

Introduction

Guest Editors:

Gary L. Messing

The Pennsylvania State University, USA, JMR Editor-in-Chief

Susmita Bose

Washington State University, USA, JMR Associate Editor

Jürgen Eckert

Montanuniversität, Austria, JMR Associate Editor

Linda S. Schadler

The University of Vermont, USA, JMR Associate Editor

We are pleased to publish the 4th Early Career Scholars in Materials Science Annual Issue of the *Journal of Materials Research*. The issue highlights young scientists carrying out research in the field of materials. By publishing these papers together, we spotlight this group of early career scholars at a particularly important stage in their careers. Their photos and biographical details are included to personalize the authors and to help other scientists identify them and thus facilitate networking for them. To further extend that exposure, we have published all of these papers on an Open Access basis. It is impressive to see the degree of international representation of the scholars, and the efforts taken by this group to carry out state of the art research on a global scale.

The topical coverage represented by the 16 papers in this issue parallel the diversity of subjects represented by the Materials Research Society. Central to all of the papers is a perspective on processing-nanostructure-property relations—a central theme in materials research. There are seven review articles and nine regular submission papers. A number of papers seek to fabricate new materials using novel approaches such as electric

microwave field driven processes, additive manufacturing, and microgels in microfluidic devices. The power of advanced analytical tools are highlighted in a number of these research programs to explore processes in situ. Multiple papers investigated the nanostructure-property relations in nano-metals and alloys. Finally, new materials, especially for energy-related applications like thermoelectrics, electrocalorics and energy storage, are presented.

The Early Career Scholars currently reside in six countries, and four science and engineering disciplines—most have already spent time at labs and universities outside their home countries. Thirteen of the scholars hold academic positions. Almost half are women. We are enthusiastic to see how the careers of this group of young professionals advance in the coming years. We expect they will continue to grow and prosper in the field of materials and assume future leadership roles. Feel free to contact the editors (jmr@mrs.org) if you have any questions about publishing a paper in a future Early Career Scholars in Materials Science Annual Issue. Enjoy reading these outstanding papers!

DOI: 10.1557/jmr.2018.476