Journal of Nanophotonics

Nanophotonics.SPIEDigitalLibrary.org

Nanostructured Thin Films IX: Design, Fabrication, Characterization, and Modeling

Akhlesh Lakhtakia
Tom G. Mackay
Motofumi Suzuki

SPIE.

Akhlesh Lakhtakia, Tom G. Mackay, Motofumi Suzuki, "Nanostructured Thin Films IX: Design, Fabrication, Characterization, and Modeling," *J. Nanophoton.* **11**(4), 043501 (2017), doi: 10.1117/1.JNP.11.043501.

Nanostructured Thin Films IX: Design, Fabrication, Characterization, and Modeling

Akhlesh Lakhtakia,^a Tom G. Mackay,^b and Motofumi Suzuki^c

^aThe Pennsylvania State University, Department of Engineering Science and Mechanics,
University Park, Pennsylvania, United States

^bUniversity of Edinburgh, School of Mathematics and Maxwell Institute for
Mathematical Science, James Clerk Maxwell Building, King's Buildings,
Edinburgh, United Kingdom

^cKyoto University, Department of Micro Engineering, Kyoto daigaku-Katsura,
Nishikyo-ku, Kyoto, Japan

The well-established discipline of thin-film optics is undergoing a spectacular revolution in recent years, due to the advent of nanotechnology. In particular, the propensity to engineer the morphology of thin films at nanometer length scales offers realistic opportunities to realize remarkable optical properties. Thus, the design, fabrication, characterization, and modeling of nanostructured thin films are all areas of intense ongoing research activity, presenting formidable challenges and tantalizing opportunities to experimentalists and theorists from a broad range of scientific and engineering disciplines. The Nanostructured Thin Films series of conferences, which are held under the auspices of the annual SPIE Optics + Photonics Symposium, provides a forum for the dissemination of the most recent developments in this rapidly expanding field.

The ninth conference in the Nanostructured Thin Films series took place in San Diego (California, USA) on the 30th August and 1st September 2016. Over 50 presentations were made, spread over nine oral sessions and one poster session. The topics encompassed all aspects of design, fabrication, characterization, and modeling, with specialist sessions being devoted to plasmonics, control and modification, and multilayers. In addition, the opening keynote lecture focused on the development of biosensors. As in previous years, the impressive number of high-quality presentations from graduate students and junior researchers from all parts of the world was especially noteworthy in 2016.

This special section of the *Journal of Nanophotonics* comprises papers that either have been expanded from those presented at Nanostructured Thin Films IX or are otherwise closely related to papers presented at this conference. These papers offer a representative snapshot of the diverse developments in the field of nanostructured thin films and serve to highlight the vitality of this research field and the creativity of those researchers involved.

Acknowledgments

The guest editors thank their program committee, all authors for their contributions to this special section, and all those who participated in the Nanostructured Thin Films IX (NTF IX) conference and contributed to its proceedings. The NTF IX was financially supported by Kyoto University Foundation.

Akhlesh Lakhtakia is the Charles Godfrey Binder (Endowed) Professor of Engineering Science and Mechanics at the Pennsylvania State University. His current research interests include electromagnetic surface waves, circular polarization and Beltrami fields, thin-film solar cells, sculptured thin films, mimics, bone refacing, bioreplication, and forensic science. He became a Fellow of SPIE in 1996.

Tom G. Mackay is a reader in the School of Mathematics at the University of Edinburgh and an adjunct professor in the Department of Engineering Science and Mechanics at the Pennsylvania State University. His current research interests include homogenization, complex materials, and sculptured thin films. He became a Fellow of SPIE in 2010.

Motofumi Suzuki is a professor at Kyoto University. He received his bachelor's, master's, and doctor of engineering degrees from Kyoto University in 1986, 1988, and 1998, respectively. His current research interests include the optical properties of nanostructured thin films and the synthesis of novel nanostructures. He is a member of SPIE.