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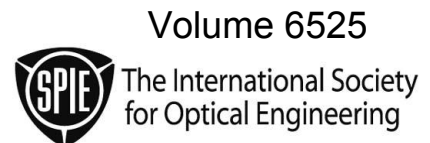
**Yuji Matsuzaki
Mehdi Ahmadian
Donald J. Leo**
Editors

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Introduction

New conference 6525, Active and Passive Smart Structures and Integrated Systems, was merged from two previous conferences, Damping and Isolation, and Smart Structures and Integrated Systems, at the conclusion of the last symposium. The latter conference started in 1993 with the title Smart Structures and Intelligent Systems, as one of five sub-conferences of the North American Conference (NAC) on SSM, sponsored by SPIE. The former joined NAC as the sub-conference on Passive Damping in 1994. Because of their long history, the major focus of the two conferences was mostly on the aerospace, mechanical, and transportation systems and structures. The majority of the topics in the call for papers for the new conference have, therefore, been related to macro-structures and the traditional and conventional areas of active and passive systems. Although it is important that the macro-structures research — associated strongly with the basic infrastructures of our society — remains strong, it is even more critical to introduce new topics into this conference by proactively including the emerging areas related to active and passive systems, such as micro- and nano-systems. We support the strong promotion and inclusion of topics associated with these areas, and other emerging technologies, in future conferences.

Another important focus area is the nature- and biology-inspired integrated systems, such as bionics (or biomimicry). Emerging in 1950s, this discipline is currently highly researched, with the primary aim of applying solutions, methods, and systems found in nature to the study and design of engineering systems. The nature and biological systems are smart and integrated, and ecologically sound in sustaining lives and preserving natural resources. Today, one of our main concerns is to prevent environmental destruction. To preserve the environment, we need to look more into nature and biology. Nature has evolved for more than 300 million years, while our modern science and technology have developed for less than 300 years. The more humble we are, the more we may learn from the nature and biology.

To reduce the redundancy between SSM and NDE, which had independently developed until last March, we decided to unify the two and reduce fourteen conferences into ten. We are now working on promoting the integration of sessions and topics that are synergistically associated, across various conferences at the symposium. We believe that ultimately this will benefit the attendees of the symposium by providing them with a more holistic exposure to the topics of interest to them. Along this line, Dr. Donald Leo, conference cochair, and Dr. Les Lee of the Air Force Office of Scientific Research, organized the sessions on Autonomous Materials I and II Wednesday morning in this conference 6525 and the sessions on Autonomous Materials Workshops I and II Wednesday afternoon in conference 6526 on Behavior and Mechanics of Multifunctional and Composite Materials. This was a new attempt to work

together beyond the domain of each conference. This symposium is a showcase for multidisciplinary and newly emerging research and technologies. It is necessary to continue to work together toward this direction for the benefit of the symposium. We encourage further collaboration and discussion among the chairs and cochairs of the symposium conferences, in order to move us further toward a well-integrated and unified symposium.

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