

Chemical Characterization of Materials

Jonathan Poplawsky and Anton V. Ievlev

August 10, 2023, 1:00pm – 5:00pm

1:00 pm – 1:05 pm Welcome/Introduction

1:05 pm – 1:35 pm invited talk – “Application of atom probe tomography for investigating radiation-induced defects,” Xing Wang, Penn State University

1:35 pm – 2:05 pm invited talk – “Molecular imaging and analysis of materials using time-of-flight secondary ion mass spectrometry”, Xiao-Ying Yu, ORNL

2:05 pm – 3:05 pm contributed talks

2:05 pm – 2:20 pm “Characterization of bimodal γ' size distribution in Allvac 718Plus superalloy,” Geeta Kumari, Michigan State University.

2:20 pm – 2:35 pm “Addressing the role of Nb and Ti/V addition in oxygen permeation of Fe-based austenitic alloys,” Qing-Qiang Ren, ORNL

2:35 pm – 2:50 pm “Strontium Incorporation to Single Crystal Calcite Overgrowth: In Situ Measurements Coupled with Multiscale Chemical Imaging,” Athena Chen, ORNL.

2:50 pm – 3:05 pm “The Influence of Ionic Distribution at the Multi-Halide Perovskite and Substrate Interface,” Holland Hysmith, The University of Tennessee Knoxville

3:05 pm – 3:35 pm “Interpreting Atom Probe Tomography Data for Understanding Material Systems,” Jonathan Poplawsky, ORNL.

3:35 pm – 4:00 pm APT lab tour and demo

4:00 pm – 4:30 pm “In operando studies of chemical phenomena in functional materials using combined AFM/ToF-SIMS platform” Anton V. Ievlev, ORNL

4:30 pm – 5:00 pm ToF-SIMS lab tour and demo