IDAES
Institute for the Design of Advanced Energy Systems

Stakeholder Workshop
Marriott Pittsburgh Airport
777 Aten Road | Coraopolis, PA | 15108
October 2-3, 2019

Wednesday, October 2		
8:30	**Registration/Breakfast/Networking Discussions**	
9:00	**Welcome and Overview** Dr. David C. Miller (NETL)	
9:15	**Advanced Modeling Framework** Dr. Andrew Lee (NETL), Prof. Debangsu Bhattacharyya (WVU)	
9:35	**Multi-scale Design & Optimization** Dr. John Siirola, Prof. Chrysanthos Gounaris (CMU)	
9:55	**Flowsheeting & Data Management Framework (includes Jupyter)** Dan Gunter	
10:05	**Dynamic Optimization & Control** Prof. Larry Biegler (CMU), Dr. Bethany Nicholson (SNL)	
10:25	**Break/Poster Discussions: Fundamental IDAES Capabilities** *See list next page*	
11:30	**Plenary Address: Crosscutting R&D Program** Dr. Briggs White, Technology Manager for Crosscutting Research, NETL	
12:00	**Working Lunch: Discussion of Collaboration Opportunities** Dr. John Shinn	
12:45	**Support for the Existing Coal Fleet & Demonstration Partnership** Dr. Anthony Burgard (NETL), Prof. Debangsu Bhattacharyya (WVU)	
1:15	**Design and Optimization of Coal Plants of the Future** Dr. Carl Laird (SNL), Dr. Chinedu Okoli (NETL)	
1:30	**Conceptual Design & Optimization** Prof. Ignacio Grossmann (CMU)	
1:45	**Machine Learning & Surrogate Modeling Approaches for Optimization** Prof. Nick Sahinidis (CMU), Dr. Oluwamayowa Amusat (LBNL)	
2:05	**Break/Poster Discussions: IDAES Applications and Demonstration** *See list next page*	
3:15	**Grid & Infrastructure Modeling** Dr. John Siirola (SNL), Prof. Alexander Dowling (ND)	
3:35	**IDAES Future Plans and Opportunities** Dr. David Miller (NETL)	
3:50	**Open Source Release, Github & Issue Tracking** Keith Beattie (LBNL)	
4:00	**Stakeholder Panel - Experience and Anticipated Applications for IDAES** Dr. John Shinn	
5:00	**Social Hour/Networking – All Posters will be available** **Installation of IDAES for those wishing to take working code home**	
6:15	**Working Dinner** Dr. John Shinn	

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Thursday, October 3			
8:00	**Registration/Breakfast/Networking Discussions**		
	Introductory Tutorial	**Advanced Tutorial**	
8:30	*Introduction and Initial Setup*	*Quick refresher on Module 1 and Module 2*	
9:00	*Module 1: Using IDAES Unit Model Library*	*Module 3: Custom unit models in IDAES*	
10:00	*Break*	*Break*	
10:30	*Module 2: Flowsheet example and optimization*	*Demos:* *1. Using the DMF with Module 2* *2. Flowsheet visualization tool (maybe)*	
11:45	*Conclusion and feedback*	*Conclusion and feedback*	
12:00	**Conclude**		

Poster Discussions: Fundamental IDAES Capabilities @ 10:25 AM Wednesday

1. Unit Model Library and Process Flowsheeting (Andrew Lee)
2. Advanced Model Development (Miguel Zamarripa/Chinedu Okoli)
3. Robust Process Design (Natalie Isenberg)
4. Advanced Tools for Conceptual Design (Qi Chen/Michael Bynum)
5. Advanced Capabilities for Grid and Infrastructure Planning (John Siirola)
6. Process Dynamics and Advanced Process Control (Bethany Nicholson)
7. Real Time Optimization (Owais Sarwar/Nick Sahinidis)
8. Helmholtz Energy Thermodynamics (Marissa Engle)
9. Towards a Mathematical Optimization Toolkit for Nanoscale Materials Design (Chris Hanselman)
10. Advanced Dynamic Modeling for Fluidized Beds (Rob Parker/David Thierry)
11. Developer and User Support (Keith Beattie)

Break/Poster Discussions: IDAES Applications and Demonstration @ 2:05 Wednesday

12. Modeling and Optimization of Existing Fleet (Miguel Zamarripa)
13. Optimizing Opportunities for Power Grid Participation (Xian Gao/Alex Dowling)
14. Power Grid Participation and Planning Studies (Ben Knueven)
15. Design and Optimization of Chemical Looping Combustion Processes (Chinedu Okoli/Anca Ostace)
16. State-of-the-Art Modeling and Optimization of Electrolyte Systems (Paul Akula/Debangsu Bhattacharya)
17. Developer and User Support (Keith Beattie)

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