

DOE FES/ASCR Workshop on Integrated Simulations for Magnetic Fusion Energy Sciences

Hilton Hotel, Rockville, MD

June 2-4, 2015

<https://www.burningplasma.org/activities/IntegratedSimulations2015>

Final Agenda

Day 1: Tuesday, June 2 (8:30 am - 6:15 pm)

- 8:30 am **Welcome and Logistics**
John Mandrekas and Randall Laviolette, DOE
- 8:45 am **Fusion Energy Sciences (FES) Introduction**
Ed Synakowski and James Van Dam, DOE
- 9:00 am **Advanced Scientific Computing Research (ASCR) Introduction**
Steve Binkley, DOE
- 9:15 am **Review of Workshop Agenda, Goals, and Preliminary Input**
Paul Bonoli (MIT) and Lois Curfman McInnes (ANL)
- 9:45 am Break
- 10:15 am **Emerging Extreme-Scale Architectures and Programming Models**
Marc Snir, ANL
- 11:00 am Full-group Discussion
- 11:15 am **The ITER Integrated Modelling Programme**
Simon Pinches, ITER
- 12:00 pm Full-group Discussion
- 12:15 pm Lunch Break (attendees on your own)
- 1:30 pm **Panel A: Disruptions: Preliminary Report**
- 2:00 pm **Panel B: Plasma Boundary: Preliminary Report**
- 2:30 pm **Panel C: Whole Device Modeling: Preliminary Report**
- 3:00 pm Breakout Instructions, Q&A
- 3:15 pm Break
- 3:45 pm **Concurrent Breakout Sessions #1: Challenges and Opportunities in Integrated Simulations for Magnetic Fusion Energy Sciences: Physics Perspectives**
Panels A,B,C (with crosscutting math/CS participants)
- 6:15 pm Adjourn for the day (dinner on your own)

Day 2: Wednesday, June 3 (8:30 am - 6:15 pm)

- 8:30 am Summary of Day 1, Review Agenda for Day 2
- 8:45 am **Panel A: Disruptions: Outbrief #1**
- 9:05 am **Panel B: Plasma Boundary: Outbrief #1**
- 9:25 am **Panel C: Whole Device Modeling: Outbrief #1**
- 9:45 am Full-group Discussion
- 10:15 am Break
- 10:45 am **Perspectives on Collaborative Computational Science from an ASC Code Team**
Mike Glass, SNL
- 11:30 am **Perspectives on Multi-institutional Collaborative Computational Chemistry & Materials**
Theresa Windus, Iowa State University
- 12:15 pm Full-group Discussion
- 12:30 pm Lunch Break (attendees on your own)
- 1:45 pm **Panel D: Multiphysics and Multiscale Coupling: Preliminary Report**
- 2:05 pm **Panel E: Beyond Interpretive Simulations: Preliminary Report**
- 2:25 pm **Panel F: Data Management, Analysis, and Assimilation: Preliminary Report**
- 2:45 pm **Panel G: Software Integration and Performance: Preliminary Report**
- 3:05 pm Breakout Instructions, Q&A
- 3:15 pm Break
- 3:45 pm **Concurrent Breakout Sessions #2: Challenges and Opportunities in Integrated Simulations for Magnetic Fusion Energy Sciences: Math/CS Perspectives**
Panels D,E,F,G (with crosscutting fusion participants)
- 6:15 pm Adjourn for the day (dinner on your own)

Day 3: Thursday, June 4 (8:00 am - 12:00 pm)

- 8:00 am Summary of Day 2, Review Agenda for Day 3
- 8:05 am **Panel D: Multiphysics and Multiscale Coupling: Outbrief #2**
- 8:25 am **Panel E: Beyond Interpretive Simulations: Outbrief #2**
- 8:45 am **Panel F: Data Management, Analysis, and Assimilation: Outbrief #2**
- 9:05 am **Panel G: Software Integration and Performance: Outbrief #2**
- 9:25 am Full-group Discussion
- 9:45 am Break
- 10:00 am **Concurrent Breakout Sessions #3: Challenges and Opportunities in Integrated Simulations for Magnetic FES: Revisiting Crosscutting Issues**
Panels A,B,C (with crosscutting math/CS participants)
- 11:15 am Report-Backs from Panels A, B, C (15 minutes each)
- 12:00 pm Workshop wrap-up, review timeline, process and assignments for report
- 12:05 pm Workshop adjourns for most participants (lunch on your own)
- 1:00-3:30 pm Working session for writing leads