



IEICE Singapore Section

Representative: Dr. S. Arulkumaran

Temasek Laboratories@NTU, Nanyang Technological University



Preferebale Topics to Focus

- Energy Efficient Power Convertors using Wide band-gap Semiconductors
- High Power Switches for Automobile Applications
- Low voltage Logic Devices using Compound Semiconductors
- Radiation Sensors for Medical Applications
- MMIC based Power Amplifiers for Satellite Communications
- High Efficiency Solar Cells for Space Applications

Activities in 2015

Conducted Two Lectures in NTU, Singapore

1) Prof. Masaaki Kuzuhara, Fukui University, Japan



GaN HEMT Technology on SiC and GaN
Substrates, **24th Nov 2015**



2) Dr. Masataka Higashiwaki, NICT, Japan



Opportunities and Challenges for Ga₂O₃ in Next-generation Power
Electronics, **4th Dec 2015**

Activity Plan in 2016

- Creating a Strong Network among all IEICE members in Singapore
- Promoting to join more members in IEICE
- Invite two Researchers to have Special Lectures in Singapore
 - Potential Scientists: Prof. H. Amano, Nagoya University and Prof. T. Hashizume, Hokkaido University
- Target to co-sponsor International Conferences in Singapore

Annual Activity Report of IEICE Singapore Section

Date of Report : 17 March 2016

Reporter : Dr. Subramaniam Arulkumaran, Programme Manager/Principal Research Scientist
Temasek Laboratories@NTU, Nanyang Technological University (NTU), Singapore

1. Organization

Assembly of the Section

└─Members of the Section: 12

└─Rep. Office ── Rep.: Dr. Subramaniam Arulkumaran, NTU (SArulkumaran@pmail.ntu.edu.sg)

2. Strategy of the Section

Last year (from June 2015), the IEICE Singapore Section initiated mainly to mobilize more new members into IEICE Societies. The section has also encouraged students and industry people to join as a member in the society. The section has also been collaborating with local Universities, Research Institutes and Industries to get its roots into more members.

3. Action Plan of the Section Stated in 2015 All Sections Meeting

- Membership drive at all IEICE/IEEE seminars in Singapore
- Briefing various transactions of IEICE and their topics at each seminar
- Joint workshop of industrial and academic researchers for a better networking among them
- A joint international workshop in Singapore sponsored by IEICE

4. Results of Activities during the 2015 Fiscal Year (April 2015 ~ March 2016)

4.1 Conference/Symposium/Workshop

IEICE focused in organizing sponsored lectures. The conference/symposium/workshop will be planned in subsequent years provided enough available funds.

4.2 Sponsored Lecture

It was planned and executed to have two seminar jointly organized by the Section on “(i) *GaN HEMT technology on SiC and GaN substrates*” and “(ii) *Opportunities and challenges for Ga₂O₃ in next-generation power electronics*”. The first seminar was delivered at Nanyang Technological University, Singapore by Prof. Masaaki Kuzuhara, Fukui University, Japan on *November 24, 2015*. The second seminar was delivered at Nanyang Technological University, Singapore by Dr. Masataka Higashiwaki, NICT, Tokyo, Japan on *December 4, 2015*. Many delegates from academia and industry joined for both seminars, and it gave a good platform to share their experiences with all the researchers in Singapore. The due acknowledgement to IEICE was mentioned before his talk and also the IEICE logo was arranged to appear in all the events including publicity materials, Website and the Seminar Flyer.

4.3 Improvement of the Section

To have more interaction in Singapore section, IEICE may jointly organize conference/symposium with the big IEEE Singapore section. This will also motivate IEEE members to join in IEICE.

5. Review and Future Plan

In the coming up year of 2016, the IEICE Singapore Section would like to invite two Eminent Scientists/Researchers from Japan (one in Energy Saving Lighting and another in Power Electronics) to share their experiences with Singapore researchers. This can potentially motivate the local researchers to take part of the IEICE Singapore Section's current and future events. In addition, this will be a seed to have a closer interaction between both parties and/or to initiate the collaborative research between Singapore Universities/Industries and Japan Universities/Industries. Also it is planned to make the IEICE membership drive to recruit new members and give a talk on the IEICE membership benefits, as well.

6. Constructive Opinion / Requests / Proposal

- The section will pay attention to bring young members for their contribution.
- IEICE can also think of providing Student Scholarship/Best Paper Award scheme.
- The section would like to request IEICE, Japan to allot additional funds to support for refreshments when the IEICE sponsored to have a conference in Singapore.
- If possible, IEICE can also extend discounted membership (at least 15%) those who are IEEE members.
- The section would like to invite the Nobel laureate from Japan to give lectures in Singapore. The section would like to request IEICE, Japan to extend support by providing additional funds (if required).