

Solar Energy Society @ USF Seminars



Solar Energy Society and attendees after Dr. Lingling Fan's lecture on Nov. 21, 2025

By Stephanie Washington

The Solar Energy Society at USF had 3 seminar sessions over the Summer and Fall this year. The seminars featured Dr. Pradeep Halder, Dr. Ahmad Vassel-

Be-Hagh, and Dr. Lingling Fan.

The first took place on Oct. 3rd where Dr. Pradeep Halder presented his lecture titled *Solar Energy at the Crossroads of Policy,*

Finance, and ESG. Dr. Halder is the Director of Sustainable Business, and Courtesy and Adjunct Professor at the Patel College of Global Sustainability. He is

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Dr. Lingling Fan Receives Awards for Work in Clean Energy

By Stephanie Washington

In June of 2025, CERC Affiliate Faculty member Dr. Lingling Fan, Professor in Electrical Engineering, was awarded the 2025 IEEE PES Wanda Reder Pioneer in Power Award. This award is presented by the Institute of Electrical and Electronics

Engineers (IEEE) Power & Energy Society (PES). The award was created in honor of Wanda Reder, the first female president of IEEE PES, known for her pioneering contributions to the power industry and advocacy for women in engineering. The award aims to recognize and empower women in the

field of engineering. Dr. Fan was chosen for this award for her "leadership in technical innovations of power grid stability analysis and dedicated services to IEEE PES publications and education" according to the IEEE.

Dr. Fan was previously a recipient of the Energy

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Special points of interest:

- Dr. Fan Wins Electrical Engineering awards
- Doctoral Candidate Fernanda Pimenta
- CERC visitors

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president of HALOVATION a management and technology consulting company. In his lecture, Dr. Haldar discussed some of the benefits and challenges facing residential and commercial markets and utility scale solar markets such as solar farms. Some of the topics of particular interest for students were cost trends and Political Policy challenges in Florida and the US, as graduating students could be impacted by these issues. He emphasized how important it is to know policy and how it impacts the Solar Landscape, for example how tariffs affect the supply chain and the push for local manufacturing.

The next lecture was on October 31st, Dr. Ahmad Vasel-Be-Hagh gave a lecture titled



Lecture by Dr. Pradeep Haldar on Oct. 3rd, 2025 hosted by SES

Sustaining Tomorrow: Beyond CO2. Dr. Vasel-Be-Hagh is Associate Professor of Mechanical and Aerospace Engineering. He discussed details of the NASA Clean energy project called Carbonless Electric Aviation also known as CLEAN which focuses on non-CO2 solutions for aviation. One goal of CLEAN is to create a zero-emission 150 passenger aircraft by the year 2050. A key innovation of this project is use of liquid Ammonia as a fuel source. Dr. Vasel-Be-Hagh tells how the CLEAN project is developing a hybrid

electric propulsion system that integrates Solid Oxide Fuel Cells (SOFCs) with turbogenerators which are compatible with the use of liquid ammonia.

The final lecture was given on November 21st by Dr. Lingling Fan on the subject of Solar Photovoltaics. Dr. Fan is a professor in Electrical Engineering. In Dr. Fan's lecture she provided a background on the history and evolution of the Electric Power Industry. Then she discussed the modern energy industry and the state of

Solar PV, highlighting innovation and advancements and what challenges need be to addressed. One of the main challenges is how to protect the grid from burnouts.

Anyone interested in attending lectures or joining the Solar Energy Society at USF should visit their website at <https://bullsconnect.usf.edu/ses/solar-energy-society/>

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Dr. Lingling Fan Professor in Electrical Engineering at USF

Systems Integration Group (ESIG) Excellence Award in 2024. ESIG is a non-profit that unites technical experts and energy stakeholders to advance grid transformation and energy systems integration through collaboration, education, and peer networking.

Dr. Fan was awarded for "contributions to analysis of power system dynamics and system oscillations in systems with inverter-based resources". The ESIG Excellence Award aims to recognize contributions and accomplishments from energy professionals around the world.

CERC Highlights



USF PhD candidate Fernanda Pimenta

Fernanda Pimenta

USF Chemical Engineering PhD candidate Fernanda Pimenta has been recognized as an EREF Scholar (Michener Doctorial Scholar). EREF Scholarships are awarded to students who demonstrate excellence in master's and doctoral research related to solid waste. Pimenta's research involves carbon capture and biofuels, where she explores ways to capture CO₂ from municipal solid waste landfills. The intention is to capture these gases and convert them to renewable fuels. Ms. Pimenta was also the recent recipient of the John and Barbara Yellott Award for her contributions to solar energy research. This award is bestowed upon ASES members who are graduate students and are usually nominated by a professor or advisor who has knowledge of the student's work.



Dr. Eydhah Almatrafi (left) Dr. D. Yogi Goswami (right)

Eydhah Almatrafi

Dr. Almatrafi is a manager at the Saudi Arabia Research Development and Innovation Authority (RDIA) and USF Alumni with a PhD in Mechanical Engineering. He visited Dr. Goswami as an alumni of CERC. Dr. Almatrafi is a manager at RDIA and an Associate Professor at King Abdulaziz University, specializing in sustainability and solar desalination.



Dr. D. Yogi Goswami (left) Dr. Marcus Americano da Costa (right)

Marcus Americano da Costa

Dr. Americano da Costa, is a CERC alumni, and was a Visiting Professor at the then Department of Chemical and Biomedical Engineering at USF for one year (2017-2018), where he worked directly with professors Babu Joseph and Yogi Goswami in the areas of modeling, control and optimization for solar energy and biofuel processes, as well as engineering education. Dr. da Costa visited Dr. Goswami in September 2025 from the National Institute of Science and Technology in Control and Automation of Energy Processes (INCT CAPE - Brazil). He and Dr. Goswami discussed new research ideas and cooperation between the CERC and INCT CAPE institutions. Dr. da Costa was invited to join Dr. Goswami's work on the CRC Handbook of Mechanical Engineering and subsequently collaborated on the chapter on Mechanical System Controls with Brazilian professors Julio Normey Rico and Rodolfo Costa Flesch from the Federal University of Santa Catarina, and Prof. Arman Sargolzaei from the University of South Florida (USF).

Commencement News

CERC would like to congratulate Dedeepya Rimmalapudi who graduated in Fall of 2025 with a Master of Science in Chemical Engineering

CLEAN ENERGY IS GREEN ENERGY

Florida has no sustainable indigenous supply of fossil fuels but we do have solar and biomass resources. The Clean Energy Research Center (CERC) at the University of South Florida pursues research and development of new and environmentally clean energy systems. See our website for a complete listing of our research, pa-

KEY RESEARCH PROJECTS

- Environmentally clean energy systems
- Solar thermal power
- Photovoltaics
- Concentrating solar power
- Energy storage (phase change materials, thermal storage, batteries, supercapacitors)
- Photocatalytic detoxification/disinfection technologies
- Smart materials (Thermochromics and electrochromics)
- New efficient thermodynamics cycles
- Solar energy conversion via rectifying antennae
- Biomass conversion/biofuels
- Solar water desalination and distillation
- Design of solar plants on reclaimed land

CERC DIRECTOR

Dr. Yogi Goswami is a Distinguished University Professor and Director of the Clean Energy Research at USF, as well as Editor-in-Chief Emeritus of the *Solar Energy* journal and Editor-in-Chief of *Solar Compass*. A member of the Florida Inventors Hall of Fame, he has more than 40 years of experience in education, research, entrepreneurship, leadership and policy development.

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CERC Founder

Dr. Elias K. Stefanakos, is a USF professor emeritus and former CERC Director. His focus was on research and development related to renewable energy sources and systems, such as concentrated solar power systems, Smart materials (thermochromics and electrochromics) and photovoltaic energy.

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TECO Clean Energy Research Center



AT THE UNIVERSITY OF SOUTH FLORIDA



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