

# UCF TODAY

## UCF, Mitsubishi Power Elevate Partnership in National Push for Hydrogen-Based Clean Energy

by Kimberly J. Lewis

Sept. 7, 2022 – The presidents of the University of Central Florida and Mitsubishi Power will meet Sept. 8 on UCF’s main campus in Orlando, alongside representatives from government, industry, and academia, to address the role of hydrogen in the nation’s push to achieve net-zero carbon emissions and elevate a longstanding partnership between the two organizations.

In the forum, [Hydrogen: The Time is Now](#), UCF President Alexander N. Cartwright and Mitsubishi Power Americas President and CEO Bill Newsom will discuss collaborative opportunities to achieve net zero by 2050. Keynote speaker Jennifer Wilcox, the U.S. Department of Energy’s Office of Fossil Fuels and Carbon Management principal deputy assistant secretary, will address the government’s role and recent legislative progress. Panels of experts will discuss the challenges and opportunities in creating a national hydrogen economy.

The forum comes at a critical time, as nations worldwide seek clean-energy solutions. Scientists and engineers are turning to the most abundant element, hydrogen, as a clean energy source that could produce enough energy to serve growing populations while reducing greenhouse gas emissions to “net zero” by 2050.

The power generation industry’s transition to hydrogen, which involves large-scale production, storage and distribution, is a complex challenge. Creating a hydrogen-based energy economy, according to Cartwright and Newsom, will require high-level collaborations and investments among academia, industry and government.

“UCF offers partnership opportunities through our multiple research centers that leverage faculty expertise in a variety of relevant areas — such as power generation and storage, combustion, modeling and simulation, energy grid technology, sustainability, aerospace and environmental engineering, and more,” Cartwright says. “UCF — among the nation’s largest producers of engineers and computer scientists — in partnership with Mitsubishi Power and others can play a key role in educating and training the talent pipeline required for a hydrogen-based energy economy.”

Mitsubishi Power, a global leader in power generation, has made major investments in recent years to create the infrastructure required to produce and store hydrogen, and transition existing power plants to clean hydrogen.

“We have set an ambitious goal to reach net zero across all MHI Group companies by 2040,” Newsom says. “In order to help meet this goal we are elevating our partnership with the University of Central Florida — a proven research powerhouse in the energy sector. Through this partnership, we will focus on innovation, research, and education to advance the energy transition.”

### Highlights of UCF-Mitsubishi Partnership

- UCF and Mitsubishi Power are longtime partners. Approximately a third of the company’s engineering/manufacturing workforce are UCF graduates.
- In the past 16 years, the company has provided internships for hundreds of UCF students.
- In 2012, UCF installed a Mitsubishi Power power plant on campus that in four years reduced UCF’s carbon footprint by 2,000 to 3,500 metric tons of CO<sub>2</sub> per year in carbon emissions.

*(continued)*

- In 2021, [UCF and Mitsubishi Power developed and launched a nitrogen oxide emissions tracker](#)
- Since 2021, Mitsubishi has been funding Professor Subith Vasu in UCF's Center for Advanced Turbomachinery and Energy Systems to research and experimentally quantify hydrogen ignition safety boundaries for gas turbines. This effort is also supported by additional funding from the Florida High Tech Corridor Council.
- Mitsubishi is a collaborator on an \$800,000 award to UCF from the U.S. Department of Energy, also led by Vasu. The effort focuses on [better understanding how to implement hydrogen in modern electricity-generating turbines, including exploring the best fuel blends and their combustion characteristics](#)

### **UCF's Research and Academic Centers that Can Support a National Transition to Hydrogen-Based Clean Energy**

- CATER: Center for Advanced Turbomachinery and Energy Research — led by Pegasus Professor Jayanta Kapat, UCF Department of Mechanical and Aerospace Engineering
- FSEC: Florida Solar Energy Center — led by Professor James Fenton, UCF Department of Materials Science and Engineering
- RISES: Resilient, Intelligent and Sustainable Energy Systems — led by Pegasus Professor Zhihua Qu, UCF Department of Electrical and Computer Engineering
- REACT: Renewable Energy and Chemical Transformations — led by Pegasus Professor Talat Rahman, UCF Department of Physics
- UCF School of Modeling, Simulation and Training — led by Director **Grace Bochenek '98PhD.**, former director of National Energy Technology Laboratory and former acting secretary of the U.S. Department of Energy

---

### UCF Story Shares:

**UCF Today:** 500+ views; average time on page = 3.5 minutes. Promoted on UCF Instagram and all UCF faculty/staff

LinkedIn: Assoc. Dean Ali Gordon's post: "This is how we impact" with story: 1,948 impressions, 3 shares

Twitter: Event promo on 8/31, plus retweets from School of Modeling, Simulation and Training, Capital Communications, Team Orlando News and Dr. Cartwright: 971 impressions, 33 engagements

Facebook: Event promo 8/31 + UCF Today story 9/7 = 410 reached; 7 engagements

### Media Coverage:

**Orlando Sentinel | 1,981,601 unique visitors per month**

[UCF, Mitsubishi heads join in high level forum on clean energy hydrogen](#)

Presidents of the University of Central Florida and a brand of the global giant Mitsubishi Heavy Industries of Japan will join Thursday for a high-level forum at UCF on the use of hydrogen as a means to fight climate change. The leadoff speaker is a U.S. Department of Energy acting assistant secretary.

**Yahoo News and WFTV (Orlando, FL) | 64,493,464 unique visitors per month**

[UCF and Mitsubishi Power work together for clean energy \(yahoo.com\)](#)

The University of Central Florida and representatives from Mitsubishi Power met Thursday on campus to address the role of hydrogen in clean energy. This was part of the Hydrogen: The Time is Now forum, where both presidents emphasized what needs to be done with representatives in research, industries and the government. UCF President Alexander Cartwright and Mitsubishi Power America President Bill Newsom discussed ways to achieve net zero by 2050. "UCF [is] among the nation's largest producers of engineers and computer scientists," Cartwright said. "[And] in partnership with Mitsubishi Power and others, can play a key role in educating and training the talent pipeline required for a hydrogen-based energy economy."

[UCF, Mitsubishi Power Elevate Partnership in National Push for Hydrogen-Based Clean Energy](#)

**National Cyber Security News Today | 33,848 unique visitors per month**

The presidents of the University of Central Florida and Mitsubishi Power will meet Sept. 8 on UCF's main campus in Orlando, alongside representatives from government, industry, and academia, to address the role of hydrogen in the nation's push to achieve net-zero carbon emissions and elevate a longstanding partnership between the two organizations.

**Similar Stories: Energy Central: [UCF, Mitsubishi heads join in high level forum on clean energy hydrogen](#)**

**WTKS-FM: [AUDIO: UCF, Mitsubishi discuss using hydrogen to reduce emissions](#)**