Publications and Presentations

- **Annual Progress Reports**
  - Publications
    - 2019
    - 2018
  - Presentations
    - 2019
    - 2018
    - 2017

You may also be interested in publications of our prior project on plasma surface interactions.

### Annual Progress Reports

- **2018 Annual Report (Year 1), submitted 1 June 2018**

### Publications

- **2019**
  - M.A. Wood, M.A. Cusentino, B.D. Wirth, and A. Thompson, *"Data-driven material models for atomistic simulations"*, Physical Review B 89 (2019) 184305

- **2018**

### Presentations

- **2019**


• B. Wirth, Effects of helium plasmas on tungsten surfaces characterized by helium ion microscopy, ion channeling, and in-situ spectroscopic ellipsometry, American Physical Society Division of Plasma Physics Annual Meeting, Portland, Oregon, November 7, 2018.


• PSI SciDAC: Predicting the Performance and Impact of Dynamic PFC Surfaces - Brian Wirth, SciDAC PI Meeting 2018, Rockville, Maryland.
• Xolotl: a cluster dynamics code to predict gas bubble evolution in solids - Sophie Blondel, invited presentation at The 2018 Computer Simulation of Radiation Effects in Solids (COSIRES), Shanghai, China.
• Illustrative examples of analysis and modeling of impurity erosion and redeposition experiments in DIII-D with integrated PMI models, presented in part at the 23rd International Conference on Plasma Surface Interactions in Controlled Fusion Devices 2018, Princeton, New Jersey.
• Taming the Electrostatic Alfvén Wave and Ampere Cancellation Problems - Ilon Joseph, Transport Task Force Workshop (TTF) 2018, San Diego, California.
• Hydrogen retention in tungsten with self-induced trap formation - Roman Smirnov, poster presentation at the 23rd International Conference on Plasma Surface Interactions in Controlled Fusion Devices (PSI) 2018, Princeton, New Jersey.
• DFT/MD simulations of H-He interactions, trapping and binding below W surfaces - Brian Wirth, 25th Meeting of the ITPA Div-SOL, Chengdu China, 1 February 2018
• W surface evolution modeling towards the onset of fuzz - Brian Wirth, 25th Meeting of the ITPA Div-SOL, Chengdu China, 1 February 2018
• Basic physics of the first wall - Roman Smirnov, invited tutorial talk at the BOUT++ Workshop 2018, Livermore, California.

2017
• Impurity Migration Simulation of PISCES-A He Exposed Tungsten With GITR - Tim Younkin APS-DPP 2017, Milwaukee, Wisconsin.
• Calculations of Helium Bubble Evolution in the PISCES Experiments with Cluster Dynamics - Sophie Blondel, APS-DPP 2017, Milwaukee, Wisconsin.
• Overview of modeling plasma surface interactions in tungsten with a focus on connecting computational predictions to experimental observations - Brian Wirth, plenary presentation at the 18th International Conference on Fusion Reactor Materials, Aomori, Japan, 10 November 2017.