On behalf of the Department of Engineering, the IPFW Engineering Research and Design Conference organizing committee extends a warm welcome to each of you. This is the third such conference, and the theme this year is energy systems.

The purpose of this event is to bring together students and engineering professionals, both from academia and industry, to share state-of-the-art technology, current design practice, and on-going projects.

The format for the event this year is a un-conference. A un-conference is a participant driven meeting that avoids the traditional aspects of a conference such as high fees or top-down organization. We have requested that the presenters be brief and have built significant time into the schedule for questions and discussion. We hope that the format promotes dialogue between the presenters, moderators, and audience.

Please, accept our best wishes for an enjoyable un-conference.

Abdullah Eroglu, Associate Professor of Electrical Engineering
Don Mueller, Associate Professor of Mechanical Engineering
Josué Njock-Libii, Associate Professor of Mechanical Engineering
Carlos Pomalaza-Ráez, Professor of Electrical Engineering
8:45 – 9:00  Refreshments and **Opening Remarks**

9:00 – 10:00  Session 1 – **Energy Distribution and Components** – Moderator: Carlos Pomalaza-Ráez
- Demand Response in Smart Microgrids – Peggy Yi, Regal Beloit
- Distribution Grid Management – Aaron Clark, Indiana Michigan Power
- Analysis of a Multiphase Electrical Machine – David Momoh, IPFW
Discussion of Presentations and Q&A

- A MYTHBUSTERS Review of Wind Power – Neil F. Voje, Blue Creek Wind Farm
- Geothermal Heat Pumps 101 – Carl Huber, WaterFurnace
- Solar Energy Systems – Josh Hazen, Home Energy LLC
Discussion of Presentations and Q&A


12:45 – 1:45  Session 3 – **Energy Efficiency and Siting** – Moderator: Josué Njock-Libii
- A Modern Renovation for a Historic Building – Michael Lubbehusen, Primary Engineering
- Site Evaluation for the Feasibility of Potential PV Installs in the Dominican Republic – Andrew Bell, Ivy Tech
- Structurally Insulated Panels (and the Solar Decathlon) – Brian Loss, Purdue WL
Discussion of Presentations and Q&A

2:00 – 3:00  Session 4 – **Energy Generation and Management** – Moderator: Abdullah Eroglu
- How Government Efficiency Rules Impact Industrial Transformer Design – Steve Walter, IPFW
- An Effective Energy Management Program – Adam Brososky and Scott Maddox, Zuno Sciences, LLC
- NIPSCO: Your Northern Indiana Energy Provider – Jill Perillo and Denny Blankenbeker, NIPSCO
Discussion of Presentations and Q&A

3:15 – 4:15  **Sigma Xi Distinguished Lecture**: New Approaches to Energy Harvesting and Storage
T. Goodson, III, Richard Bernstein Collegiate Professor of Chemistry, University of Michigan

* An un-conference is a participant-driven meeting. The term “un-conference” has been applied to gatherings that try to avoid one or more aspects of a conventional conference, such as high fees, sponsored presentations, and top-down organization.

As part of the sessions, we are hoping for insightful and informative discussions between the audience, moderators, and presenters.