

Meet the New Faculty Candidates Poster Session

Submission Checklist

Abstract submission required fields:

- Verification that you plan to register for the MRS meeting
- Confirmation that you will be able to attend a live poster session in Boston
- Name
- E-mail
- Current Affiliation
- Current Job Title
- Area of Research
- Title of Presentation
- Abstract of Presentation (<1000 characters, ~150 words)
- PDF of Resume/CV (file size <10 MB)

Notes:

- The title and content of the abstract is expected to be reflective of the candidate's future research group that they will supervise
- The abstract should include content regarding the candidate's 1) research vision, 2) pedagogy, and 3) service.

Submissions will be evaluated on the following criteria:

- 1) Is the title/abstract engaging?
- 2) Does the abstract/CV speak to the candidate's research?
- 3) Does the abstract/CV speak to the candidate's teaching?
- 4) Does the abstract/CV speak to the candidate's service?

Example abstracts:

Title: Surface polariton based infrared optoelectronics lab

Faculty Candidate: Thomas Folland

Abstract:

My academic career has been defined by understanding the optical properties of materials and interfaces using infrared light, working with a diverse set of students and collaborators. This has motivated me to seek the role of assistant professor in materials science and engineering, in order to provide both high quality research and teaching. My research has centred on leveraging polaritons - coupled states of light and matter - in order engineer new functionality into infrared devices and materials, in particular 2D materials. In my graduate degree, from the University of Manchester, I developed new ways of controlling the emission of terahertz lasers, leveraging surface polaritons in graphene (published in Science). As I moved on to my postdoctoral role at Vanderbilt University, my expertise has broadened to include polariton propagation in hBN and other polar materials (with publications in Nature Communications and Nano Letters). My groups future work aims to tightly confine light to optoelectronic transitions in atomically thin materials, in order to create new types of infrared source, detector and sensor technology. This experience and background lends me to teaching on key material subjects in solid state physics, thermodynamics and quantum mechanics.

Title: Synthesis and assembly of multifunctional soft matter

Faculty Candidate: Michael Ford

Abstract:

To facilitate interactions with humans, machines of the future will require soft, multifunctional materials. My research group will focus on synthesis of multifunctional soft matter, relating functionality to structure by synthesizing new polymers/additives and tuning the kinetics and thermodynamics of composite assembly. These materials will be developed for soft machines that can interact with and function in unstructured environments. As a faculty member, I hope to answer fundamental questions about interfacial interactions, integrated self-assembly, and soft matter synthesis/characterization. The research will have broader societal impact as my group will develop materials for technologies like healthcare. The impact of my group will go beyond my areas of expertise in research; I will also engage with future scientists through my teaching and service. My past experience in teaching and outreach has highlighted the impact that I can make as a scientist, and I hope to continue that trend as a faculty member.

Title: Nanomaterials for energy – designing and understanding our energy future

Faculty Candidate: Katherine Mazzio

Abstract:

The development of new materials for energy conversion and storage is paramount as our society progresses towards a sustainable energy economy. The focus of my group will be on the development of energy materials and generating fundamental understanding of their transport, phase changes, and redox processes. We will accomplish this through the design and synthesis of tailor-made nanomaterials and interfaces, their analysis via in-situ and operando characterization techniques and contributing to fundamental understandings in energy conversion and storage. I have been working at a national laboratory for the last six years and decided to become a university faculty member because I find facilitating the scientific and intellectual growth of the students that I mentor to be the best part of my job. My active involvement in scientific societies such as the MRS and my involvement in diversity initiatives have honed my leadership skills and prepared me for this next step.