



Spring 2022 Newsletter, Volume 39

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ECCNED 2022 Sessions  [View Online](#)

Website: <https://sites.asee.org/eccd/>

MESSAGE FROM THE DIVISION CHAIR

Dear ECCNED Members,



Greetings and welcome to the 2022 ASEE Conference in Minneapolis, Minnesota! After two years, this year we have an in-person conference! I hope that you will enjoy the program that our Program Chair, Dr. Matt Aldeman, has put together for us. It will cover a wide range of topics in our broad field. Energy Conversion, Conservation, and Nuclear Engineering Division issues have never been more relevant than today. I invite you to

attend the division's technical sessions, panels, etc. You are also invited to attend the business meeting on Tuesday, June 28 from 1:45 PM to 3:15 PM CDT, Room L100D. During the business meeting, we will honor the awardees for the best papers. Please join us in congratulating them. Looking forward to seeing you in Minneapolis.

Yours Truly,
Siamak Farhad, Ph.D.
Chair

2021 – 2022 DIVISION OFFICERS

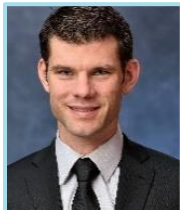
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DIVISION ANNOUNCEMENTS

The ECCNED conference schedule for the 2022 ASEE Conference and Exposition is now available. For more information, please visit the 2022 ASEE Conference webpage, [available here](#).

Please join the ECCNED LinkedIn group for all the latest information! The URL for this group is: <https://www.linkedin.com/groups/12134751> 

Come join us at the ECCNED annual division social event on June 28th at 7:00 PM. The event will take place at the Lakes and Legends Brewing Company, located at 1368 LaSalle Ave. Minneapolis, MN 55403

Access to the ECCNED Newsletters Archive is here: <https://sites.asee.org/ECCNED/about/newsletters/>

The annual ECCNED Business Meeting will be held during the 2022 ASEE annual conference. The meeting will take place on June 28th at 1:45pm in Room L100D.

HIGHLIGHTS FROM THE 2021 CONFERENCE

At the 2021 Virtual ASEE Annual Conference, the Energy Conversion, Conservation and Nuclear Engineering Division had 14 papers presented in 3 technical sessions, held 2 discussion panels

including 8 guest speakers, one poster session, and one business event (Energy Conversion, Conservation and Nuclear Engineering Division Business Meeting).

ECCNED 2022 CONFERENCE SESSIONS

T1736 · Technical Session 1: Innovative Approaches to Teaching Energy-Related Concepts

Moderators: Anveeksh Koneru and Ira Harkness

- 1. Interdisciplinary Collaboration to Engage Engineering Students' Interest in Renewable Energy Concepts**
Abhishek Verma, Kenan Baltaci
- 2. Inexpensive solar garden light provides valuable energy system learning tool**
Dale H. Litwhiler and Neda Bazyar Shourabi
- 3. A Software Application Teaching Aid for Understanding the Sizing and Constraints of Energy Storage Technologies**
Joseph M Elio and Ryan James Milcarek
- 4. Lessons Learned in Engine Temperature Control Through Radiator Configurations: A Formula SAE Design**
John M Mativo and Jacob A Lancaster

M61777 · Technical Session 2: Enhancing Energy-Related Education with Student Design Projects

Moderators: Siamak Farhad and Ira Harkness

- 1. Project-Based Learning: Piezoelectric Energy Wheel**
Bala Maheswaran, Adrian Criollo, Ananya Reghupathi, Ansh Harsh Shah and Robert Lee
- 2. Improved Operation and Protection Method for Marching Band Keyboard Platform**
Blaine Jessee Porter, John Mackesy, Taylor John Leavey, Joe Law and Herbert L. Hess
- 3. WIP: Implementing Mini-Projects to Build Community and Improve Student Engagement**
Leon Liebenberg and Taylor Tucker
- 4. Design and Construction of a 50 kW PV- based EV Fast-Charging Station as a community engagement project**
Reg Recayi Pecen and Faruk Yildiz

T17137 · Technical Session 3: Design of Novel Energy-Related Courses and Course Materials

Moderators: Sandip Das and Maryam Younessi Sinaki

1. **A Sustainability and Alternative Energy Course as a Bridge between Disciplines**
Amanda Simson and Benjamin John Davis
2. **Development of an Introductory Nuclear Engineering Course for Non-Majors**
Ira Harkness
3. **Results of 2021 Energy Education Stakeholder Survey**
Kenneth Walz, Andrew McMahan, Gabrielle P. Temple and Kathleen Alfano
4. **A Holistic Implementation of Data Science in Clean Energy Engineering Education**
Ilya Y. Grinberg, Saquib Ahmed, and Joaquin Carbonara

M517188 · Technical Session 5: Strategies for Increasing Classroom Engagement

Moderators: Seyed Hossein Mousavinezhad and Matt Aldeman

1. **Work in Progress--Analysis of Flipped Classrooms in Thermodynamics Courses**
M. David Burghardt and Deborah Hecht
2. **Delivery and Impact of Virtual Teacher Professional Development Workshops**
Ms. Kenneth Walz, Michael Arquin, Joel B. Shoemaker, Scott William Liddicoat, Gabrielle P. Temple, and Kathleen Alfano
3. **An Innovation Methodology to Increase Students Performance in Hybrid Classroom and Virtual Environment**
Tooran Emami
4. **Presenting an Accessible yet Rigorous Development of the Zone Temperature Equation: An Important Thermodynamic Result Inherently Interesting and Educational**
Sheldon M. Jeter and Christopher Fernandez
5. **Supervisory Controls and Data Acquisition Instructional Materials and Resources for Energy Education Programs**
Kenneth Walz, Kevin Cooper, Benjamin Reid, Christopher Baechle, Christopher John Akelian, and Kathleen Alfano

U717328 · Panel: Energy and Environmental Education in a Diverse and Inclusive Classroom

Moderators: Matt Aldeman

Speakers:

1. Bala Maheswaran (Northeastern University)
2. Veera Gnanaswar Gude (Mississippi State University)
3. Tooran Emami (United States Coast Guard)
4. Ramanitharan Kandiah (Central State University)

W17330 · Panel: Advanced Energy Technologies

Moderators: Robert J Kerestes and Sandip Das

Speakers:

1. Anveeksh Koneru (University of Texas Permian Basin)
2. Charles E. Baukal (Koch Engineered Solutions Institute)
3. Ryan James Milcarek (Arizona State University)
4. Ira Harkness (University of Florida)
5. Hector Medina (Liberty University)

W17637 · Distinguished Lecture: Renewable Energy Education, Training, and Outreach in the Midwest

Guest Speaker:

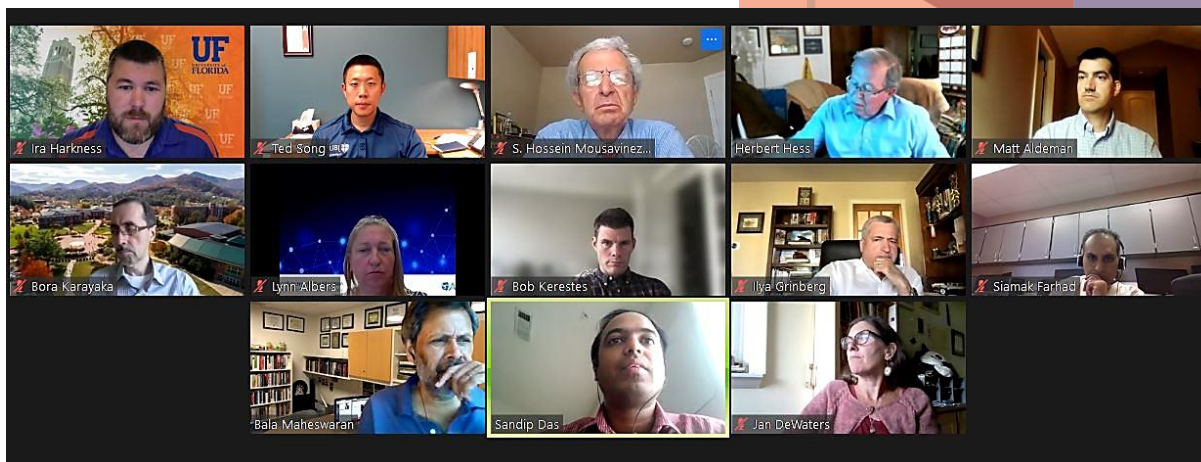
Nicholas J Hylla (Executive Director of the Midwest Renewable Energy Association (MREA))

T517625 · Poster Session

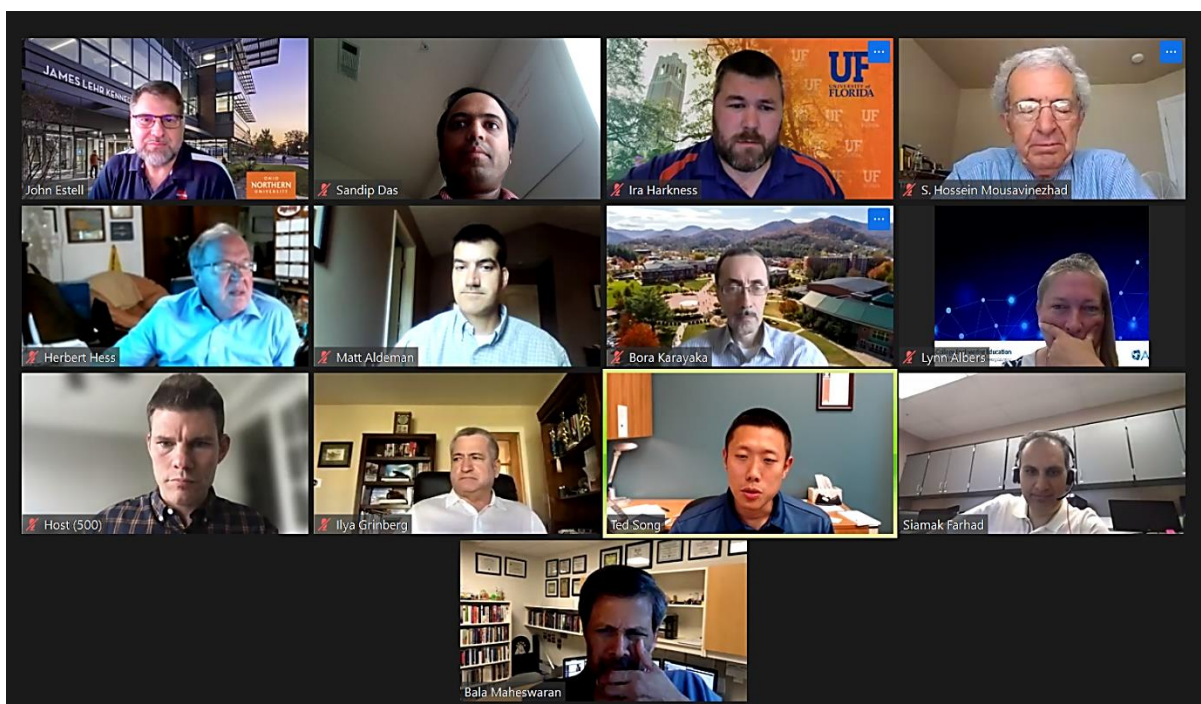
Posters:

1. **Student Training for Motor Performance Assessment in Industry**
Jaime Ramos-Salas (The University of Texas Rio Grande Valley)
2. **3D Printing of Lithium-Ion Battery Electrode Components**
Joseph Michael Derrick, Eli Munyala Kindomba and Jing Zhang
(Indiana University – Purdue University Indianapolis)

PHOTOS OF SOCIAL EVENTS, PANELS AND BUSINESS MEETING



2021 ASEE Annual Conference – ECCNED Meeting



ECCNED Business Meeting

ENERGY CONVERSION AND CONSERVATION DIVISION

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