

The 3rd AEARU Advanced Materials Science Workshop Activity Reports

1. **Title of the event:** 3rd AEARU Advanced Materials Science Workshop
2. **Name of host institutions:** Nanjing University, POSTECH, Tohoku University
3. **Date and venue:** Nov. 11 ~ 13, 2009, POSCO International Center, POSTECH, Korea
4. **List of participants:** please see appendix 1.

5. Overview:

The workshop provided the forum to exchange the recent progress and ideas related to the advanced materials science not only in the AEARU community but also throughout the world. The topics of the workshop covered the following areas;

- 1) Innovative materials for nano-photonics
- 2) Self-assembled materials for green applications
- 3) Novel photonic materials and devices

6. **Target participants:** researchers in the field of chemistry and materials science and engineering and other related areas.

7. **Number of participants:** Approximately 60 students and researchers attended the workshop including 24 speakers from 10 AEARU member universities. There were also speakers from institutes outside AEARU such as US Navy, US Airforce, and Hokkaido University.

8. Organizing committee:

-Nanjing University

Prof. CHEN Yanfeng, Chair of Department of Materials Science

-POSTECH

Prof. Jong HEO, Head of Materials Science and Engineering Dept.

Prof. Moon-Ho JO, Materials Science and Engineering Dept.

Prof. Hee Cheul CHOI, Chemistry Dept.

-Tohoku University

Prof. Katsumi TANIGAKI, Graduate School of Sciences and Advanced Institute for Materials Research

9. **Program schedule:** please see appendix 2 & 3.

11. **Sponsors:** Basic Science Research Institute (BSRI), POSTECH
Center for Information Materials, POSTECH

オ-ガ+イ+ス+可+有+性+の+課+題
か
* 所属機内旅費支給がなくなり
参加を促すための希望者へのサポート
(筑波は旅費サポート)
あり

Appendix 2 _ 3rd AEARU Advanced Materials Science Workshop Timetable

Venue: POSCO Int'l Center

Time & Date	Description	Remarks
Wed., Nov. 11		
19:00 – 20:30	Welcoming Dinner	2F, D'Medley
Thurs., Nov. 12		
07:00 – 08:30	Breakfast	2F, D'Medley
09:00 – 09:05	Opening Ceremony	Auditorium
09:05 – 09:15	Welcome Remarks	President Sunggi Baik
09:15 – 09:35	Opening Plenary	Dr. Martin Vacha
09:40 – 12:10	Session I	Auditorium
12:10 – 13:05	Session II	Auditorium
13:05 – 14:30	Lunch	5F, Pheonix
14:30 – 17:55	Session II	Auditorium
18:30 – 21:00	Closing Plenary & Dinner	Nak Nak Restaurant
Fri., Nov. 13		
07:00 – 08:30	Breakfast	2F, D'Medley
09:00 – 12:10	Session III	Conference Rm A, B
12:30 – 14:00	Lunch	Yeonji Restaurant
14:00 – 15:00	Campus Tour	PAL, NCNT
15:30 – 18:00	Excursion to Gyeongju	Gyeongju
19:00 – 20:30	Dinner	Won Poong

As of Nov. 5, 2009

Appendix 3 _ 3rd AEARU Advanced Materials Science Workshop: Session Schedule

As of Nov. 5, 2009

No	Time	Name	Affiliation	Speech/Paper Title
Thurs. Nov. 12 - Opening Plenary				
1	09:15 - 09:35	VACHA, Martin	Tokyo Tech	Introducing NPG Asia Materials: A new journal for materials research in the Asia-Pacific region
Thurs. Nov. 12 - Session 1: Innovative materials for nano-photonics (5 speakers) - Chairs: JO, Moon-Ho (before coffee), CHOU, L.J. (after coffee)				
1	09:40 - 10:10	SHIN, Jung H.	KAIST	High index contrast host materials for Erbium and their use in planar optical devices
2	10:10 - 10:35	CHOU, Li-Jen	Tsing Hua-Hsinchu	Plasmonic fabry-pérot resonator: gold-in-Ga2O3 peapod nanowires
	10:35 - 10:55			Coffee Break
3	10:55 - 11:20	SOU, Iam Keong	HKUST	MBE-grown II-VI nano-materials: their formation mechanisms, characterizations and applications
4	11:20 - 11:45	YUTAKA, Oyama	Tohoku U	Frequency tunable coherent terahertz wave generation and its promising applications
5	11:45 - 12:10	JO, Moon-Ho	POSTECH	Visualization of photo-carrier dynamics in Ge nanowires
Thurs. Nov. 12 - Session 2: Self-assembled materials for green applications (10 Speakers) - Chairs: KOJIMA, T. (before coffee), KAWAI, Tomoji (after coffee)				
1	12:10 - 12:40	TANG, Ben Zhong	HKUST	Aggregation-induced emission: phenomenon, mechanism and applications
2	12:40 - 13:05	GE, Hai-Xiong	Nanjing U	Patterning nanostructures on curved surfaces by hybrid nanoimprint-soft lithography
	13:05 - 14:30			Lunch
3	14:30 - 14:55	KAWAI, Tomoji	Osaka U	Self-assembled oxide nanowires for the low energy consumption devices
4	14:55 - 15:20	LEE, Hu-Jong	POSTECH	Atomically stacked natural josephson junctions for active device functionality
5	15:20 - 15:45	KADOWAKI, Kazuo	Tsukuba U	Continuous and coherent THz generation from high temperature superconductors
	15:45 - 16:10			Coffee Break
6	16:10 - 16:35	KIM, Jin Kon	POSTECH	Nanofunctional materials based on hard and soft nanoporous templates
7	16:35 - 17:00	KOJIMA, Takahiko	Tsukuba U	Supramolecular assemblies based on saddle-distorted porphyrins and their photofunctionality
8	17:00 - 17:25	LI, Tao	Nanjing U	Coupled plasmonic metamaterial at optical wavelength
9	17:25 - 17:40	TANAKA, Noriyuki	Kyoto U	Establishment of the Zn-Sn-P phase diagram for fabrication of ZnSnP2 solar cell
10	17:40 - 17:55	WANG, Yan	Tohoku U	Ambipolar injection of carriers and its application to light emission in organic field effect transistors

Appendix 3_ 3rd AEARU Advanced Materials Science Workshop: Session Schedule

As of Nov. 5, 2009

No	Time	Name	Affiliation	Speech/Paper Title
Thurs. Nov. 12 - Dinner Speech				
11	18:30 - 18:50	SEO, John	AFOSR	US-Korea Nano, Bio, Information Technology (NBIT) Symbiosis Program
	18:50 - 21:00			Dinner
Fri. Nov. 13 - Session 3: Novel photonic materials and devices (7 Speakers) - Chairs: TANABE S. (before coffee) TANAKA K. (after coffee)				
1	09:00 - 09:30	TANAKA, Keiji	Hokkaido U	Photoinduced phenomena in chalcogenide glasses: From atomic to macroscopic
2	09:30 - 09:55	CHEN, Yan-Feng	Nanjing U	Abnormal effects of acoustic waves propagating in sonic crystals: negative refraction and extraordinary transmission with subwavelength
3	09:55 - 10:20	YANO, Tetsujii	Tokyo Tech	Glass microspheres for spherical cavity laser
4	10:20 - 10:45	MASAI, Hirokazu	Tohoku U	Functional crystallization in glass for photonic application
	10:45 - 11:05			Coffee Break
5	11:05 - 11:30	TANABE, Setsuhisa	Kyoto U	Downconversion ceramics for efficient photovoltaic generation
6	11:30 - 11:55	KIM, Jong Kyu	POSTECH	Low refractive index materials and their applications
7	11:55 - 12:10	MOON, Chiwon	Kyoto U	Periodic array of dislocations inside sapphire formed by femtosecond laser irradiation