KIST-IMCM Symposium intends to gather and share up-to-date knowledge in various fields of nanostructured convergence and innovative materials for energy and environment applications in which IMCM is interested. This year 2014 KIST-IMCM Symposium is specially focused on materials and nanophotonics for the spectrum conversion and their applications. The symposium, hosted and organized by the Institute of Multidisciplinary Convergence of Matter(IMCM) and sponsored by the Korea Institute of Science and Technology(KIST), will provide an opportunity to establish intimate collaboration partnership between global leaders in materials innovation and KIST researchers.

The IMCM is one of the key divisions at KIST, a representative research institute in Korea. The main focus of the IMCM is to resolve global agenda through the development of innovative materials by combining advanced material process, device technology and computational science.

Program Topics

- **Materials for Spectrum Conversion**
- **Nanophotonics for Spectrum Conversion**
- **Device Application of Spectrum Conversion**

Plenary Speakers

- Dr. Tomoko Akai (AIST, Japan)
- Prof. Zhiyong Fan (HKUST, Hong Kong)
- Prof. Kilwon Cho (POSTEC, Korea)
- Prof. Mohamed Henini (Univ. of Nottingham, UK)

Invited Speakers

- Prof. Bruno Masenelli (INL, France)
- Prof. Richard Schaller (Northwestern Univ.,USA)
- Prof. Kien Wen Sun (National Chiao Tung Univ., Taiwan)
- Prof. Kee-Sun Sohn (Sejong Univ., Korea)
- Prof. Young Soo Kang (Sogang Univ., Korea)
- Prof. Woong Kim (Korea Univ., Korea)
- Dr. So-Hye Cho (KIST, Korea)
- Dr. Seungchul Kim (KIST, Korea)
- Dr. Ho Seong Jang (KIST, Korea)
- Dr. Joseph Luther (NREL, USA)
- Dr. Franz-Josef Haug (EPFL, Swiss)
- Prof. Masayuki Fujita (Kyoto Univ., Japan)
- Prof. Sangin Kim (Ajou Univ., Korea)
- Prof. Heon Lee (Korea Univ., Korea)
- Dr. Kahyun Hur (KIST, Korea)
- Prof. Katsuaki Tanabe (Univ. of Tokyo, Japan)
- Prof. Omar Manasreh (Univ. of Arkansas, USA)
- Dr. Denis Andrienko (Max Planck Institute, Germany)
- Dr. Kyung-Sang Cho (SAIT, Korea)
- Prof. Young Min Song (Pusan National Univ., Korea)
- Prof. Tae Geun Kim (Korea Univ., Korea)
- Dr. Bong Soo Kim (KIST, Korea)
- Dr. Doo-Hyun Ko (KIST, Korea)

Committee Members

- **Honorary Chair**
  Dr. Tae-Hoon Lim (Vice President, KIST)
- **Symposium Chair**
  Dr. Il Ki Han (Head of Center for Opto-electronic Convergence, KIST)
- **Advisory Board**
  Dr. Kwang-Ryeol Lee (Director-General, IMCM, KIST)
  Dr. Jong-Ku Park (Director, Nano-Convergence Foundation)
  Dr. Heon phil Ha (Head of Center for Materials Architecturing, KIST)
  Dr. Dong Young Kim (Principal Research Scientist, KIST)
  Dr. Sang Bae Lee (Principal Research Scientist, KIST)
- **Program Chair**
  Dr. Jin Dong Song (Principal Research Scientist, KIST)
- **Organizing & Program Committee**
  Dr. So-Hye Cho (KIST)
  Dr. Joon Soo Han (KIST)
  Dr. Hyungduk Ko (KIST)
  Dr. Doo-Hyun Ko (KIST)
  Dr. Seungchul Kim (KIST)
  Dr. Heon-Ju Lee (KIST)
  Dr. Kahyun Hur (KIST)
- **Secretariat**
  Ms. Kyoung-Hwa Lee (KIST)

Symposium Website : http://imcm.kist.re.kr/symposium

Symposium Facebook :
https://www.facebook.com/groups/kist.imcm.symposium/

Contact Points

E-mail: imcm@kist.re.kr
Phone: +82-2-958-6105 Fax: +82-2-958-5705



Program at a Glance

	May. 8 (Thu.)
08:30-09:00	**Registration**
09:00-09:30	**Opening Remarks**
Device Application of Spectrum Conversion I	
09:30-10:05	<P> Prof. Mohamed Henini
10:05-10:30	Prof. Katsuaki Tanabe
10:30-10:55	Dr. Kyung-Sang Cho
10:55-11:15	**Coffee Break**
11:15-11:40	Prof. Omar Manasreh
11:40-12:05	Prof. Young Min Song
12:05-12:30	Dr. Bong Soo Kim
12:30-13:30	**Lunch**
Nanophotonics for Spectrum Conversion	
13:30-14:05	<P> Prof. Zhiyong Fan
14:05-14:30	Prof. Sangin Kim
14:30-14:55	Dr. Joseph Luther
14:55-15:15	**Coffee Break**
15:15-15:40	Prof. Heon Lee
15:40-16:05	Dr. Franz-Josef Haug
16:05-16:30	Dr. Kahyun Hur
16:30-16:55	Prof. Masayuki Fujita
16:55-18:30	**KIST Museum & Lab Tour**

	May. 9 (Fri.)
08:30-09:00	**Registration**
Materials for Spectrum Conversion I	
09:00-09:35	<P> Dr. Tomoko Akai
09:35-10:00	Prof. Kee-Sun Sohn
10:00-10:25	Prof. Bruno Masenelli
10:25-10:45	**Coffee Break**
10:45-11:10	Prof. Young Soo Kang
11:10-11:35	Prof. Kien Wen Sun
11:35-12:00	Dr. Seungchul Kim
12:00-12:25	Dr. Ho Seong Jang
12:25-13:35	**Lunch**
13:35-15:00	**Poster Session**
Materials for Spectrum Conversion II	
15:00-15:25	Prof. Woong Kim
15:25-15:50	Prof. Richard Schaller
15:50-16:15	Dr. So-Hye Cho
Device Application of Spectrum Conversion II	
16:15-16:50	<P> Prof. Kilwon Cho
16:50-17:15	Prof. Tae Geun Kim
17:15-17:40	Dr. Denis Andrienko
17:40-18:05	Dr. Doo-Hyun Ko
18:05-18:10	Closing Remarks
18:10-20:00	**Banquet & Awards**

	May. 10 (Sat.)
09:00 - 12:00	**Discussion & Social Networking**

※ There will be a 30-minute talk for the plenary speakers and 20-minute talk for session speakers. And after the talk, a 5-minute Q&A will be continued.

List of Invited Speakers (Tentative as of April 4, 2014)

- **Materials for Spectrum Conversion**

- <Plenary Speech> Dr. Tomoko Akai (AIST, Japan)
  Efficient Luminescent Silica Materials : their Preparation, Properties and Applications
- Prof. Bruno Masenelli (INL, France)
  ZnO Nanoparticles as Down-shifting Material
- Prof. Richard Schaller (Northwestern Univ.,USA)
  Ultrafast Carrier and Lattice Dynamics in Semiconductor Nanocrystals
- Prof. Kien Wen Sun (National Chiao Tung Univ., Taiwan)
  Applying Luminescence Down-shifting and Plasmonic Effect to Enhance Light Harvesting of Si Solar Cells
- Prof. Kee-Sun Sohn (Sejong Univ., Korea)
  Discovery of Novel Phosphors for Use in LED Applications Using Genetic Algorithm and Particle Swarm Optimization-involved Combinatorial Chemistry
- Prof. Young Soo Kang (Sogang Univ., Korea)
  Enhanced Wavelength Conversion Efficiency by Up-conversion and Down-conversion Phosphors
- Prof. Woong Kim (Korea Univ., Korea)
  (TBD)
- Dr. So-Hye Cho (KIST, Korea)
  (TBD)
- Dr. Seungchul Kim (KIST, Korea)

(TBD)

- Dr. Ho Seong Jang (KIST, Korea)
  (TBD)

- **Nanophotonics for Spectrum Conversion**
- <Plenary Speech> Prof. Zhiyong Fan (HKUST, Hong Kong)
  Rational Design of Three-dimensional Nanophotonic Structures for Efficient Solar Energy Harvesting
- Dr. Joseph Luther (NREL, USA)
  (TBD)
- Dr. Franz-Josef Haug (EPFL, Swiss)
  Nano-photonic Concepts for Absorption Enhancement in Solar Cells
- Prof. Masayuki Fujita (Kyoto Univ., Japan)
  (TBD)
- Prof. Sangin Kim (Ajou Univ., Korea)
  (TBD)
- Prof. Heon Lee (Korea Univ., Korea)
  Various Functional Nano-scaled Structures Fabricated Using Nanoimprint for Highly Efficient Optoelectronic Devices
- Dr. Kahyun Hur (KIST, Korea)
  Photonic Properties of Block Copolymer Derived Metallic Nanomaterials

- **Device Applications of Spectrum Conversion**
- <Plenary Speech> Prof. Kilwon Cho (POSTEC, Korea)
  (TBD)
- <Plenary Speech> Prof. Mohamed Henini(Univ. of Nottingham, UK)
  Emerging Dilute III-V Bismides/Nitrides Semiconductors for Photovoltaics Applications
- Prof. Katsuaki Tanabe (Univ. of Tokyo, Japan)
  Development of High-Performance, Versatile Quantum Dot Solar Cells
- Prof. Omar Manasreh (Univ. of Arkansas, USA)
  Plasmonic Effect on Photovoltaic and Photoconductive Devices
- Dr. Denis Andrienko (Max Planck Institute for Polymer Research, Germany)
  (TBD)
- Dr. Kyung-Sang Cho (Samsung Advanced Institute of Technology, Korea)
  (TBD)
- Prof. Young Min Song (Pusan National Univ., Korea)
  Mimicking the compound eyes: advanced imaging systems and optical device applications
- Prof. Tae Geun Kim (Korea Univ., Korea)
  A Universal Method of Producing Transparent Conductive Electrodes Using Wide-bandgap Materials and their Applications to GaN-based Light-emitting Diodes
- Dr. Bong Soo Kim (KIST, Korea)
  (TBD)
- Dr. Doo-Hyun Ko (KIST, Korea)
  (TBD)