS Faculty

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

#	Agreement Number	Inventors	University	Title	Revenues Received
1	A10176	K.T. Shammugam; Lonnie O. Ingram; Qingzhao Wang	UF	Engineering of Thermotolerant Bacillus Coagulans for Production of D(-)-Lactic Acid	$3,000
2	A10233	Paul Holloway; Lei Qian; Ying Zheng; Jianeng Xue	UF	Air Stable Organic-inorganic Nanoparticles Hybrid Solar Cells	$2,500
3	A10234	Paul Holloway; Lei Qian; Jihua Yang; Jianeng Xue	UF	Stable and All Solution Processable Quantum Dot Light-Emitting Diodes	$2,500
4	A10449	Deepika Singh; Rajiv Singh; Purushottam Kumar; Anul Ajnunan	UF	Chemical Mechanical Fabrication (CMF) for Forming Non-planar Surfaces	$1,000
5	A10458	Deepika Singh; Rajiv Singh; Purushottam Kumar	UF	Chemical Mechanical Fabrication (CMF) for Forming Non-planar Surfaces	$1,000
6	A10550	Lonnie Ingram; Xeeli Zhang; Xuan Wang; Keelnatham Shanmugam	UF	Chemical Mechanical Fabrication (CMF) for Forming Non-planar Surfaces	$0.00
7	A9010	Arthur Teixeira; David Chynoweth; Patrick Haley; John Owens	UF	Flooded Densified Leach bed Anaerobic Digestion	$2,500
8	A9019	Deepika Singh; Rajiv Singh; Anul Arjunan; Dibakar Das; Abhudaya Mishra; Tanjore Jayaraman	UF	Polishing of Silicon Carbide Comprising Surfaces	$11,480
9	A9321	Eric Wachsman; Francesco Basoli; Silvia Licoccia; Enrico Traversa	UF	Fabrication of Dual Structure Ceramics by a Single Step Process For SOFCs Applications	$1,000
10	A9525	Ashok Kumar; Ravi Burla	UF	Software for Engineering Using Structured Mesh/Grid	$0.00
11	A9536	Eric Wachsman; Abdul Azad	UF	Solid State Potentiometric CO Sensor	$1,000
12	A9715	Timothy Anderson; Woo Kim	UF	Feasibility Study of Chemical Vapor Deposition of CuInSe2 Thin Films	$5,000
13	A9815	Eric Wachasman; Bryan Blackburn	UF	Multifunctional Gas Sensor Array with Improved Selectivity	$1,000

14	A9817	Eric Wachsman; Bryan Blackburn; Fredrick Van Assche	UF	Electric-Field Enhanced Performance in Catalysis and Solid-State Devices Involving Gases	$1,000
15			USF*		$10,000
				TOTAL	**$42,980**

**USF prefers to keep the details confidential.*

6. Collaborations with Other Postsecondary Institutions for FESC Faculty

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

#	Faculty	University	Description of Collaboration	Name of Institution
1	C. Weatherford,	FAMU	Collaborations on fusion research	West Virginia University, Auburn University, and Wisconsin University
2	Dr. Howard Hanson	FAU	Current Resource Modelling/Simul.	Dr. Eric Chassignet - FSU - COAPS
3	Dr. Howard Hanson	FAU	Sea Water Hydrolysis	Dr. Ali Raisi - UCF - FSEC
4	Susan Skemp, Caitlin Slezycki	FAU	Power Systems Management	Dr. Steiner Dale, Dr. Rick Meeker - FSU - CAPS
5	Dr. Howard Hanson	FAU	NSF Proposal - Array Design/Control	Dr. Darris White - Embry Riddle Aeronautical Univ.
6	Dr. Howard Hanson	FAU	CRADA	NREL
7	Susan Skemp	FAU	Research and Testing	Dr. David Lane - Heriot-Watt University, UK
8	Susan Skemp and Dr. Howard Hanson	FAU	Research and Testing	Dr. Henry Jeffrey - U. of Edinburgh, UK
9	Dr. Howard Hanson & Susan Skemp	FAU	Ocean Research and Standards	Dr. Robert Paasch & Dr. Meleah Ashford - Northwest National Marine Renewable Energy Center -Oregon State University
10	Dr. Jim Van Zweiten and Dr. Howard Hanson	FAU	OTEC Research and Standards	Dr. Luis Vega - Univ. of Hawaii, Nat. Marine Renewable Energy Center
11	Dr. Howard Hanson & Susan Skemp	FAU	Ocean Research and Standards	Dr. Brian Polayge - Northwest National Marine Renewable Energy Center - University of Washington
12	Susan Skemp, Gabriel Alsenas	FAU	Ocean current turbine power plant modeling/simulation.	Dr. Nikolas Xiros - Virginia Polytechnic Institute and State College
13	Cartes, Dave	FSU	SE BEST DOE ERIC Southeast team	Georgia Tech, Clemson, University of Kentucky, University of Alabama
14	Cartes, Dave and Sanjeev Srivastava	FSU	Center for Electric Distribution and Automation Research	Sandia, Oakridge and Idaho National Labs, University of New Mex.
15	Chapin, Timothy S.	FSU	Urban and Regional Planning	Griffith University (Brisbane, Australia)
16	Dale, Steinar	FSU	Florida Smart Grid Workshop	USF
17	Edrington, Chris	FSU	UCF, FESC, DOE ERIC	UCF, UF
18	Feiock, Richard C.	FSU	Network of Energy Sustainable Communities	DOE, NSF and Florida Municipalities
19	Harrington, Julie	FSU	Economic Development Study	University of Florida; FESC

20	Ruscher, Paul	FSU	Data Collection point (station)	University of the West Indies (Trinidad)
21	Ruscher, Paul	FSU	Data Collection point (station)	University of Technology (Jamaica)
22	Rick Meeker	FSU	Signed MOU to form Intelligent Energy Grid Alliance with University of South Florida's Power Center for Utility Explorations. Have also collaborated on proposals with several other universities.	University of South Florida
23	Shirley Meng	UF	Collaborations on energy storage	UC Siego and State University of New York at Stony Brook
24	Franky So	UF	Collaborations on Photovoltaics	Technical University of Denmark
25	Jenshan Lin	UF	Research on Microwave Wireless Power Transmission	Japan Aerospace Exploration Agency
26	Jenshan Lin	UF	Research on Microwave Wireless Power Transmission	Kyoto University, Japan
27	Jon Steward	UF	SNRL will provide lignin samples for for enzyme-catalyzed reactions study at UF lab using safe, non-volatile solvents (ionic liquids and deep eutectic solvents)	
28	Colin Knapp	UF	Offshore Wind Market and Economic Analysis	Florida State University
29	Ted Kury	UF	An Economic Assessment of Market Barriers and Non-Hardware Balance of System Costs: Proposed Regulatory and Utility Solutions	Florida State University
30	Ted Kury	UF	Development of Community Strategies for Energy Efficiency and Renewable Energy	Florida State Univesity
31	Ted Kury	UF	Economic analyses regarding an upstream carbon pricing project for Florida	Florida State University
32	P Jones	UF-PREC	Collaborations on energy efficiency research and training	University of Nebraska
33	C. Miller	UF-PREC	Collaboration on development of statewide training network for weatherization contractors	Banner Center for Construction, Santa Fe College
34	Yogi Goswami	USF	Collaborations on molecular electronics for developing organic tunnel junctions	Bhabha Atomic Research Center
35	S.Russell	USF	Collaboration on the design of ZEHLC	FSU, UF, UCF
36	M Stewart, J Cunningham, M Trotz	USF	Collaboration on physical and geochemical modeling of geologic carbon sequestration	Univ Illinois Champaign-Urbana (ISGS)_
37	Tapas K. Das	USF	Collaboration for energy systems research	Argonne National Laboratory, Iowa State University, University of Wisconsin Milwaukee

7. Collaborations with Private Industry for FESC Faculty

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

SUS related faculty reported 63 collaborations with industry in this reporting period.

#	Faculty	University	Description of Collaboration	Name of Industry
1	Susan Skemp	FAU	MOU - Research & Testing	NaREC, UK
2	Susan Skemp	FAU	MOU - Energy Distribution & Integration	FPL
3	Susan Skemp	FAU	MOU & Industry Affiliates Program	OBOE
4	Susan Skemp	FAU	MOU & Industry Affiliates Program	Vision Energy
5	Dr. Howard Hanson & Dr. James VanZweiten	FAU	DOE Contract Awards	Dehlsen Associates
6	Dr. Howard Hanson	FAU	DOE Contract Awards	Ecology & Environment
7	Susan Skemp	FAU	DOE Contract Awards	Lockheed Martin
8	Susan Skemp	FAU	Ocean Energy Issues & Policy	OREC, ASME, ASCE, etc
9	S. Skemp, Arockiasamy, Gabe Alsenas	FAU	Global Standards	IEC US TC 114 TAG
10	Dr. Pierre Beaujean	FAU	Global Standards	ISO/TC 108/SC 5
11	Susan Skemp	FAU	Ocean Energy Issues & Policy	Palm Beach County Business Dev. Board
12	Susan Skemp	FAU	Ocean Energy Research, Testing & Policy	Over 3-dozen CDAs with global companies
13	Cartes, Dave	FSU	Commercialization	Nanophotonica
14	Cartes, Dave	FSU	Industrial Advisor/Incubator	Supply Management International LLC
15	Cartes, Dave	FSU	Industrial Advisor/Incubator	Mentor Business Resources G
16	Cartes, Dave	FSU	Industrial Advisor/Incubator	Marpan Recycling
17	Chan Hilton	FSU		Florida Department of Environmental Protection
18	Dale, Steinar	FSU	Florida Grid Modeling and Simulation, Utility-University Engagement, including Collaborative Proposals	Florida Reliability Coordinating Council (FRCC)
19	Dale, Steinar	FSU	System Restoration Simulation and Analysis	City of Tallahassee Electric Utility

20	Dale, Steinar	FSU	Florida Grid Modeling and Simulation, Utility-University Engagement, including Collaborative Proposals	FRCC member utilities
21	Kostka, Joel	FSU	Submittal of two research proposals	Midwest Research Institute (MRI)
22	Kostka, Joel	FSU	Teach a workshop to Petroalgae personnel on algal cultivation	Petroalgae
23	Kostka, Joel	FSU	Optimize growth of algal biomass for fuel from City's wastestream	City of Tallahassee
24	Kostka, Joel	FSU	Analysis of waste-stream on cleanup of wastewater (enters St. Johns River) project	Greenpointe, LLC
25	Ordonez, Juan "J.C."	FSU		Philippine National Academy
26	Ruscher, Paul	FSU	Data Collection point (station)	NOAA/National Weather Service Key West (FL)
27	Ruscher, Paul	FSU	Data Collection point (station)	NOAA Global Systems Division, Earth Science Resource Laboratory (Boulder, CO)
28	Ruscher, Paul	FSU	Data Collection point (station)	Caribbean Solar Energy Center (Tobago)
29	Smith, Shawn R.	FSU	Background research	Mark Powell, National Oceanographic and Atmospheric Administration
30	Smith, Shawn R.	FSU	Feasibility Study	Siemens Wind Power in Orlando, Florida
31	Smith, Shawn R.	FSU	Expanding the offshore wind industry within Florida	Greenberg Traurig PA
32	Krothapalli, A	FSU	hydro-processing the bio-oils	Energia Technologies Inc. in Oakland California
33	Rick Meeker	FSU	Florida Grid Modeling and Simulation, Utility-University Engagement, including Collaborative Proposals	Florida Reliability Coordinating Council (FRCC):
34	Rick Meeker	FSU	Florida Grid Modeling and Simulation, Utility-University Engagement, including Collaborative Proposals	FRCC member utilities (most FL utilities, through FRCC committees)
35	Rick Meeker	FSU	System Restoration Simulation and Analysis	City of Tallahassee Electric Utility
36	Rick Meeker	FSU	Antelope-Bailey Wind Farm Modeling	Southern California Edison
37	Z. Qu,	UCF/FSEC	Uni-Directional Impuse Turbine for the Powering of Offshore Monitoring Systems	Harris Corporation, Melbourne, FL
38	A. Raissi	UCF/FSEC	Integrated Florida Bio-Energy Industry	Petro Algae, Melbourne, FL
39	J. Del Mar	UCF/FSEC	Enhanced and Expanded Solar Thermal Test Capabilities	Solar Rating and Certification Corporation (SRCC)

40	J. Shen	UCF	PV Power Generation Using Plug-in Hybrid Vehicles as Energy Storage	City of Tavares, FL
41	Issa Baterseh	UCF	PV Micro Inverter Development Project	Petra Solar, Orlando FL
42	Lynn Sollenberger	UF	Feedstock propagation	Speedling, Inc.
43	Lynn Sollenberger	UF	Feedstock evaluation	BP Biofuels
44	Robert Gilbert	UF	Feedstock evaluation	Florida Crystals
45	Robert Gilbert	UF	Feedstock evaluation	Versipia
46	P Jones, H Knowles	UF-PREC	Energy consumption visualization software platform for utility customers including single family and multi-family housing	Accelerated Data Works
47	Gabriel Githa	UF	Nuclear reactor modernization	AREVA NP Inc & Siemens Corporation
48	Gary Peter	UF	Forest Productivity Research	ArborGen, CellFor, Plum Creek Timber, Rayonier, Resource Management Services, Weyerhaeuser
49	Gary Peter	UF	Eucalyptus testing	ArborGen
50	Gary Peter	UF	Pine Breeding	ArborGen, Foley Timber and Land, Florida Forest Service, Georgia Department of Forestry, Packaging Corp of America, Plum Creek Timber, Rayonier, Weyerhaeuser
51	Bill Lear	UF	Turbine tech	Siemens Power Generation, Florida Turbine Technologies, Energy Concepts Co., Nu-Power Technologies LLC,
52	Jacob Chung	UF	Gasification tech	PlanetGreenSolutions Inc., LPP Combustion, LLC.
53	Sabine Grunwald and Tim Martin	UF	Terra Carbon database	Natural Resources Conservation Service-U.S. Department of Agriculture
54	Franky So	UF	OLEDs	Plextronics Corporation
55	Jenshan Lin	UF	Collaborations on Wireless Power System	Industrial Technology Research Institute, Taiwan
56	Jenshan Lin	UF	Research on power amplifier	LSI
57	James Heaney	UF	Agent Based Modeling of Water and Energy Demand	Intelligent Software Development PTY Ltd
58	S. Russell	USF	Design and construction of ZEHLC	Palm Harbor Homes, Beck Construction
59	Don Morel	USF	Collaborated on development of thin-film pilot line	Mustang Vacuum Systems

60	Don Morel	USF	Provided CIGS samples for development of laser annealing. Submitted pre-proposal to DOE.	Teleos Solar
61	M Stewart, J Cunningham, M Trotz	USF	Evaluation of geologic carbon sequestration at the Polk Power Station	Tampa Electric Co
62	B. Joseph	USF	Joint Proposal to DOE	Prado Associates, Tampa
63	B. Joseph	USF	Joint Proposal to DOE	Blue Tech Fuels, Alabama

8. Students and Post-docs Supported By FESC Faculty

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

Total # of Students and Post docs: 286 (Post Docs: 27, PhD: 150, Master: 82, Undergraduate: 27)

#	Faculty	University	Student /Post- docName	MS/PhD/Post - Doc
1	L. Johnson	FAMU	Dr. Charlemagne Akpovo (Physics)	Post-Doc
2	C. A. Weatherford	FAMU	Dr. Gennady Gutsev (Physics)	Post-Doc
3	Maurice Edington	FAMU	Dr. Dawn Lewis (Chemistry)	Post-Doc
4	C.A. Weatherford	FAMU	Dr. Genzo Tanaka (Physics)	Post-Doc
5	Joseph Johnson	FAMU	Dr. Delonia Wiggins (Physics)—received Ph.D. Spring 2010	Post-Doc
6	C.A. Weatherford	FAMU	Dr. Xingjun Zhang (Physics)	Post-Doc
7	K. Belay	FAMU	Yoseph Abere (Physics)	Ph.D.
8	E. Johnson	FAMU	John Branch (Environmental Science)	Ph.D.
9	L. Johnson	FAMU	Staci Brown (Physics)	Ph.D.
10	C. A. Weatherford	FAMU	Daniel Gebremedhin (Physics)	Ph.D.
11	E. Treadwell	FAMU	Patrice Jackson (Physics)	Ph.D.
12	B. Saha	FAMU	Dwayne Joseph (Physics)	Ph.D.
13	L. Johnson	FAMU	Jorge Martinez (Physics)	Ph.D.
14	D. Mezonlin	FAMU	James Titus (Physics)	Ph.D.
15	C. A. Weatherford	FAMU	Roy Tucker (Physics)	Ph.D.
16	B. Saha	FAMU	Edwin Quashie (Physics)	Ph.D.
17	M. Encinosa	FAMU	Johnny Williamson (Physics)	Ph.D.
18	C. A. Weatherford	FAMU	Albert Wynn III (Physics)	Ph.D.
19	J. Johnson	FAMU	Alonzo Brandon Alexander (Physics Education)	MS
20	M. Edington	FAMU	Ms. Antoinette Addison (Chemistry)	Undergrad
21	M. Edington	FAMU	Mr. Jason Caldwell (Chemistry)	Undergrad
22	M. Edington	FAMU	Ms. Teresa Eaton (Chemistry)	Undergrad
23	K. Belay	FAMU	Mr. Kimani Gopaul (Physics)	Undergrad
24	M. Edington	FAMU	Ms. Mercedes Jackson (Chemistry)	Undergrad
25	K. Belay	FAMU	Mr. Kevin Jones (Physics)	Undergrad
26	J. Johnson	FAMU	Mareena Robinson (Physics)	Undergrad
27	C. A. Weatherford	FAMU	Alexander Schroeder (Physics)	Undergrad

28	M. Edington	FAMU	Mr. Brantly Scott (Chemistry)	Undergrad
29	K. Williams	FAMU	Ms. Marquita Scott (Physics)	Undergrad
30	M. Edington	FAMU	Ms. Chatney Spencer (Chemistry)	Undergrad
31	M. Encinosa	FAMU	Ms. Kalisa Villafana (Physics)	Undergrad
32	Madasamy Arockiasamy	FAU	Shaun Hurley	MS
33	Madasamy Arockiasamy	FAU	Junior Senat	MS
34	Madasamy Arockiasamy	FAU	Amit Janesh Singh	MS
35	Madasamy Arockiasamy	FAU	Carla Silva Almeida	MS
36	Bassem Alhalabi	FAU	Abishek Duraiswamy	MS
37	Bassem Alhalabi	FAU	Mark Bowren	MS
38	Bassem Alhalabi	FAU	Joseph Anthony Gundel	MS
39	Bassem Alhalabi	FAU	Raviteja Gadipudi	MS
40	Pierre Philippe Beaujean	FAU	Nicholas Waters	MS
41	Judith Benson, Coordinator	FAU	Elizabeth Wojtisek	MS
42	Ionut Cardei	FAU	Timur Tavlilov	MS
43	Ionut Cardei	FAU	Marcus Anthony	MS
44	Manhar Dhanak	FAU	Dimitrios Psarrou	MS
45	Manhar Dhanak	FAU	Alana Smentek	PhD
46	Isaac Elishakoff	FAU	Yohann Miglis	MS
47	George Frisk	FAU	Ryan Rundle	MS
48	Chaoki Ghenai	FAU	Benjamin Garry Oliver	MS
49	Stewart Glegg	FAU	Julian Guerra	MS
50	Stewart Glegg	FAU	Renee Christina Lippert	MS
51	Hari Kalva	FAU	Sagar Aghera	MS
52	Hari Kalva	FAU	Rafael Giusti	MS
53	Hari Kalva	FAU	Asif Rahman	MS
54	Hari Kalva	FAU	Waazim Reza	MS
55	Hari Kalva	FAU	Reena Ursula Friedel	MS
56	Taghi Khoshgoftaar	FAU	Janell Duhaney	PhD
57	Taghi Khoshgoftaar	FAU	Randall Wald	PhD
58	Hassan Mahfuz	FAU	Mohammad Wasim Akram	MS
59	Hassan Mahfuz	FAU	Fang Zhou	PhD
60	Chi-Tay Tsai	FAU	Quingde Chen	PhD

61	Chi-Tay Tsai	FAU	Jorge Joaquin Perez, Jr	MS
62	Jim VanZwieten	FAU	Aaron Donnelly Fisher	MS
63	Jim VanZwieten	FAU	Andrew Krupski	MS
64	Jim VanZwieten	FAU	James Lovenbury	MS
65	Jim VanZwieten	FAU	Lynn Rauchenstein	MS
66	Jim VanZwieten	FAU	Michael Seibert	MS
67	Jim VanZwieten	FAU	Basil Lee Hacker, Jr	MS
68	Jim VanZwieten	FAU	Allison Cribbs	MS
69	Jim VanZwieten	FAU	Matthew Young	MS
70	Karl VonEllenrieder	FAU	William Valentine	MS
71	Jeanette Wyneken	FAU	Erin McMichael	PhD
72	Zhuang/Erdol	FAU	Savaskan Bulek	PhD
73	Zhuang/Erdol	FAU	Ryan Thew	MS
74	Zhuang/Erdol	FAU	Mahdi Esfahanian	PhD
75	Zhuang/Erdol	FAU	Ricardo Castellanos Jimenez	MS
76	Anjane'yulu' Krothapalli	FSU	Akintunde Badaru	MS
77	Anjane'yulu' Krothapalli	FSU	John Dascomb	PhD
78	Anjane'yulu' Krothapalli	FSU	John Dascomb	MS
79	Anjane'yulu' Krothapalli	FSU	Jonathan Pandolfini	MS
80	Anjane'yulu' Krothapalli	FSU	Justin Kramer	MS
81	Anjane'yulu' Krothapalli	FSU	Malikarun Bhadrashetti	Ph.D.
82	Anjane'yulu' Krothapalli	FSU	Michael Gnos	MS
83	Anjane'yulu' Krothapalli	FSU	Shannon Ingersoll	MS
84	Anjane'yulu' Krothapalli	FSU	Ifegwu Eziyi	PhD
85	Anjane'yulu' Krothapalli	FSU	Jon Pandolfini	PhD
86	Chan Hilton	FSU	Andres Lastra	MS Civil Eng./Sc. Comp.
87	Chan Hilton	FSU	Chandra McGee	PhD Civil Eng.
88	Chan Hilton	FSU	Gustavo Munoz	BS Civil Eng.
89	Chan Hilton	FSU	Sandip Patil	PhD Civil Eng.
90	David Cartes	FSU	Akintunde Badaru	MS
91	David Cartes	FSU	Gina Teofilak	Undergraduate

92	David Cartes	FSU	Il Yop (David) Chung	Post-Doc
93	David Cartes	FSU	Passinam Tatcho	MS
94	David Cartes	FSU	Siyu Leng	Ph.D.
95	J.B. Ruhl	FSU	Andrew Fier	JD, Law
96	J.B. Ruhl	FSU	Sarah Berner	JD, Law
97	Joel Kostka	FSU	Claire Smith	PhD, Oceanography
98	Joel Kostka	UGA	Juergen Wiegel	Post-Doc
99	Joel Kostka	FSU	Kristina Welch	MS, Oceanography
100	Joel Kostka	FSU	Om Prakash	Post-Doc
101	Joseph Cronin	FSU	Ed Ramirez	PhD
102	Joseph Cronin	FSU	Jacqui Bybee	PhD
103	Joseph Cronin	FSU	Jeremy Wolter	PhD
104	Joseph Cronin	FSU	Mark Gleim	PhD
105	Joseph Cronin	FSU	Stephanie Lawson	PhD
106	Juan "J.C." Ordonez	FSU	Quinn Straub	MS, Mech. Eng.
107	Juan "J.C." Ordonez	FSU	Tom Tracy	MS, Mech. Eng.
108	Paul Ruscher	FSU	Timothy Sliwinski	BS, Meteorology
109	Paul Ward	FSU	Avner Dachoach	PhD, Psychology
110	Paul Ward	FSU	Guler Arsal	PhD, Educational Psychology
111	Paul Ward	FSU	Jackie Kott	PhD, Psychology
112	Paul Ward	FSU	Jarrett Evans	PhD, Psychology
113	Paul Ward	FSU	Jason Torof	Post-Doc, Psychology
114	Paul Ward	FSU	Katerina Kudlockova	PhD, Ed. Psychology
115	Paul Ward	FSU	Michael Marshall	Undergraduate
116	Paul Ward	FSU	Stephanie Robertson	PhD, Ed. Psychology
117	Philip Steinberg	FSU	Adam Keul	Ph.D.
118	R. Mark Issac	FSU	Sean Collins	PhD, Economics
119	Richard Feiock	FSU	Charles Andrews	MPA
120	Richard Feiock	FSU	Ha	PhD
121	Richard Feiock	FSU	Ha	PhD
122	Richard Feiock	FSU	Hyunsang Ha	Ph.D.
123	Richard Feiock	FSU	In Won Lee	Post Doc

124	Richard Feiock	FSU	Jongsun Park	PhD
125	Richard Feiock	FSU	Anthony Kassekert	PhD
126	Richard Feiock	FSU	Kristen Holder	undergraduate
127	Richard Feiock	FSU	Lee	PhD
128	Richard Feiock	FSU	Mary Jo Spector	MS
129	Richard Feiock	FSU	Rizalino Cruz	Ph.D.
130	Richard Feiock	FSU	Sang Chul Park	Ph.D.
131	Richard Feiock	FSU	Steve Traylor	Undergraduate
132	Richard Feiock	FSU	Hongtao Yi	PhD
133	Shawn R. Smith	FSU	Cristina Collier	BS, Meteorology
134	Steinar Dale	FSU	Harsha Ravindra	MS, Mechanical Eng.
135	Steinar Dale	FSU	Thamer Alquthami	MS, Mech. Eng.
136	Svetlana Pevnitskaya	FSU	Matthew Cutillo	PhD, Economics
137	Svetlana Pevnitskaya	FSU	Sean Collins	PhD, Economics
138	Tingting Zhao	FSU	John Sulik	Ph.D.
139	Tingting Zhao	FSU	Tim Kelleher	PhD
140	U. Meyer-Baese	FSU	Bhattacharya	PhD
141	U. Meyer-Baese	FSU	J. Xu	PhD
142	Uma Outka	FSU	Andrew Fier	Law
143	Uma Outka	FSU	Sarah Berner	Law
144	Robert M. Reedy	UCF/FSEC	Hubert Seigneur	Post-Doc
145	Nicoleta Sorloaica-Hickman	UCF/FSEC	K Shivitranuruk	Post-Doc
146	Ali T. Raissi	UCF/FSEC	Amit Gujar	Post-Doc
147	Nicoleta Sorloaica-Hickman	UCF/FSEC	Amare Benor-Belay	Post-Doc
148	Nicoleta Sorloaica-Hickman	UCF/FSEC	Kris David	Ph.D.
149	Nicoleta Sorloaica-Hickman	UCF/FSEC	Wei Zhou	Post-Doc
150	Darlene Slattery	UCF/FSEC	Benjamin Pearman	Ph.D.
151	Neelkanth Dhere	UCF/FSEC	Ashwani Kaul	Ph.D.
152	Neelkanth Dhere	UCF/FSEC	Eric Schneller	MS
153	Neelkanth Dhere	UCF/FSEC	Narendra Shiradkar	Ph.D.
154	Neelkanth Dhere	UCF/FSEC	Sagarnil Das	Ph.D.
155	Neelkanth Dhere	UCF/FSEC	Shirish Pethe	Ph.D.
156	Zhihui Qu	UCF	Carlos Velez	MS

157	J. Shen	UCF	Kejiu Zhang	Ph.D.
158	J. Shen	UCF	Souhaib Harb	Ph.D.
159	J. Shen	UCF	Lin Chen	Ph.D.
160	J. Shen	UCF	Karthik Padmanabhan	Ph.D.
161	J. Shen	UCF	Xiang Fang	Ph.D.
162	J. Shen	UCF	Ala Alsaeed	Ph.D.
163	J. Shen	UCF	Ross Kerley	Ph.D.
164	J. Shen	UCF	Chris Hamilton	MS
165	J. Shen	UCF	H. Hu	Ph.D.
166	Franky So	UF	Fred Steffy	PhD
167	Franky So	UF	Jeg Subbiah	post-doc
168	Gary Peter	UF	Patricio Munoz	Ph.D.
169	Gary Peter	UF	Alejandro Riveros Walker	Ph.D.
170	Gary Peter	UF	Jianxing Zhang	Ph.D.
171	Gijs Bosman	UF	Yige Hu	PhD
172	Gabriel Ghita	UF	S. Brown	BS
173	Gabriel Ghita	UF	G. Fekete	BS
174	Gabriel Ghita	UF	A. Holcomb	BS
175	Gabriel Ghita	UF	D. Lago (BS)	BS
176	Gabriel Ghita	UF	M. Marzano	MS
177	Gabriel Ghita	UF	J. Musgrave	MS
178	Gabriel Ghita	UF	J. Lewis	MS
179	Gabriel Ghita	UF	G. Bickford	MS
180	Hahn, Klausner	UF	Richard Stehle	Ph.D.
181	Hahn, Klausner	UF	Michael Bobek	Ph.D.
182	Hahn, Klausner	UF	Kyle Allen	Ph.D.
183	Hahn, Klausner	UF	Like Li	Ph.D.
184	James Klausner	UF	Fadi Alnaimat	Ph.D.
185	Helena Weaver	UF	Justin Dodson	Ph.D.
186	Jacob N. Chung	UF	Elango Balu	Ph.D.
187	Jacob N. Chung	UF	Sada Sekar Gopan	M.S.
188	James Heaney	UF	Ken Friedman	ME/PhD
189	James Heaney	UF	Miguel Morales	ME/PhD
190	James Heaney	UF	John McCary	PhD

191	James Heaney	UF	Joong Lee	Post Doc
192	James Heaney	UF	James Green	MS
193	Jenshan Lin	UF	Te-Yu Kao	PhD
194	Jenshan Lin	UF	Jaime Garnica	PhD
195	Jenshan Lin	UF	Xiaogang Yu	PhD
196	Jenshan Lin	UF	Gabriel Reyes	MS
197	Jiangeng Xue	UF	Ying Zheng	Ph.D.
198	Jiangeng Xue	UF	Yixing Yang	Ph.D.
199	Jiangeng Xue	UF	Zhifeng Li	M.S.
200	Joao Vendramini	UF	Andre Aguiar	PhD
201	John Erickson	UF	Kenneth Woodard	Postdoc
202	John Erickson	UF	Jeffrey Fedenko	MS
203	John Erickson	UF	Arkorn Soikew	MS
204	Jon Steward	UF	Bradford Sullivan	Post Doc
205	Jon Steward	UF	Filip Boratynski	Post Doc
206	K. T. Shanmugam	UF	Yue Su	Ph. D.
207	K. T. Shanmugam	UF	Brelan Moritz	Ph. D.
208	K. T. Shanmugam	UF	Deepika Awasthi	Ph.D.
209	K. T. Shanmugam	UF	Mun Su Rhee	Post-doc
210	K. T. Shanmugam	UF	Qingzhao Wang	Post-doc
211	Kevin Jones	UF	Nikolas Vito	Ph.D.
212	Lynn Sollenberger	UF	Miguel Castillo	PhD
213	Lynn Sollenberger	UF	Chae-In Na	Ph.D.
214	Lynn Sollenberger	UF	Kesi Liu	Ph.D.
215	Lynn Sollenberger	UF	Kim Cline	Ph.D.
216	Lynn Sollenberger	UF	Daniel Pereira	M.S.
217	Lynn Sollenberger	UF	Nick Krueger	M.S.
218	Lynn Sollenberger	UF	Kesi Liu	Postdoc
219	Matias Kirst	UF	Juan Acosta	Ph.D.
220	Matias Kirst	UF	Marcio Resende	Ph.D.
221	Mark Jamison	UF	Colin Knapp	Post-doc
222	Panos Pardalos	UF	Neng Fan	PhD
223	Pratap Pullammanappallil	UF	Diane Chaulic	PhD
224	P Pulammanappallil	UF	Abhay Koppar	PhD

225	Pratap Pullammanappallil	UF	Sachin Gadekar	PhD
226	Pratap Pullammanappallil	UF	Robert Diltz	PhD
227	Pratap Pullammanappallil	UF	Zhuoli Tian	PhD
228	Pratap Pullammanappallil	UF	David Palubin	PhD
229	Pratap Pullammanappallil	UF	Patrick Dube	PhD
230	Pratap Pullammanappallil	UF	Abhishek Dhoble	MS
231	Pratap Pullammanappallil	UF	Samriddhi Buxy	MS
232	Pratap Pullammanappallil	UF	Douglas Renk	MS
233	Pratap Pullammanappallil	UF	Mandu Inyang	MS
234	Pratap Pullammanappallil	UF	Cesar Moreira	MS
235	Robert Gilbert	UF	Pedro Korndorfer	MS
236	Robert Gilbert	UF	Jim Shine	PhD
237	Sabine Grunwald	UF	Gustavo Vasques	Post-Doc
238	Shirley Meng	UF	Chris Fell	Ph.D.
239	Shirley Meng	UF	Alex Emly	Undergrad
240	Shirley Meng	UF	Thomas McGilvray	Undergrad
241	Shriley Meng	UF	Ming-Che Yang	Ph.D.
242	Tim Anderson	UF	Vaibhav Chaudhari	Ph.D.
243	Tim Anderson	UF	Rangarajan Krishnan	Ph.D.
244	Tim Anderson	UF	Albert B. Hicks	Ph.D.
245	Tim Anderson	UF	Christopher Muzzillo	Ph.D.
246	Tim Anderson	UF	David Wood	Ph.D.
247	Tim Anderson	UF	Michael Hague	Ph.D.
248	Tim Anderson	UF	Seo Young Kim	Ph.D.
249	Tim Anderson	UF	Joseph C. Revelli	Ph.D.
250	William E. Lear Jr.	UF	Minki Kim	M.S.
251	William E. Lear Jr.	UF	Kurt Schulze	Ph.D.
252	Helena Weaver	UF	Justin Dodson	MS
253	Babu Joseph	USF	Nianthrini Balakrishnan	Ph.D.
254	Babu Joseph	USF	Bijith Mankidy	Ph.D.
255	Babu Joseph	USF	Ali Gardezi	MS and Ph.D.
256	Babu Joseph	USF	Chi Ta (partially)	Ph.D.

257	Babu Joseph	USF	Sandra Pettit (partially)	Ph.D.
258	Babu Joseph	USF	Matt Wetherington	BS
259	Babu Joseph	USF	Lucky Landgren	BS
260	Don Morel	USF	Ryan Anders	PhD
261	Don Morel	USF	Sree Satya Kanth Benapudi	MS
262	Don Morel	USF	Keshavanand Jayadevan	MS
263	Don Morel	USF	Y. Wang	PhD
264	Jeffrey Cunningham	USF	Shadab Anwar	Post-doc
265	Jeffrey Cunningham	USF	Saeb Besarati	PhD
266	Jeffrey Cunningham	USF	Arlin Briley	MS
267	Jeffrey Cunningham	USF	Tina Roberts-Ashby	PhD
268	Jeffrey Cunningham	USF	Mark Thomas	MS
269	Shekhar Bhansali	USF	Rudran Ratnadurai	Ph.D
270	Shekhar Bhansali	USF	Michael Celestin	Ph.D.
271	Shekhar Bhansali	USF	Samantha Wijewardane	Ph.D.
272	Shekhar Bhansali	USF	Justin Boone	Ph.D.
273	Stanley Russell	USF	Mario Rodriguez	MS
274	Stanley Russell	USF	Jon Brannon	MS
275	Tapas Das	USF	Patricio Rocha	Ph.D.
276	Tapas Das	USF	Ehsan Salimi	Ph.D.
277	Yogi Goswami	USF	Chen, Huijuan	Ph.D.
278	Yogi Goswami	USF	Li, Chennan	Ph.D.
279	Yogi Goswami	USF	Demirkaya, Gokmen	Ph.D.
280	Yogi Goswami	USF	Saeb Besarati	Ph.D.
281	Yogi Goswami	USF	Trahan, Jamie	Ph.D.
282	Yogi Goswami	USF	Zhang, Yangyang	Ph.D.
283	Yogi Goswami	USF	Vasquez padilla , Ricardo	Ph.D.
284	Yogi Goswami	USF	O. Kofi Dalrymple	Ph.D.
285	Zhixin Miao	USF	Lakshan Piyasinghe	Ph.D.
286	Lingling Fan	USF	Ling Xu	Ph.D.

9. Students Graduated – For FESC Faculty

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

#	Faculty	University	Student Name	MS/PhD/Post -Doc
1		FAMU	Delonia Wiggins, Physics	Ph.D.
2	Bassem Alhalabi	FAU	Lad Valbav	MS
3	Madasamy Arockiasamy	FAU	Shaun Hurley	MS
4	Madasamy Arockiasamy	FAU	Junior Senat	MS
5	Judith Benson/Advisor	FAU	Elizabeth Wojitesek	MS
6	Manhar Dhanak	FAU	Dimitirios Psarrou	MS
7	Stewart Glegg	FAU	Julian Guerra	MS
8	Hari Kalva	FAU	Waazem Reza	MS
9	Hassan Mahfuz	FAU	Mohammad Akram	MS
10	James VanZwieten	FAU	Aaron D. Fisher	MS
11	James VanZwieten	FAU	Allison R. Cribbs	MS
12	James VanZwieten	FAU	Michael G. Seibert	MS
13	Zhuang/Erdol	FAU	Savaskan Bulek	PhD
14	Ogni Englander	FSU	Valencia Witherspoon	BS Chemical Eng.
15	Ogni Englander	FSU	Nicola Kissoon	MS
16	Meyer-Baese, U.	FSU	Jinglin Xu	PhD
17	Darlene Slattery	UCF/FSEC	Stephen Rhoden	Ph.D.
18	Neelkanth Dhere	UCF/FSEC	Shirish Pethe	Ph.D.
19	James Klausner	UF	Fadi Alnaimat	PhD
20	Jenshan Lin	UF	Gabriel Reyes	MS
21	John Erickson	UF	Jeffrey Fedenko	M.S.
22	John Erickson	UF	Maninderpal Singh	Ph.D.
23	Lynn Sollenberger	UF	Daniel Pereira	M.S.
24	Panos Pardalos	UF	Neng Fan	PhD
25	Panos Pardalos	UF	Steffen Rebennack	PhD
26	Robert Gilbert	UF	Pedro Korndorfer	M.S.
27	S. Russell	USF	Mario Rodriguez	MS
28	S. Russell	USF	Jon Brannon	MS
29	Don Morel	USF	Keshavanand Jayadevan	MS
30	Don Morel	USF	Sree Satya Kanth Benapudi	MS
31	M Stewart	USF	Tina Roberts-Ashby	PhD
32	J Cunningham	USF	Mark Thomas	MS
33	B. Joseph	USF	Matt Wetherington	BS
34	Yogi Goswami	USF	Chen, Huijuan	Ph.D.
35	Yogi Goswami	USF	Demirkaya, Gokmen	Ph.D.
36	Yogi Goswami	USF	Vasquez padilla , Ricardo	Ph.D.
37	Yogi Goswami	USF	O. Kofi Dalrymple	Ph.D.

Total: 37 (Master: 21, PhD: 14, BS: 2)

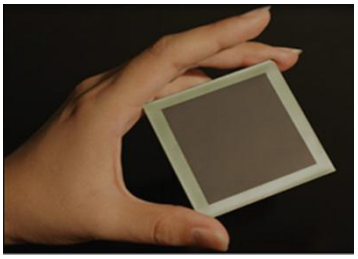
10. Business Start-Ups in Florida for All SUS Faculty

During Oct. 1, 2008 to Sep 30, 2011 Period (Back to top)

#	Faculty Involved	University	Name of Business	Specialty	Location	Date Start Up
1	Jim Zheng	FSU	Bing Energy	Fuel Cells	Tallahassee FL	10/2010
2	Ali T-Raissi	UCF	Energy Ltd, Rutherford Appleton Lab	Smart Hydrogen Sensing Tape	Oxfordshire, UK	1/2010
3	Don Rockwood	UF	Florida FGT, LLC	Energy Crops	Gainesville, FL	2/2010
4	*	*	OsComp Systems Inc.	Next Generation Compressors	Cambridge, MA	8/2010
5	Oscar Crisalle	UF	RedOx Fuel Cells, Inc.	Fuel Cells	Gainesville, FL	5/2010
6		UF	Apollidon, Inc	Distance Education	Oldsmar, FL	5/2010
7	Paul Hollaway	UF	NanoPhotonica, Inc.	Next Generation Optoelectronic Devices	Longwood, FL	4/2010
8	Eric Wachsman	UF	Emerald Endeavors, Inc.	Energy Efficiency - Turbines	Tampa, FL	11/2009
9	Stephen A. Miller	UF	Florida Sustainables	Chemicals from Biomass	Gainesville, FL	2010
10	Ashok Kumar	UF	SimuGrid LLC	Software for Engineering Analysis	Gainesville, FL	2010

***** *Confidentiality was requested*

Bing Energy

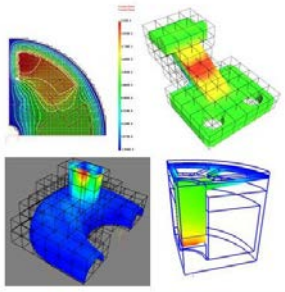


RedOx Fuel Cells

FL FGT: Energy Crops

Florida Sustainables™
From Biomass to Biodegradable Plastics

SimuGrid



11. Specialized Industry Training and Education for FESC Faculty (Outreach Activities)

During Oct. 1, 2010 to Sep 30, 2011 Period (Back to top)

#	University	Description (Event Name, Faculty, Location, Date)
1	FAU	Six high school teacher training workshops based on the SNMREC curriculum. *Energy from Ocean Currents: the New Renewable* is an ocean-energy curriculum developed for 11th and 12th grade students. Engaged over 70 teachers from Dade County to St Lucie County.
2	UCF	PV Train-the-Trainer , John Harrison, Tom McHaffie, and Donard Metzger, October 25-28, 2010. 22 community college faculty trained.
3	UCF	Solar Water Heating and Cooling Train-the-Trainer , John Harrison and Donard Metzger, November 8-10, 2010. 14 community college faculty trained
4	UCF	PV Technical Sales and Business Operations, Tom McHaffie January 12-13, 2011. 9 community college faculty trained.
5	UCF	PV Train-the-Trainer , John Harrison, Tom McHaffie, and Donard Metzger, February 7-11, 2011. 5 community college faculty trained.
6	UCF	Solar Water Heating and Cooling Train-the-Trainer , John Harrison and Donard Metzger, March 22-24, 2011. 22 community college faculty trained.
7	UCF	PV Train-the-Trainer , John Harrison, Tom McHaffie, and Donard Metzger, on June 6-10, 2011. 26 community college faculty trained.
8	UCF	PV Technical Sales and Business Operations, Tom McHaffie, , June 21-22, 2011. 24 community college faculty trained.
9	UCF	PV Technical Sales and Business Operations, Tom McHaffie, July 12-13, 2011. 11 community college faculty trained.
10	UF	Short course for Korean students, August 2011, Yige Hu and Gijs Bosman
11	UF	Organized conference (Organizer Panos Pardalos) **Systems and Optimization Aspects of Smart Grid Challenges** April 28-30, 2011 Gainesville, Florida, USA
12	UF/IFAS Extension/PREC	"Greenhouse Gas Reduction and Energy Conservation: Comprehensive Planning Under Florida's HB 697" continuing education for building professionals and local government planners; Pierce Jones, Gene Boles, Hal Knowles, industry speakers-Paul D'Arelli, Dennis Gilkey, Ujjval Vyas; Lee County Extension, Ft. Myers, FL; 10/12/2010, 26 participants.
13	UF/IFAS Extension/PREC	"Energy Efficient Building Construction in FL" continuing education for building professionals; Craig Miller, J.P. Gellerman; Escambia County Extension, Cantonment, FL, 7/12/2011, 22 participants / Liberty County Extension, Bristol, FL, 7/14/11, 8 participants / Osceola County Extension, Kissimmee, FL, 8/17/11, 65 participants / Wakulla County Extension, Crawfordville, FL, 8/22/11, 14 participants.
14	UF/IFAS Extension/PREC	"Remodel Green & Profit" continuing education for building professionals; Craig Miller; Pinellas County Extension, Largo, FL, 5/26/2011, 8 participants / Sarasota County Extension, Sarasota, FL, 6/14/2011, 12 participants.
15	UF/IFAS Extension/PREC	Weatherization Training for contractors, HVAC technicians and energy raters; "Level I Residential Weatherization Technician Introduction/Overview", Perry Institute for Construction at Santa Fe College, Gainesville, FL, April 26 thru April 29, 2011, and May 2 thru May 6, 2011, 18 participants. "Level II: Residential Weatherization Technician: Hot Humid Endorsement", Perry Institute for Construction at Santa Fe College, Gainesville, FL, June 22 thru June 24, 2011, 21 participants.

16	UF/IFAS Extension/PREC	"Residential Green Advantage®" continuing education and professional certification program for building professionals; Craig Miller; South Florida Community College, Avon Park, FL, 8/23/2011, 12 participants.
17	UF/IFAS Extension/PREC	"Community Planning Act: Challenges and Opportunities for Local Government in FL – Webinar" jointly hosted by Program for Resource Efficient Communities and the College of Design, Construction and Planning in partnership with Florida Association of Counties and APA Florida. Webinar designed for elected and appointed planning officials and professional staff responsible for planning and growth and associated energy issues; Genes Boles, Dawn Jourdan, UF / Tom Beck, DCA; 8/31/2011 – 100 participants
18	UF/IFAS Extension/PREC	Public/Homeowner Education, "Energy Efficient Home Series"; Craig Miller, J.P. Gellerman; Sarasota County Extension, Sarasota, FL, 4/13/2011, 30 participants / Sarasota County Extension, Sarasota, FL, 6/14/2011, 45 participants.
19	UF/IFAS Extension/PREC	Public/Homeowner Education, "Saving Money on Your Electric Bill" / Eleanor Foerste; Osceola County Extension, Kissimmee, FL, 15 programs delivered from 10/20/2010 thru 9/14/2011 with a total of 115 participants.

APPENDIX C – FUNDING OPPORTUNITIES SENT TO FESC FACULTY DURING THE REPORTING PERIOD

	Competitive Funding Opportunities				
#	Title	Call #	Agency	Funding	Due Date
1	ACS Petroleum Research Fund Grant Programs		ACS		
2	Research Interests of the Air Force Office of Scientific Research	BAA-AFOSR-2011-01	AFOSR	$150,000	Open
3	Agriculture and Food Research Initiative Competitive Grants Program		AFRI		
4	Associated Gas Distributors of Florida		Associated Gas Distributors of FL	Variable	4/24/2011
5	Basic and Applied Scientific Research for Fiscal Years 2011- 2016	W15QKN-11-R-D002	BAA		7/31/2016
6	Broad Agency Announcement (BAA) FY 2010 Emergent Research and Development Requirements	BAA0003-10	BAA	NA	4/12/2011
7	BIRD Energy for US-Israel Joint Renewable Energy Developments		BIRD Foundation	$1M	6/30/2011
8	FY 2011 Environmental Studies Program	M11AS00001	Bureau of Ocean Energy Manag. Regulation, and Enforcement	$1.9M	4/15/2011
9	Microscale Power Conversion (MPC)	DARPA BAA-11-33	DARPA		6/10/2011
10	Broad Agency Announcement - Deployed Energy Storage Strategic Technology Office (STO)	DARPA-BAA-11-53	DARPA	Variable	6/6/2011
11	Defense Sciences Research and Technology	DARPA-BAA-10-55	DARPA	Flexible	5/5/2011
12	Computer Science Study Group	DARPA-RA-09-049	DARPA		
13	Trade Adjustment Assistance Community College and Career Training Grants SGA Available		Department of Labor	5M to $20M	4/21/2011
14	Research and Development Solicitation	N0017810Q3903	Dept. of Navy/Naval Sea Systems Command		9/30/2010
15	Energy and Climate Partnership of the Americas Projects in Select Countries	WHA-10-ECPA-060311-1	Dept. of State	Topic 1: $1M: topic 2 $3.5M; topic 3 $1M	7/1/2011
16	Department of Defense Multidisciplinary University Research Initiative	ONR BAA-11-026	DOD		11/10/2011
17	SBIR 2011	DODSBIR2011_1	DOD	$100,000	1/12/2011

18	Scientific Discovery through Advanced Computing: Scientific Computation Application Partnerships in Earth System Science	DE-FOA-0000588	DOE	Variable	10/5/2011
19	Scientific Discovery through Advanced Computing: Scientific Computation Application Partnership in Materials and Chemical Sciences	DE-FOA-0000593	DOE	$6M	10/9/2011
20	Scientific Discovery through Advanced Computing: Nuclear Physics	DE-FOA-0000581	DOE		1/5/2012
21	Scientific Discovery through Advanced Computing: Computational High Energy Physics	DE-FOA-0000580	DOE		1/9/2012
22	Scientific Discovery through Advanced Computing Institutes: Scientific Data Management, Analysis and Visualization	DE-FOA-0000589	DOE	$150k- $1M	11/9/2011
23	FY 2011 Continuation of Solicitation for the Office of Science Financial Assistance Program	DE-FOA-0000600	DOE		9/30/2012
24	FY 2012 Research Opportunities in High Energy Physic	DE-FOA-0000573	DOE		11/15/2011
25	Solid-State Lighting Product Development and Core Technologies- Round 8	DE-FOA-0000563, DE-FOA-0000564	DOE		11/3/2011
26	SBIR/STTR FY 2012 Phase I (Release 1)	DE-FOA-0000577	DOE	$150k	9/18/2011
27	Scientific Discovery through Advanced Computing: Scientific Computation Application Partnerships in Fusion Energy Science	DE-FOA-0000571	DOE		10/26/2011
28	National Spherical Torus Experiment: Diagnostic Measurements of Spherical Torus Plasmas	DE-FOA-0000576	DOE	$100k- $375k/yr.	10/18/2011
29	Department of Energy Announces Funding for Nationwide Student- Focucsed Clean Energy Business Competitions	DE-FOA-0000570	DOE	$360k- $432k	8/22/2011
30	Solar Agile Delivery of Electrical Power Technology (Solar ADEPT)	DE-FOA-0000474	DOE	$5M	TBD
31	Rare Earth Alternatives in Critical Technologies for Energy (REACT)	DE-FOA-0000472	DOE	$10M	TBD
32	High Energy Advanced Thermal Storage (HEATS)	DE-FOA-0000471	DOE	$10M	TBD
33	Plants Engineered to Replace Oil (PETRO)	DE-FOA-0000470	DOE	$15M	TBD
34	Nuclear Energy University Programs – Fellowship and Scholarship	DE-FOA-0000304	DOE	$50,000/yr up to 3 years	3/2/2011
35	Radioisotope Generator	IPID_16393	DOE	NA	12/5/2011
36	Biomass Research and Development Initiative	DE-FOA-0000510	DOE	$7M	10/4/2011

37	Testbed Environment for Space Situational Awareness (TESSA)		DOE		9/23/2011
38	Terrestrial Ecosystem Science	DE-FOA-0000536	DOE	$3M	9/12/2011
39	Atmospheric System Research	DE-FOA-0000556	DOE	$3M	9/6/2011
40	SunShot Initiative: Rooftop Solar Challenge to Induce Market Transformation	DE-FOA-0000549	DOE	$12.5M Phase 1; $25-30M Phase 2	8/31/2011
41	Innovative Manufacturing Initiative	DE-FOA-0000560	DOE	$120M	8/25/2011
42	U.S.-India Joint Clean Energy Research and Development Center	DE-FOA-0000506	DOE	$5M per year through 2016	8/16/2011
43	Geothermal Technology Advancement for Rapid Development of Resources in the US	DE-FOA-0000522	DOE	$2M - $3M	8/15/2011
44	Isotope Production (Office of Science and Office of Nuclear Physics)	DE-FOA-0000517	DOE	$1M	8/5/2011
45	Hydrolysis of Biomass Material	IPID_12740	DOE	N/A	7/22/2011
46	In-Situ Production of Microbial Pigments for Metal and Actinide Immobilization	S-106-484	DOE	N/A	7/21/2011
47	Smart Grid Capable Electric Vehicle Supply Equipment	DE-FOA-0000554	DOE	$3.4M in 2011; $8.6M	7/18/2011
48	Porous Thin Film for Analyte Pre-Concentration and Determination	IPID_16047	DOE		7/18/2011
49	Solar Energy Grid Integration Systems – Advanced Concepts	DE-FOA-0000479	DOE	Topic 1: 2-2.5M/yr; topic 2: $500k - 1M / year	6/23/2011
50	Transformational PV Science and Technology: Next Generation Photovoltaics II	DE-FOA-0000387	DOE	$750K total funding	6/23/2011
51	Foundational Program to Advance Cell Efficiency (F-PACE)	DE-FOA-0000492	DOE	Topic 1: $3M; topic 2 $4M; topic 3, $4-6M	6/23/2011
52	Experimental Program to Stimulate Competitive Research (DOE EPSCoR) Implementation Grants – DOE EPSCoR	DE-FOA-0000546	DOE	$4M	6/23/2011
53	US Offshore Wind: Technology Development	DE-FOA-0000415	DOE	$800K - $1.5M	6/17/2011
54	International Industrial Energy Efficiency Training and Deployment	DE-FOA-0000531	DOE	$1M: $600K for Task 1; $400K for Task 2	6/16/2011
55	Clean Cities Community Readiness and Planning for Plug-In Electric Vehicles and Charging Infrastructure	DE-FOA-0000451	DOE	$5M; $250K - $500K per award	6/13/2011

56	Extreme Balance of System Hardware Cost Reductions (BOS-X)	DE-FOA-0000493	DOE	$54-64M Total	6/9/2011
57	Theoretical Research in Magnetic Fusion Energy Science	DE-FOA-0000480	DOE	$3,300,000; awards per project vary	5/26/2011
58	Novel CO2 Utilization Systems, Low Rank Coal IGCC Optimization, and Improvements in Gasification Systems Availability and Costs	DE-FOA0000496	DOE	$1M-$8M	5/20/2011
59	Advanced Fossil Energy Research: Novel Developments In Sensors And Controls For Fossil Energy Power Generation And Fuel Production Technologies	DE-FOA-0000518	DOE	$1.5M	5/16/2011
60	Superior Energy Performance Program Administrator	DE-FOA-0000435	DOE	$600K - $1M	5/10/2011
61	Catalytic Upgrading of Thermochemical Intermediates to Hydrocarbons	DE-FOA-0000467	DOE	$12M; $4.5M in 2011, $7.5M in 2012-13	5/6/2011
62	Scientific Discovery through Advanced Computing Institutes	DE-FOA-0000505	DOE	$150K - >$1M	5/2/2011
63	Research and Development for Hydrogen Storage	DE-FOA-0000421	DOE	$2M - $4M	4/29/2011
64	Applications of Nuclear Science and Technology Initiative	DE-FOA-0000450	DOE	$3.5M	4/25/2011
65	Research, Development and Training in Isotope Production (LAB)	LAB-11-48	DOE		4/18/2011
66	Nuclear Energy University Programs – Reactor Upgrades	DE-FOA-0000469	DOE	up to $1.5M	4/4/2011
67	Nuclear Energy University Programs General Scientific Infrastructure Support	DE-FOA-0000481	DOE	up to $300K	4/4/2011
68	US Wind Power: Next Gen Drivetrain Development	DE-FOA-0000439	DOE	$7.5M	4/1/2011
69	Bench-Scale and Slipstream Development and Testing of Post-Combustion Carbon Dioxide Capture and Separation Technology for Application to Existing Coal-Fired Power Plants	DE-FOA-0000403	DOE	$15M	3/23/2011
70	Power Electronics Research and Development for Electric Utility Applications (GaN-Si technology)	DE-FOA-0000461	DOE	Up to $3M	3/18/2011
71	Research and Development of Fuel Cells for Stationary and Transportation Applications	DE-FOA-0000360	DOE	$1-$3M	3/3/2011
72	Deployment of Hydrogen and Fuel Cell Systems into Green Communities	020311PS	DOE		3/2/2011
73	Fuel Cell and Hydrogen Storage System Cost Analyses	DE-FOA-0000420	DOE	$2M	2/18/2011
74	Integrated Process Improvements	DE-FOA-0000337	DOE	$2M - $15M	2/7/2011

75	High Energy Density Laboratory Plasmas	DE-FOA-0000431	DOE	$50K-$1M	1/31/2011
76	$1/W PV Systems: Balance of Systems	DE-FOA-0000440	DOE	$2-$3M	1/31/2011
77	FY 2011 Vehicle Technologies Program Wide FOA	DE-FOA-0000239	DOE	10M	1/18/2011
78	Inexpensive, Environmentally Friendly and Highly Permeable Lignin-Based Ion Exchangers	FBO231-11	DOE		1/12/2011
79	Advanced Detector Research Program.	DE-FOA-0000407	DOE	$150K	12/16/2010
80	Biomass Research and Development Initiative	DE-FOA-0000341	DOE	$3M to $7M	11/15/2010
81	Support Of Advanced Fossil Resource Utilization Research By Historically Black Colleges And Universities And Other Minority Institutions (HBCUs/OMIs)	DE-FOA-0000409	DOE	$80-$200K	11/15/2010
82	Annual Phase I Small Business Innovation Research (SBIR) Small Business Technology Transfer (STTR)	DE-FOA-0000413	DOE	$100-$150k	11/15/2010
83	Green Electricity Network Integration (GENI)	DE-FOA-0000473	DOE - ARPA E	$250K - $10M	TBD
84	Energy Efficiency and Renewable Energy Science and Technology Policy Fellowships (SunShot Initiative Fellowships)		DOE/EERE/ORISE	$75k	Open
85	Small Scale Field Tests of Geologic Reservoir Classes for Geologic Storage	DE-FOA-0000441	Doe/NETL	$6M - $11.5M	4/5/2011
86	University Turbine Systems Research	DE-FOA-0000459	Doe/NETL	$500K	4/1/2011
87	i6 Green Challenge		EDA/DOC	$1M each	5/26/2011
88	Artice Black Carbon: Reduction of Black Carbon from Diesel Source	EPA-OITA-2011-005	EPA	$1M	12/5/2011
89	Environmental Impact and Mititgation of Oil Spills	EPA-G2011-STAR-F1	EPA	up to $500k	6/22/2011
90	Integrated Assessment of Transportation-related policies on greenhouse gases, land use change, and other economy-wide impacts	EPA-OAR-OTAQ-11-06	EPA	$500K	2/17/2011
91	Integrated Assessment of Greenhouse Gases and Climate Impacts	EPA-OAR-CCD-10-13	EPA	$2M; $100K-$400K/yr	1/7/1011
92	SBIR Phase I Soliciatation	SOL-NC-11-00012	EPA		5/3/2011
93	Dynamic Air Quality Management	EPA-G2011-STAR	EPA	$500K for regular and $250K for early career	4/28/2011

94	National Clean Diesel Funding Assistance Program	EPA-OAR-OTAQ-11-01	EPA	$32M; $30K-$1M	1/13/2011
95	Ecomagination Challenge		GE	$500K	9/30/2010
96	Security and Privacy Assurance (SPAR) Program	IARPA-BAA-11-01	IARPA		2/18/2011
97	Sustainable Vision Grants		NCIIA	$10K-$50K	10/15/2010
98	Fiscal Year (FY) 2011 Measurement Science and Engineering Research Grants Programs	2011-MSE-01	NIST	$10,000-$100,000	Open
99	US Nuclear Regulatory Commission, Office of Nuclear Regulatory Research Announcement of Opportunity, FY 2011-12	RGR-FN-0910-RES	NRC	$25K-$225K	10/14/2011
100	Nuclear Education Curricula Development Grant	HR-FN-0610-EDU5	NRC	$4.7M	10/1/2010
101	Sustainable Energy Pathways (SEP)	NSF 11-590	NSF	$34M, $500k/yr for up to 4/yrs	2/1/2012
102	Sustainability Research Networks Competition (SRN) Preliminary	NSF 11-574	NSF		4/1/2012
103	Fundamental Research Program for Industry/ University Cooperative Research Centers (I/UCRC)	NSF 11-570	NSF	$1.6M; $100k- $250k	2/1/2012
104	Materials World Newtwork: Cooperative Activity in Materials Research between US Investigators and their Counterparts Abroad	NSF 11-568	NSF	$4M; $200k-$700k	11/10/2011
105	Innovation Coprs Program (I-Corps)	NSF 11-560	NSF	$50k-$1.25M/	Open
106	Engineering Design and Innovation	NSF-PD-11-1464	NSF		10/1/2011
107	Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (HBCU-RISE)	NSF 11-520	NSF	. Up to $500K	4/11/2011
108	Science and Technology Centers: Integrative Partnerships	NSF 11-522	NSF	Up to $30M	2/3/2012
109	Catalyzing New International Collaborations	PD-11-508	NSF	$2M	9/1/2011
110	Research Experience for Teachers in Engineering and Computer Science	PD-11-509	NSF	$5.5M, max total $500K for 3 years	10/3/2011
111	Process and Reaction Engineering	PD-11-1403	NSF	$400K	9/15/2011
113	Particulate and Multiphase Processes	PD-11-1415	NSF	$100K/yr	9/15/2011

114	Biotechnology, Biochemical, and Biomass Engineering	PD 11-1491	NSF	$400K	9/15/2011
115	Energy for Sustainability	PD 11-7644	NSF	$100K/yr	9/15/2011
116	Catalysis and Biocatalysks	PD-11 1401	NSF	$100K/yr	9/15/2011
117	Paleo Perspectives on Climate Change (P2C2)	NSF 10-574	NSF	$10M	10/18/2012
118	Electronics, Photonics, and Magnetic Devices	PD-10-1517	NSF	$100K/yr	2/7/2011
119	Grant Opportunities for Academic Liaison with Industry (GOALI) Proposal	NSF 10-580	NSF	$5M (60- 80 awards)	
120	Sustainable Nanomanufacturing		NSF		1/10/20111
121	Emerging Frontiers in Research and Innovation 2012	NSF 11-571	NSF	$31M	3/30/2012
122	Energy for Sustainability : Biomass, PV, Wind, and Advanced Batteries for transportation	NSF PD 12-7644	NSF		2/17/2012
123	Energy, Power, and Adaptive Systems	NSF PD 10-1518	NSF		10/7/2011
124	Engineering Research Centers (ERC)	11-537	NSF	$9.75M	9/16/2011
125	Research Initiation Grants in Engineering Education	PD-11-507	NSF	$150 K	3/31/2011
126	Partnerships for Innovation (PFI)	NSF 10-581	NSF	$7M	12/4/2010
127	Research and Evaluation on Education in Science and Engineering (REESE)	NSF 10-586	NSF	$29M	11/15/2010
128	Surpassing Evolution: Transformative Approaches to Enhance the Efficiency of Photosynthesis	NSF 10-559	NSF	$6M	11/1/2010
129	Power, Controls, and Adaptive Networks (PCAN)	PD 10-1518	NSF		10/7/2010
130	Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM)	NSF 10-520	NSF	$400K	10/6/2010
131	Office of Special Programs	NSF PD 04-7222	NSF		9/30/2010
132	NSF/DOE Partnership in Basic Plasma Science and Engineering	NSF 09-596	NSF/DOE	$250K	10/7/2011
133	Renewable Sustainable Expeditionary Power	ONRBAA11-002	ONR	Phase I: $500K-$1M Phase II: $1M-1.5M	4/1/2011
134	FY 12 Communications and Networking Discovery and Invention	BAA 11-013	ONR	$300K - $500K per/yr	6/30/2011

135	Energy Efficiency and Renewable Energy Science and Technology Policy Fellowships (SunShot Initiative Fellowships)		ORISE		Open
136	Fellowships Investing in Innovative Clean Energy Technologies		ORISE	$65k/yr + $10k/yr for research	6/30/2011
137	Ultra Deep Water Requests for Proposal	RFP 2010 UDW004, RFP 2010 UDW003	Research Partnership to Secure Energy for America		6/21/2011 (004), 6/7/2011 (003)
138	Research Partnership to Secure Energy for America	RFP2010UDW001	RPSEA	$0.8M - 7.2M	6/21/2011
139	Global Research Outreach (GRO) Program		Samsung	$50K - $100K	5/28/2011
140	Assessing Opportunities for Alternative Fuel Distribution Programs	ACRP 02-36	TRB	$400K	2/2/2011
141	Recovery Act: Novel Materials and Device Development for High Efficiency Solar Photovoltaics	W911NF-07-R-0001-03-ARRA	US ARMY	$50K-$200K	9/1/2011
142	Pre-proposal solicitation for Desalinization and Water Purification R&D	R11SF80382	US Department of the Interior	Up to $1M	3/28/2011
143	Energy Conservation for the US Navy	N0016711BAA01	US Dept of Navy		10/31/2012
144	FY 2010 Continuation of Solicitation for the Office of Science Financial Assistance Program	DE-FOA-0000178	US DOE/NETL	$400M	9/30/2010
145	FY 2010 Annual Notice: Submission of Renewal and Supplemental Applications for Office of Science Grants and Cooperative Agreements	DE-FOA-0000179	US DOE/NETL		9/30/2010
146	Use of Microalgae Feedstocks in the Joint Development and Validation of a Novel Algal Lipids Extraction Technology	USAFA-BAA-2009-1	USAFA		30 days after formal RFP
147	Higher Education Multicultural Scholars Program Funding Opportunity (MSP)		USDA	$1.1M	8/22/2011
148	Ultrafiltration Equipment for Purifying and Concentrating Aqueous Suspensions of Nanocellulosic Materials		USDA	N/A	8/2/2011
149	Conservative Innovation Grants Greenhouse Gas Announcement for funding		USDA	$5M	2/11/2011
150	Plant Feedstock Genomics for Bioenergy: USDA, DOE	DE-FOA-0000417	USDA/DOE	$6M: $2-$5M	2/25/2011
151	Green Building Design: Water Quality and Utility Management Considerations	RFP 4383	Water Research Foundation	$275K max	6/10/2011
152	Challenge Projects on Low Energy Treatment Schemes for Water Reuse, Ph I	WateReuse-10-06	WateRuse Research Foundation	$25K	5/5/2011
153	ORNL Center for Nanophase Materials Sciences: High Impact Nanoscience Research	Oak Ridge National Laboratory	ORNL		10/19/2011

154	Los alamos and Sandia National Laboratories, Center for Integrated Nanotechnologies (CINT)		NL		9/30/2011
155	Oak Ridge National Laboratory -Neutron Sciences	20212- A, 2012-B	ORNL		9/7/11 (A), 2/22/12 (B)
156	Emerging Energy- Reducing Technologies for Desalination Applications	WateRuse 11-04	WateReuse Association	$300k	9/20/2011
157	Gulf of Mexico Research Initiative	RFP-I	BP	$100k- $1M	7/11/2011
158	Multicultural Scholars Program			$1M	8/22/2011
159	US Offshore Wind: Removing Market Barriers	DE-FOA-0000414	US DOE		5/13/2011
160	Research Conference Grant and Cooperative Agreement Program	CGR-FN-0110-RES	US Nuclear Regulatory Commission		6/30/2011