OPTICAL CERAMICS SCIENCE

This special issue of the Journal of Materials Research contains articles that were accepted in response to an invitation for manuscripts.

Introduction

Guest Editors:

Romain Gaume
University of Central Florida, USA

Yiquan Wu
Alfred University, USA

Thomas Hartnett
Raytheon, USA

We are very pleased to introduce this Focus Issue on Optical Ceramics Science. This issue comes with the widely accepted recognition that transparent ceramics have opened up new opportunities for solving difficult engineering challenges presented by single-crystals and glasses. Lighting, defense applications, nuclear surveillance, and medical imaging are just a few examples in which transparent ceramics have now made an impact. Every year, international symposia devoted to this area of research and development are held under the aegis of world-leading materials science and optical communities, including the MRS, ACerS, OSA and SPIE.

The multidisciplinary nature of the field provides a unique opportunity for researchers to exchange ideas and expand their horizons in the many aspects of ceramic fabrication and characterization. In this manner, innovation in one area quickly percolates to a variety of applications. This special issue provides an excellent representative sample of topics covering a wide range of innovations from transparent armor, high-power laser materials, scintillator ceramics for the detection of ionizing radiations, and lighting applications. All invited and submitted papers underwent the rigorous peer review process applied to papers submitted to the regular issues of the *Journal of Materials Research*. While we know that we could not possibly capture all of the exciting work going on in the field of transparent ceramics, we do hope that we have provided a fair snapshot of the current efforts. The 13 papers selected for this issue have been organized in the following topics:

- Materials for passive optical components,
- Laser and electro-optic materials and
- Scintillator and phosphor materials.

We hope you enjoy this Focus Issue and that the work presented here will inspire you in your own research.

We thank the authors and co-authors as well as the many reviewers for their generous contributions. We also thank our home institutions for the time allowed to work on this project.

DOI: 10.1557/jmr.2014.274

 © Materials Research Society 2014

https://doi.org/10.1557/jmr.2014.274 Published online by Cambridge University Press