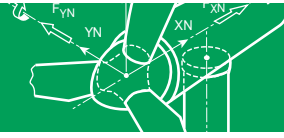




ARC 2016

Sustainability, Energy, and
Environmental Engineering
APRIL 19-21, 2016



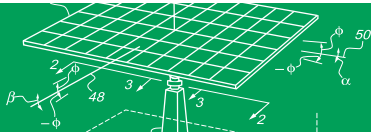
Colloquium Schedule

TUESDAY, APRIL 19, 2016

- » Prior to 5:45 p.m. – Arrival and check-in, Marriott at the University of Dayton
- » 5:45 p.m. – Meet in Marriott lobby for transportation to dinner
- » 6-7:45 p.m. – Dinner at Coco's Bistro
 - Eddy Rojas, Ph.D., M.A., P.E., Dean, School of Engineering
 - Partha Banerjee, Ph.D., Director, Electro-Optics
 - Laura Bistrek, P.E., Director, Diversity in Engineering Center
- » 7:45 p.m. – Transportation to Raymond L. Fitz Hall
- » 8-9 p.m. – Workshop #1 – *Effective Proposal Writing*, Raymond L. Fitz Hall, Room 580
 - Mary Connolly, Ph.D., Manager, Research & Grants Operations, Kettering Health Network
- » 9:15 p.m. – Transportation to hotel

WEDNESDAY, APRIL 20, 2016

- » 8 a.m. – Meet in Marriott lobby for transportation to Raymond L. Fitz Hall
- » 8:15-8:45 a.m. – Continental breakfast, Raymond L. Fitz Hall, Room 580
- » 8:45-9:30 a.m. – Tour of Raymond L. Fitz Hall
- » 9:30-10:30 a.m. – Workshop #2 – *Effective Faculty Job Applications and Interviewing*, Raymond L. Fitz Hall, Room 580
 - Margaret Pinnell, Ph.D., Associate Dean for Faculty and Staff Development, School of Engineering
 - Eddy Rojas, Ph.D., M.A., P.E., Dean, School of Engineering
- » 10:30 a.m. – Transportation to RecPlex
- » 10:45 a.m.-noon – Attend Stander Symposium poster sessions
- » Noon – Transportation to Virginia W. Kettering Residence Hall
- » 12:15-1:30 p.m. – Lunch at The Grainary, Virginia W. Kettering Residence Hall
- » 1:30-2 p.m. – Transportation to Emerson Climate Technologies Helix Innovation Center
- » 2-3:30 p.m. – Tour of the Helix Innovation Center
 - Rajan Rajendran, Ph.D., Vice President, System Innovation Center and Sustainability at Emerson Climate Technologies
- » 3:30 p.m. – Transportation to GE EPISCenter
- » 3:45-5:15 p.m. – Tour of the GE EPISCenter
 - Joe Krisciunas, Vice President Engineering, GE Aviation



- » 5:15 p.m. — Transportation to River Campus
- » 5:30-7 p.m. — Dinner and *Why Dayton (the City)* presentation at River Campus, Executive Dining Area
 - Scott Murphy, Downtown Dayton Partnership and founder of UpDayton
- » 7:15 p.m. — Transportation to hotel

THURSDAY, APRIL 21, 2016

- » 7:45-8:15 a.m. — Continental breakfast, Helix Innovation Center
- » 8:15 a.m. — Welcome, Helix Innovation Center
 - Paul Benson, Ph.D., Interim Provost, University of Dayton
- » 8:30-10 a.m. — Presentation session #1

SUSTAINABILITY

Session moderator: Denise Taylor, Civil and Environmental Engineering

Toritseju Omaghome, Environmental Engineering, University of Cincinnati
Sizing Indoor Water Distribution Systems for Sustainable Water Supply

Aihua Huang, Mechanical Engineering, University of Kentucky
Developing Alternate Methods for Sustainable Manufacturing Performance Evaluation at the Systems Level

Anna Prisacari, Human Computer Interaction, Iowa State University
Benefits of Applying User Experience Guidelines When Designing Technology to Promote Sustainability

Ahmed Tukur, Mechanical Engineering, University of Dayton
Reducing Ventilation Energy Use in Buildings Via Statistically Informed Supply Pressure Control

Rodwan Elhashmi, Mechanical Engineering, University of Dayton
Borehole Thermal Energy Storage for Multifamily Residences

Junling Xie, Mechanical Engineering, University of Wisconsin—Milwaukee
Energy Efficiency Improvement with Novel Structures Applied in Building Energy Storage Systems

- » 10-10:30 a.m. — Coffee break
- » 10:30 a.m.-noon — Presentation session #2

ENERGY CONSERVATION AND TRANSFER

Session moderator: Kevin Hallinan, Mechanical and Aerospace Engineering

Syeda Saria Bukhary, Civil Engineering, University of Nevada, Las Vegas
Water Usage for Solar Power Development in Semi-arid Nevada

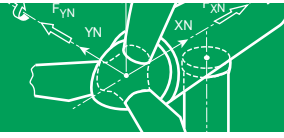
Mahboobe Mahdavi, Mechanical Engineering, Temple University
Numerical Analysis and Experimental Validation of Heat Pipe Network Performance Developed for High-Temperature Latent Heat Thermal Energy Storage Systems

Laura Solomon, Mechanical Engineering, Lehigh University
Heat Transfer Within Encapsulated Phase Change Materials — The Void Effect



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Raqibul Hasan, Electrical Engineering, University of Dayton

Memristor Based Low Power Circuits and Systems

Sidaard Gunasekaran, Aerospace Engineering, University of Dayton

Relationship Between the Free Shear Layer, the Wingtip Vortex and Aerodynamic Efficiency

James Allen, Mechanical Engineering, University of Alabama

Preheating Effect on the Flame Structure of a Swirl Stabilized Combustor with Porous Insert to Control Thermoacoustics

» Noon-1 p.m. – Lunch

» 1-2:30 p.m. – Presentation session #3

ENVIRONMENTAL SENSING TECHNIQUES AND CHEMICAL DIAGNOSTICS

Session moderator: Andrew Chiasson, Mechanical and Aerospace Engineering

Diego Felipe Garcia Mina, Electro-Optics, University of Dayton

Nanometer Metal Films on Tapered Optical Fibers to Enhance Environmental Sensing Capabilities

Matthew Rosenberger, Mechanical Science and Engineering, University of Illinois at Urbana-Champaign

Probing Local Thermal, Mechanical and Optical Properties Utilizing Dynamic Cantilever Response in Contact Mode Atomic Force Microscopy

Farshad Zahedi, Mechanical Engineering, University of Texas at Arlington

Wireless Sensor Tomography for Structural Health Monitoring

Hannah Woo, Environmental Engineering, University of Tennessee

Investigating Lignin-Degrading Microbes of the Deep Ocean for Biofuel Applications

Kyle Shimabuku, Environmental Engineering, University of Colorado Boulder

Biochar Sorbents for the Control of Organic Contaminants in Drinking Water, Stormwater, and Wastewater Effluent: Understanding the Role of Biochar Structure and Water Quality on Sorption Behavior

Tadesse Sinshaw, Environmental Engineering, University of Mississippi

Developing a Water Quality Assessment Framework for Nutrients Load: Monitoring, Prioritizing Recoverability, and Recovery Process

» 2:30 p.m. – Transportation to Eugene W. Kettering Engineering and Research Laboratories

» 2:45-3:45 p.m. – Tour of Kettering Engineering and Research Laboratories

» 3:45 p.m. – Transportation to Science Center

» 4-4:45 p.m. – Tour of Science Center

» 5-6 p.m. – ARC closing dinner, Kennedy Union Torch Lounge

- Daniel Curran, Ph.D., President, University of Dayton
- Eddy Rojas, Ph.D., M.A., P.E., Dean, School of Engineering

» 6 p.m. – Transportation to hotel