

- ❖ Name & Designation : Dr. Abhijeet B. Joshi, IYBA Fellow.
- ❖ Address : C/o Prof. Rohit Srivastava, Biosciences & Bioengineering, IIT Bombay, Powai, Mumbai-400076
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- ❖ Name of the International Conference/ Seminar/Symposium/Workshop : SPIE Smart Structures NDE 2014.
- ❖ Title of the abstract accepted : FITC-Tagged Macromolecule-based alginate microspheres for ure sensing.
- ❖ Date & Venue : 9-13th March 2014, San Diego, California, USA.
- ❖ Money sanctioned : Rs 1,00,000/-
- ❖ Money reimbursed : Rs 49,755/-

Participation Report

a. Organization of training/workshops (No. of participating countries, no. of sessions etc, (Not more than 100 words)

The SPIE Smart Structures 2014 conference was an excellent mode to witness the research going on at the international levels in the interdisciplinary areas of nanotechnology, optics and photonics forefront of various applications. Different kinds of nanocarriers like polymeric nanoparticles for pulmonary vaccine delivery, Nanoemulsions, about graphene, polymer composites, anisotropic nanomaterials, layer by layer assembly, MEMS, Microfluidics etc. were part of sessions of this conference. Conference comprised of several parallel sessions relating to different areas of Smart Structures in energy, civil, materials aspects.

b. Academic Highlights of the training/workshops, including major recommendation and the following:

i) New development presented at the training/workshops

Several important aspects presented in the conference were synthesis and self assembly of nanoparticles, nanosystems for biomedical application, nanosystems for sensing, diagnostic imaging based on magnetic, electronic

properties optical devices for health care applications etc. Applications of nanomaterials in healthcare and in energy applications was and additional advantage of attending this conference. Recent developments in Noncontact Laser Sensing Technology for Structural Health Monitoring and their scope in future were discussed by Hoon Sohn, KAIST. An important application of self assembly by self organization of carbon nanotubes was presented by Ashok Srivastava, Louisiana State Univ.. Nanotubes and such other nanoporous materials and their applications in drug delivery and tissue engineering, was presented by him.

ii) New development resulting from the training/workshops (200 words)
SPIE Smart Structures NDE 2014 was a great platform to showcase our research in front of academicians and industry professionals. The conference involved interdisciplinary fields of Nanobiomaterials, nanoscale materials important in biomedical and pharmaceutical areas. Attendees are from variety of areas in the fields of industries, academics, students and postdocs etc. A productive collaboration can be developed by interaction with Prof. Ashok Srivastava, Professor, Louisiana Tech University, USA.

iii) Name of the publication in case your work is recommended for publications: SPIE Proceedings 2014 and SPIE Digital Library

9. Participant's contribution to the training/workshops (100 words)

I was involved in oral presentation in the conference. It was interesting to attend all the invited and oral contributed talks. The interaction with the attendees and suggestions in research would really help us to improve both scientifically and networking. I can use the knowledge gained on several organic/inorganic nanoparticles and polymeric nanoparticles for drug delivery and biosensor development in my post-doctoral research work. Several formulations can be used for biosensor development as their lateral avenue of application. I was also exposed to fundamentals about optical and photonic systems which could help me in developing implantable biosensors. Developed understanding about several formulation strategies. Interaction with eminent faculty will also aid in exploring future post-doctoral or job opportunities.