

Preface

MEMS and Nanotechnology, Volume 8: Proceedings of the 2014 Annual Conference on Experimental and Applied Mechanics represents one of the eight volumes of technical papers presented at the 2013 SEM Annual Conference & Exposition on Experimental and Applied Mechanics organized by the Society for Experimental Mechanics and held in Greenville, SC, June 2–5, 2014. The complete proceedings also includes volumes on: *Dynamic Behavior of Materials*; *Challenges in Mechanics of Time-Dependent Materials*; *Advancement of Optical Methods in Experimental Mechanics*; *Mechanics of Biological Systems and Materials*; *Composite, Hybrid, and Multifunctional Materials*; *Fracture, Fatigue, Failure and Damage Evolution*; *Experimental and Applied Mechanics*.

Each collection presents early findings from experimental and computational investigations on an important area within Experimental Mechanics, MEMS and Nanotechnology being one of these areas.

The MEMS and Nanotechnology fields are specialized scientific areas that involve miniaturizing conventional scale components and systems to take advantage of reduced size and weight and/or enhanced performance or novel functionality. These fields also encompass the application of principles ranging from the micron scale down to individual atoms. Sometimes these principles borrow from conventional scale laws but often involve new physical and/or chemical phenomena that require new behavioral laws and impart new properties to exploit. Studying how mechanical loads interact with components of these scales is important in developing new applications as well as assessing their reliability and functionality. Establishing this symposium at the Annual Meeting of the Society for Experimental Mechanics provides a venue where state-of-the-art experimental methods can be leveraged in these endeavors.

The 2013 symposium is the fourteenth in the series and addresses pertinent issues relating to design, analysis, fabrication, testing, optimization, and applications of MEMS and Nanotechnology, especially as these issues relate to Experimental Mechanics of microscale and nanoscale structures.

It is with deep gratitude that we thank the Organizing Committee, Session Chairs, Authors and Keynote Speakers, Participants, and SEM Staff for making the 15th-*ISMAN* a valuable and unforgettable experience.

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