



**The Oak Ridge Chapter of ASM presents:**

**Dr. Rebecca D. McAuliffe**

Research Associate, Oak Ridge National Laboratory

**Turning an Art into a Science:**

***Understanding the Role of Interfaces in Solid-state Chemistry***

**Thursday, March 10, 2022 (7:00 PM ET)**

**Virtual Event via Zoom**

<https://us02web.zoom.us/j/82291636685?pwd=VDhZZGlqLy8yaWhTWVcyVW5lYkMxUT09>

Password: 675492

**Abstract:** Solid-state reactions are driven by diffusion processes that mediate the nucleation and growth of reaction products at the interfaces between reactants. By leveraging thin-film bilayers and in situ reflectivity, the interdiffusion of ions at the interfaces can be monitored, giving insights into the roles of diffusion mechanisms. This work focuses on the synthesis of materials via metathesis reactions and highlights significant differences between synthesis using bulk powders and thin-film bilayers, introducing a new paradigm for studying interdiffusion and ion transport during solid-state reactions.

**Speaker Bio:** Rebecca D. McAuliffe is a research associate in the Energy Storage and Conversion Group at Oak Ridge National Laboratory. She specializes in understanding the reaction mechanisms that guide the syntheses of materials using X-ray and neutron diffraction. Her research also focuses on developing tools to observe and model ion diffusion through interfaces using thin film bilayers. Rebecca received her Ph.D. in Materials Science and Engineering from the University of Illinois at Urbana-Champaign working with Prof. Daniel Shoemaker and completed her postdoctoral work at ORNL with Gabriel Veith and Ashfia Huq before becoming a staff member at ORNL.

**Virtual Meeting Details:**

- PC, Mac, Linux, iOS or Android:

<https://us02web.zoom.us/j/82291636685?pwd=VDhZZGlqLy8yaWhTWVcyVW5lYkMxUT09>

Meeting ID: 822 9163 6685

Password: 675492

**Date:** Thursday, March 10, 2022

**Schedule:**

6:30pm – virtual meeting opens / social hour

7:00pm – feature presentation

**Cost:** FREE for all attendees

**Virtual Meeting Details:**

One tap mobile

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+19292056099,,82291636685#,,,,\*675492# US (New York)

Dial by your location

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+1 253 215 8782 US (Tacoma)

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