SPIE -IISc Chapter report 2012-2013

About SPIE-IISc Chapter
The SPIE-IISc chapter was inaugurated in August 2010 with a vision to bring together researchers working in all different fields of Optics and Photonics under a single common platform to explore opportunities and share knowledge. Since then the chapter has been successful in regularly conducting educational and technical talks by eminent speakers all across the country. In this report an update of SPIE-IISc chapter activities is presented.

Executive Committee:
The Ex-com is composed of: Srivani Padma (Chair-sri.vani.padma@gmail.com), Sharad Srivatsava (sharad.stva04@gmail.com), Balaswamy (balaswamy.velpula@gmail.com), Suresh B (bonagirisureshkumar@gmail.com), and Rakesh (rakesh9920@gmail.com). All of them are Research Scholars at IISc in Photonics area.

About 20 student members are therein IISc, all are graudate students. We encourage non-iisc students to take part in our programs.

Faculty Advisor:
Prof T Srinivas (SPIE Membership No.327086)
Associate Professor, ECE Dept, Indian Institute of Science, Bangalore 560012
email: tsrinu@ece.iisc.ernet.in

Chapter Activities
Below are the activities conducted and co-ordinated by the SPIE-IISc Photonics Chapter. The members of the chapters gave significant contributions of their time and effort in the execution of these activities.

2013:
• On 30/10/13: We had a visit by Director of SPIE Publications, Marylbeth Manning. She interacted with execom members and faculties in the nano-electronics research facilities in IISc.

• On 18/01/13: As part of outreach Technical Talk Series, Prof. T Srinivas, gave a talk on Micro-Opto-Electro-Mechanical Systems (MOEMS), at Guru Nanak Institute of Technology, Hyderabad.

• On 18/02/13: As part of in-campus Technical Talk Series, Samit Bara,IBM, gave a talk on Introduction to computational lithography, at the Golden
On 13/03/13: As part of outreach Technical Talk Series, Prof. T Srinivas, gave a talk on Micro-Opto-Electro-Mechanical Systems (MOEMS), at NIT Trichy.

On 05/04/13: As part of outreach Technical Talks Prof. T Srinivas gave a talk on PIC and MOEMS. The event was held at ISM Dhanbad, and co-ordinated by Vishnu Priye. They have started SPIE chapter now.

From 16-17 March 2013: The Chapter co-ordinated and represented itself in the National Workshop on Optics and Photonics (Optical Flare) organized by SPIE Chapter, National Institute of Technology, Goa. Prof. T Srinivas gave a talk on MOEMS at NIT Goa as part of this. The event was co-ordinated by Prof. P S Reddy.

From 26-28 Sep 2013: The Chapter co-ordinated and represented itself in the National Workshop on Nanophotonics held at SGSIT Indore, which was supported by their SPIE chapter. Prof. T Srinvas gave a talk on PBG. The event was co-ordinated by J T Andrews.

From 16-17 Aug 2013: The chapter co-ordinated in the execution of: Focussed discussion meeting on Metamaterial and photonic nanostructures, held at IIT Kanpur. Prof. T Srinivas, gave a talk on Photonics Bandgap Structures for Comm. and Sensor applications. The event was co-ordinated by Prof. Vijaya R.

On 18/10/13: The chapter co-ordinated in the execution of the Workshop on Photonic Integrated Circuits. The event has technical talks by Nayak JRCI, on MOEMS, Dinesh V<IIITDM Dhanbad, on Metamaterials, Jame Cole, Tokyo Inst of Tech on FDTD, and Gopal Hegde,CeNSE IISc on Nanotechnology6q,. The event was held at World Trade Center, Bangalore.

On 20/12/13: The chapter co-ordinate in the organization of the Workshop on Bio-inspired computation, held at IISc.

2012:

On 18/02/12: The chapter co-ordinated the execution of a One-day Workshop on Optical sensors and WDM optical networks, held at VIT, Tamilnadu. As part of outreach Technical Talks, Prof. T Srinivas was a speaker in the workshop.

On 17/07/12: Organized in-campus Technical talk on Photonic Sensors by J Nayak, RCI Hyderabad
• On 12/11/12: Organized a Colloquium on Organic Photonics. This featured talks by Mitsunoshi Onoda, University of Hyogo; Shuuzi Hayase, Keilchi Komato and Shyam Pande from Kyuushu University. The topics cover included: Conduction current behavior during electrophoretic deposition of conjugated polymer for LEDs, and Back contact type flexible dye-sensitised solar cells with cylinder spae-high efficiency cell. The event was co-ordinated by Sanjeev Sambandan.

• 6-7 Dec 2012: The chapter played a leading role in the inception photonics related activities in Vidya Jyothi Institute of Technology, Hyderabad. The SPIE chapter was inaugurated there by Prof. T Srinivas who also presented a talk on optical communication and networking. The chapter (IISc) represented itself in the Annual SPIE/OSA one-day event at NIT Trichy. Prof. T Srinivas talked on MOEMS in the event.

• 9-12 Dec 2012: The chapter participated in Photonics 2012. Students and Faculty from IISc attended IIT Madras, SPIE sponsored conference, papers were presented. The conference was initiated by Prof. Selvarajan, IISc, in 1992.

• 17/12/12: Visit by H Philip Stall, Vice-President SPIE. The chapter organized a technical talk titled - 50 years of Nasa Mirror Technology Development.

• 27-29 July 2012: International conference on Optical Engineering was organized at Visweswaraya Technological university, Belgaum, Karnataka, under IEEE Photonics society. VTU has financially sponsored the conference. It was a grand event with over 300 participants from several countries, 120 presentations, 20 invited talks, four tutorials.

Planned Activites

• Main objective this year is membership growth. There are about 50 research students woking in Photonics related areas in IISc.

• There is great potential for Photonics activity for undergraduate students in Bangalore. There are about 200 educational institutions of which about 25 have Photonics interested faculty now.

• A major colloquium is planned for second Saturday of April to show case the photonics research of IISc faculty and students. Presentations by Faculty and posters by students.

• We plan two major workshops - one on Bio-Photonics and one on MOEMS. This is mainly for membership growth.

• Monthly technical talks are planned at various Educational Institutions are
planned as outreach activity.

- We would like to take part in activities of other SPIE chapters in India - In the next two months we have several coming up - ISM Dhanbad (2-3 April), NIT Trichy (25 Feb), IIIT Jabalpur (March), GITAM Vizag (24 Feb), Kerala Univ, Trivandrum (end March).

**Financial Position**

Technical talks are open to all.
Major Workshops are charged for Non-members
Expenses usually shared with OSA and IEEE Chapters.

VTU Belgaum sponsored a major conference in July 2014 (Rupees Ten lakhs=USD 20,000)

Did not claim any grants from SPIE in the last two years

Present Position: Rs.32000 ( = USD 640)
Canara bank, Indian Institute of Science

**Some Pictures**

Talk: Quantum engg., Mr. Rohit Ramakrishnan (7 Dec 2014)
Workshop Recent advances in Photonics
17-18 Dec 2013, IIT Delhi
(addressing: Director IITD, Prof. R K Shevgaonkar)

Visit of Marylbeth Manning, Director SPIE Digital Library (30 Oct 2013)
Workshop on Silicon Photonics, Dr. Amit Khanna, IMEC Belgium (4 Jan 2014)

Marriage of SPIE-IISc Chairperson, Ms. Srivani Padma (4 Dec 2013)