



CENTER FOR INTEGRATED BUILDING SYSTEMS

College of Engineering, Architecture and Technology

Agenda for Planning Meeting at Oklahoma State University

Wednesday, September 25th – Thursday, September 26th, 2019

Oklahoma State University, Stillwater, OK

Day 0 (Tuesday, Sept. 24th, Chaparral Room, Best Western Cimarron Suites)

6:00pm Dinner and social with members and faculty

Day 1 (Wed. Sept. 25th, CP Alumni Center, [Event Room in Brackets]):

- 7:15 am Shuttle Leaves to CP Alumni Center [Best Western]
- 7:30 am Participant Registration [Alumni Center Lobby]
- 7:30 - 8:15 am Breakfast and Networking Time [Click Hall – East]
- 8:15 - 8:30 am Welcome Remarks [Jones Room] (Kenneth Sewell, VPR OSU)
- 8:30 - 9:15 am Vision, Capabilities and Value Proposition of the Center [Jones Room] (Craig Bradshaw, CIBS Director)
- 9:15 - 9:55 am NSF IUCRC Presentation [Jones Room] (Prakash Balan, IUCRC Program Director and Lindsey McGowen, NSF Evaluator)
- 9:55-10:10am Logistics of Project Presentations and Poster Introductions [Jones Room] (Craig Bradshaw, CIBS Director)
- 10:10 - 10:20 am BREAK [Click Hall – East]
- 10:20 - 11:50 pm Select Project Proposal Presentations [Jones Room] (15 min. each, 7 min. pres., 6 min Q&A, 2 min. LIFE forms)
- 10:20 Development and Validation of a Reduced Order Pseudo Dynamic MCHX Simulation Model (Christian Bach, MAE, **Topic, 1.1**)
- 10:35 Toward lower refrigerant charges: optimized shape of a small diameter copper tube for heat exchangers (Aurelie Azoug, MAE, **Topic, 1.1**)
- 10:50 The future of compressor technologies for air-conditioning applications with near zero-GWP refrigerants (Craig Bradshaw, MAE, **Topics, 1.3, 1.4**)
- 11:05 Semi-physical, reduced-order, model development of compressor performance (Craig Bradshaw, MAE, **Topics, 1.3, 4.1**)
- 11:20 Automatic CFD Model Creation for Furnace Airflow (Aaron Alexander, MET, **Topics 2.1, 2.2**)
- 11:35 e-Furnace: An Open Simulation Tool for Design and Training (Khaled Sallam, MAE, **Topic, 2.1**)
- 11:50 - 1:20 pm LUNCH and Poster Presentations 1 [Click Hall – East]
- 1:20 - 2:50 pm Project Proposal Presentations [Jones Room] (15 min. each, 7 min. pres., 6 min Q&A, 2 min. LIFE forms)

- 1:20 Compact Wall Integrated Energy Efficient Fan Coil Units for Secondary Loop Systems (Christian Bach, MAE, **Topics, 3.2, 5.2**)
- 1:35 Additional Benefits of Secondary Loop Systems: Thermal Storage and Demand Response (Jeff Spitler, MAE, **Topics, 3.2, 4.1**)
- 1:50 Low cost heat pump performance monitoring system (He Bai, MAE, **Topics, 4.2, 3.1, 3.2**)
- 2:05 Hierarchical model-based optimal control of residential heat-pump equipment (Rushikesh Kamalapurkar, MAE, **Topic, 4.1**)
- 2:20 Pressure-Volume-Temperature Behavior of Refrigerant-Lubricant Blends Predicted from Molecular Simulation Methods (Jindal Shah, ChE, **Topic, 1.4**)
- 2:35 Ultra-compact Meta-Acoustic Claddings for HVAC Applications (James Manimala, MAE, **Topics, 5.1, 5.2**)

- 2:50 - 3:35 pm **BREAK and Poster Presentations 2 [Click Hall – East]**
- 3:35 - 4:45 pm **Industry Workshop [Jones Room]** (discussion of projects & company needs NOT addressed in the above Project Presentations)
- 4:45 - 5:00 pm **Review of evening and Day 2 activities [Jones Room]** (Craig Bradshaw, CIBS Director)
- 5:00pm – 6:00pm **Refresh and Socialize (Hotel Shuttle Available if Desired)**
- 5:00pm & 5:45pm **Shuttle to/from Best Western [Pickup at Alumni Center & Best Western, Respectively]**
- 6:00 pm **Lab Poster Show and Social Reception @ OSU Alumni Center (East Terrace/Formal Gardens)**
- 7:45 pm **Shuttle to Best Western [Pickup at Alumni Center]**

Day 2 (Thurs. Sept. 26th, CP Alumni Center [Event Room in Brackets]):

- 7:15am **Shuttle to CP Alumni Center [Best Western Lobby]**
- 7:30 - 8:00 am **Arrival and Breakfast [Click Hall – East]**
- 8:00 – 10:15 am **LIFE FORM review and Discussion [Jones Room]** – (Center PIs, Moderated by Craig Bradshaw, CIBS Director)
- 10:15 - 10:30 am **BREAK [Click Hall – East]**
- 10:30 - 11:00 am **NSF Closed Session with Industry [Jones Room]** (NSF and Industry)
- 11:00 - 11:45 am **Next Steps, Action Items & Closing Remarks [Jones Room]** (Craig Bradshaw, CIBS Director & Kenneth Sewell, VPR OSU)
- 11:45-12:30 pm **LUNCH [Click Hall – East]**
- 12:30-1:30pm **OSU Laboratory Tours @ Advanced Technology Research Center (Tour guides to walk to ATRC with members)**
- 1:30 pm **ADJOURN**
- 1:45 pm **Shuttle to Best Western [Alumni Center]**