



# International Webinar on Functional Energy Materials

Clemson Nanomaterials Institute (CNI), Clemson University, USA



## Organizer

**Prof. Apparao M. Rao**

Director of CNI, and Bowen Prof. Physics,  
Dept. of Physics and Astronomy



## Chair & Co-organizer

**Dr. Dillip K. Panda**

President of Clemson University Post-  
Doctoral Association, Dept. of Chem.

## Themes:

- Artificial Photosynthesis
- 2D Materials
- Water Splitting
- Nanomaterials
- OLED
- Batteries
- Capacitors
- Fuel Cells & Electrolyzers

**LIVE on YouTube, Facebook, and  
Zoom on November 18th - 19th, 2020**

Students/postdocs may submit their poster abstracts at the below link before Nov. 15th. The accepted posters along with a pre-recorded video (3-mins max) will be displayed via flipgrid during the break. **An e-certificate will be provided to all poster presenters, and each of the three best posters will be awarded a \$100 Amazon e-gift card (Sponsored by Interactive Display Systems, Inc., USA).**

Click the below link to register for free before Nov. 15th:

Contact Dr. Panda: [dpanda@g.clemson.edu](mailto:dpanda@g.clemson.edu)

[https://docs.google.com/forms/d/e/1FAIpQLSfHFpLsA5Ninck\\_iNKSmTssxmhVMcZLhiqCIMwDcr\\_0wwPgFg/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSfHFpLsA5Ninck_iNKSmTssxmhVMcZLhiqCIMwDcr_0wwPgFg/viewform?usp=sf_link)



## November 18th, 2020

8:45 - 8:50 — Welcome by Prof. Apparao M. Rao

8:50 - 9:00 — Inaugural Address by Prof. Tanju Karanfil, Vice President for Research, Clemson University



Prof. Prashant Sonar  
Queensland University  
of Technology, Australia



Prof. Daniel N. Congreve  
Stanford University, USA



Prof. Francis D'Souza  
University of North  
Texas, USA



Prof. Christine Luscombe  
University of Washington,  
USA



Prof. Manas Gartia  
Louisiana State  
University, USA



Prof. Lynn Dennany  
University of  
Starthclyde, Scotland



Prof. Abdoulaye Djire  
Texas A&M University,  
USA

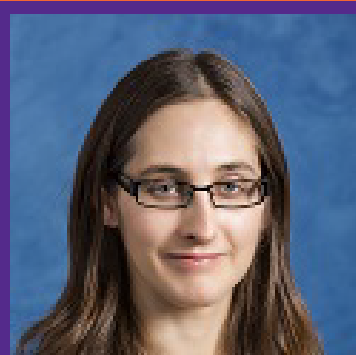
## November 19th, 2020

8:45 - 8:50 — Recap of Day 1 Events by Dr. Dillip K. Panda

8:50 - 9:00 — Opening Address by Assoc. Dean Stephen Creager,  
College of Science, Clemson University



Prof. Yury Gogotsi  
Drexel University, USA



Prof. Tracey Clarke  
University College  
London, UK



Prof. Bart Bartlett  
University of Michigan,  
USA



Prof. Sanjeev Mukherjee  
Northeastern University,  
USA



Mr. Laisuo Su  
Carnegie Mellon  
University, USA



Prof. Sanjay Behura  
University of Arkansas,  
Pine Bluff, USA



Dr. Jeff Siler  
(CEO/Founder) Interactive  
Display Systems Inc., USA





## November 18th, 2020 (All times in EDT)

08:45 - 08:50 — Welcome by **Prof. Apparao M. Rao**  
08:50 - 09:00 — Inaugural Address by **Prof. Tanju Karanfil**

Session Chair: **Prof. Rajendra Bordia**, Dept of  
Material Science and Engineering

09:00 - 09:30 — “Hole-Transporting Materials (HTMs) for Perovskite Solar Cells” by **Prof. Prashant Sonar**  
09:30 - 10:00 — “Applications of Triplet Fusion Upconversion” by **Prof. Daniel N. Congreve**  
10:00 - 10:30 — “Light Capture and Conversion from Nature Inspired Energy Materials” by **Prof. Francis D’Souza**

10:30 - 11:00 — Break for 30 minutes - Check student posters on Flipgrid

Session Chair: **Prof. Ya-Ping Sun**, Dept of Chemistry, Clemson

11:00 - 11:30 — “Precise synthesis of p-conjugated polymers and the yin and yang of polymer morphology” by **Prof. Christine Luscombe**  
11:30 - 12:00 — “Graphene-based Solid-State and Flexible Supercapacitor Operating at -70 °C to 220 °C” by **Prof. Manas Gartia**  
12:00 - 12:30 — “Functional Electrochemical Materials” by **Prof. Lynn Dennany**  
12:30 - 01:00 — “Revealing the Mechanism of Hydrogen Evolution Activity in 2D Titanium Nitride MXenes via InSitu/Operando Spectroscopy and Microscopy” by **Prof. Abdoulaye Djire**

## November 19th, 2020

08:45 - 08:50 — Recap of Day 1 by **Dr. Dillip K. Panda**  
08:50 - 09:00 — Opening Address by **Assoc. Dean Stephen Creager**

Session Chair: **Prof. Mark Roberts**, Dept of Chemical  
and Biomolecular Engineering, Clemson

09:00 - 09:30 — “MXenes for Energy Storage and Conversion Applications” by **Prof. Yury Gogotsi**  
09:30 - 10:00 — “Understanding Charge Carriers in Organic Photovoltaic Materials” by **Prof. Tracey Clarke**  
10:00 - 10:30 — “How the Surface Chemistry of WO<sub>3</sub> Influences its Activity for the Oxygen-Evolution of Chlorine-Evolution Reactions” by **Prof. Bart Bartlett**

10:30 - 11:00 — Break for 30 minutes - Check student posters on Flipgrid

Session Chair: **Prof. Sourav Saha**, Dept of Chemistry, Clemson

11:00 - 11:30 — “Innovating Towards More Sustainable Catalysts for Fuel Cells and Electrolyzers” by **Prof. Sanjeev Mukherjee**  
11:30 - 12:00 — “Tailoring Electrode-Electrode Interfaces in Lithium-ion Batteries Using Molecularly Engineered Functional Polymers” by **Mr. Laisuo Su**  
12:00 - 12:30 — “Functional Quantum Heterostructures for Energy Conversion” by **Prof. Sanjay Behura**  
12:30 - 12:40 — “Novel Ways to Interact with Your Research and Data” by **Dr. Jeff Siler**  
12:40 - 01:00 — Closing Remarks and Best Posters Award Ceremony by **Prof. Bill Pennington** [Department Chair, Chemistry] and **Prof. Sean Brittain** [Department Chair, Physics and Astronomy]