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# Introduction

In the year 2001, the SPIE conference (Conf. #4335) on Health Monitoring of Structural and Biological Systems brought engineers, materials scientists, medical doctors, and biologists together to exchange their ideas on this important issue. After having a positive experience at that conference, yearly conferences were organized on the same topic and the next one has been planned for the year 2011. Proceedings #7650 contain papers presented at the 2010 conference. Papers presented in the earlier conferences can be found in Proceedings #4335 for 2001, #4702 for 2002, #5047 for 2003, #5394 for 2004, #5768 for 2005, #6177 for 2006, #6532 for 2007, #6935 for 2008 and #7295 for 2009.

The emphasis of this conference is to recognize that sensing by nondestructive evaluation, sensor array design, signal acquisition and transmission, signal processing, energy harvesting, etc. are integral parts of health monitoring for both structural and biological systems. I believe that biological and physical science communities are learning from each other by coming to this conference and exchanging ideas. Some of the recent advances in the science and technology of health monitoring techniques that go beyond the traditional nondestructive imaging of internal defects are presented in these proceedings. New diagnosis, prognosis and rehabilitation techniques applied to engineering structures made of metal, concrete, and composites, as well as biological systems, are presented. The papers published here cover a wide range of technologies. It is hoped that this conference will stimulate further interactions between physical and life science community resulting in newer development of more innovative techniques for health monitoring applications.

I am thankful to the conference co-chair, program committee members, authors, session chairs, and the SPIE staff for putting together this excellent conference.

**Tribikram Kundu**