Publications and Presentations

Publications

- **2018**

- **2017**

- **2016**

Presentations

- **2017**
Presentations

2017

- **2015**

2014


2013


2017


• 2016


• 2015


• M. A. Cusentino, B. D. Wirth. "Large-scale MD simulations investigating He plasma interactions with tungsten surfaces." 57th Annual Meeting of the American Physical Society Division of Plasma Physics, Savannah, Georgia, November 18, 2015.


• J. Canik and X. Tang. "Improving the sheath model used in plasma fluid transport codes." 57th Annual Meeting of the American Physical Society Division of Plasma Physics, Savannah, Georgia, November 18, 2015.

• X. Tang and Z. Guo. "Why ions enter the sheath entrance at supersonic speed?" 57th Annual Meeting of the American Physical Society Division of Plasma Physics, Savannah, Georgia, November 18, 2015.


• B.D. Wirth on behalf of SciDAC-PSI team, "Modeling Plasma Surface Interactions Involving He on Tungsten", Southwestern Institute of Physics Plasma – Materials Interactions Workshop, Chengdu, China, 20 April 2015.


• K. D. Hammond and B. D. Wirth, "Large-Scale Simulation of Plasma-Facing Materials for Tokamaks and Linear Devices," AICHE annual meeting, Atlanta, Georgia, November 16, 2014.


S. Krasheninnikov, MD modeling of He bubble growth in W and H desorption from W surface, oral, 20th ITFA Scrape-Off Layer & Divertor Topical Group Meeting, Prague, Czech Republic, October 20-23, 2014.


Karl D. Hammond and Brian D. Wirth, Modeling of Tungsten Surface Evolution Due to Low-Energy Helium Plasma Exposure. USA /Japan Workshop on Plasma-facing Materials, June 2014.


Karl D. Hammond, Faiza Sefta, Thibault Faney, Niklas Juslin, Donghua Xu, and Brian D. Wirth, Modeling of Tungsten Surface Evolution Due to Low-Energy Helium Plasma Exposure. Lorentz Workshop, Leiden, the Netherlands, January 2014.


S. Krasheninnikov, MD modeling of He bubble growth in W and H desorption from W surface, oral, 20th ITFA Scrape-Off Layer & Divertor Topical Group Meeting, Prague, Czech Republic, October 20-23, 2014.


2013


• 2012
  • Karl D. Hammond, Faiza Sefta, and Brian D. Wirth, Plasma-Induced Evolution of Surfaces, AIChE annual meeting, October 2012.
  • Brian D. Wirth, F. Sefta, K. Hammond, N. Juslin, and D. Xu, Plasma Surface Interactions (PSI): Bridging from the Surface to the Micron Frontier through Leadership Class Computing Plasma Surface Interactions (PSI): Bridging from the Surface to the Micron Frontier through Leadership Class Computing, invited talk, Scientific Discovery through Advanced Computing (SciDAC-3) Principal Investigator Meeting, Rockville, Maryland, USA, September 2012.
  • David E. Bernholdt and Jay Jay Billings, Plasma Surface Interactions (PSI): Bridging from the Surface to the Micron Frontier through Leadership Class Computing, poster, Scientific Discovery through Advanced Computing (SciDAC-3) Principal Investigator Meeting, Rockville, Maryland, USA, September 2012.

Other Press
• 2015
  • Fusion Researchers Use Titan to Burst Helium Bubbles (OLCF Science Highlight)
    • https://www.olcf.ornl.gov/2015/05/05/fusion-researchers-use-titan-to-burst-helium-bubbles/
  • Double, Double Toil and Trouble: Tungsten Burns and Helium Bubbles (DOE Office of Science Discovery & Innovation Science Highlight)
    • http://science.energy.gov/fes/highlights/2015/fes-2015-07-a/
  • Understanding Helium-Hydrogen Plasma Mediated Tungsten Surface Response to Predict Fusion Plasma Facing Component (ALCF highlight)

Honors and Awards for Project Participants
• 2015
  • Davide Curreli Chosen as a 2015-2016 NCSA Faculty Fellow [NCSA] [UIUC NPRE]
  • Brian Wirth receives DOE 2014 Ernest Orlando Lawrence Award [DOE] [UT]
  • Barry Smith named an Argonne Distinguished Fellow [ANL]