

Report for JSPS Asian Science/Academic Seminar FY2016 <Summary>

Date March 6, 2017

1. Title of Seminar JSPS-DST Asian Academic Seminar: Advanced Materials, Processes and Systems for Sustainable Development

2. Purpose of Seminar

The purpose of this seminar is to support the achievements of young researchers in India and Japan who are studying in the fields of new materials and high-tech machinery. The seminar aims to promote future cooperation in research relating to environmental harmony, effective use of limited resources, and in sustainable developments for materials and systems that will form the basis of future societies. The seminar aims to achieve these goals through the following primary activities.

- 1) Lectures and discussion by researchers conducting cutting edge technological research in relevant fields
- 2) Industry visits to organizations leading the way in Japan
- 3) Deepening relationships with researchers from key fields

3. Period

From December 14, 2016 through December 21, 2016 (8 days)

4. Venue

December 14 Hotel Forest Hongo (Welcome Reception)
 December 15 Embassy of India (Seminar)
 December 16 Amada Solution Center, Isehara Works & Amada Engineering Co., LTD., Fujinomiya Works (Japanese Industrial Tour)
 December 17-19 Eng.Bldg.2 and so on, The University of Tokyo (Seminar & Laboratory Tour)
 December 20 National Institute for Materials Science & National Institute of Advanced Industrial Science (Japanese Laboratory Tour in Tsukuba)

5. Organization

(1) Cosponsors

Japan Side	Japan Society for the Promotion of Science
	The University of Tokyo
India Side	Department of Science & Technology (DST), India
	Indian Institute of Technology Madras

(2) Organizer

1) Japan side

Name in full Mamoru MITSUSHI
 Affiliation and Position Graduate School of Engineering, The University of Tokyo
Dean and Professor
 Name in full Atsushi SUZUKI
 Affiliation and Position Department of Materials Science & Research Institute of
Environment and Information Science, Yokohama National
University, Professor

2) India side

Name in full Pradeep THALAPPIL
 Affiliation and Position Indian Institute of Technology Madras, Professor

6. Program: Agenda, Topics, Related Activities (e.g., Reception, Excursion)

See attached program etc. (Exhibit No.1)

7. Lecturers and Participants

1) Number of Persons

	Lecturers	Participants	Total
Japan side	12	26	38
(Number who participated under program funding)	10	20	30
India side	13	7	20
(Number who participated under program funding)	13	7	20
Other persons	2	3	5
(Number who participated under program funding)	2	3	5
Total	27	36	63
(Number who participated under program funding)	25	30	55

2) List

A: Lecturers

Name in full	Position /Affiliation/ Institution(Country of Affiliated Institution)	Remarks
-Japan side		
Akira FUJISHIMA	President/Tokyo University of Science/Japan	*
Osamu TAKAI	Professor/ Kanto Gakuin University/Japan	*
Tatsuya TUKUDA	Professor/The University of Tokyo/Japan	*
Yoshinori SAWAE	Professor/Kyushu University/Japan	*
Shin'ichi WARISAWA	Professor/The University of Tokyo/Japan	*
Madoka TAKAI	Professor/The University of Tokyo/Japan	*
Yuichi NEGISHI	Associate Professor/Tokyo University of Science/Japan	*
Mamoru MITSUISHI	Dean & Professor/The University of Tokyo/Japan	*
Atsushi SUZUKI	Professor/Yokohama National University/Japan	*
Abhishek Kumar SINGH	Program-Specific Researcher/Kyoto University/Japan	*
Fumio ADACHI	Deputy Director General/The University of Tokyo/Japan	
Hiroshi YOSHINO	Director/The University of Tokyo/Japan	
-India/Korea side		
Giridhar Udapi Rao KULKARNI	Director/ Jawaharlal Nehru Centre for Advanced Scientific Research/India	*
Satish Vasu KAILAS	Professor/ Indian Institute of Science/India	*
Chandrabhas NARAYANA	Chairman and Professor/ Jawaharlal Nehru Centre for Advanced Scientific Research/India	*
Pradeep THALAPPIL	Professor/ Indian Institute of Technology Madras/India	*
Venkata Reddy NALLAGUNDLA	Professor/ Indian Institute of Technology Hyderabad/India	*
Sundargopal GHOSH	Associate Professor/ Indian Institute of Technology Madras/India	*
Suhrit GHOSH	Associate Professor/Indian Association for the Cultivation of Science/India	*
Pavan Kumar Gopalapura	Assistant Professor/ Indian Institute of Science Education and Research-Thiruvananthapuram/India	*
VENKATARAMU	Assistant Professor/ Indian Institute of Technology Bombay/India	*
Subramaniam CHANDRAMOULI	Assistant Professor/ Indian Institute of Science/India	*
Sanjiv SAMBANDAN	Assistant Professor/ Indian Institute of Science Education and Research-Thiruvananthapuram/India	*
Reji VARGHESE	Assistant Professor/ Indian Institute of Science Education and Research-Thiruvananthapuram/India	*
Lakshmi Vara Prasad	Scientist/CSIR-National Chemical Laboratory/India	*
BHAGAVATULA		
Milan Kumar SANYAL	Senior Professor/ Saha Institute of Nuclear Physics	*

-Other Persons Sen-Yeu YANG	Professor/National Taiwan University/Taiwan	*
Sang-Im YOO	Professor/Seoul National University/Korea	*

Place a check [*] in the Remarks Column for those who participated using JSPS's seminar funding.

B: Participants

Name in full	Position /Affiliation/ Institution(Country of Affiliated Institution)	Remarks
-Japan side		
Yasuo MATSUZAKI	Ph.D. Student/Kyushu University/Japan	*
Keisuke FUKUDA	Ph.D. Student/Kyushu University/Japan	*
Saravaban PRABAKARAN	Post-Doctoral Research Associate/Kyushu University/Japan	*
Sourav MITRA	Ph.D. Student/Kyushu University/Japan	*
Takeshi NABETA	Ph.D. Student/Yokohama National University/Japan	*
Carlton Fune Ogasawara HOY	Ph.D. Student/The University of Tokyo/Japan	*
Bharat KUMAR	Post-Doctoral Fellow/Tokyo University of Science/Japan	*
Mohd Sanusi ABDUL AZIZ	Foreign Researcher/Tokushima University/Japan	*
Tomo HARATA	Ph.D. Student/National Defense Academy/Japan	*
Shuhei KUMADA	Ph.D. Student/Tohoku University/Japan	*
Anand NAMBIAR	Ph.D. Student/Okayama University/Japan	*
Yoshiki SUGIZAKI	Ph.D. Student/Yokohama National University/Japan	*
Sreekutan M. UNNI	Post-Doctoral Researcher/Tokyo Institute of Technology/Japan	*
Lakshmi NAIR	Post-Doctoral Fellow/Tokyo University of Science/Japan	*
Yoshiki NIIHORI	Post-Doctoral Researcher/Tokyo University of Science/Japan	*
Kiichirou KOYASU	Associate Professor/The University of Tokyo/Japan	*
Keisuke HIRATA	Ph.D. Student/The University of Tokyo/Japan	*
Ryohei TOMIHARA	Ph.D. Student/The University of Tokyo/Japan	*
Yusuke ITO	Ph.D. Student/The University of Tokyo/Japan	*
Satoru MURAMATSU	Ph.D. Student/The University of Tokyo/Japan	*
Keisaku KIMURA	Visiting Researcher/Hosei University/Japan	
Tsubasa OMODA	Master Student/The University of Tokyo/Japan	
Kazuyuki TSURUOKA	Master Student/The University of Tokyo/Japan	
Ryota SHIBUYA	Undergraduate Student/The University of Tokyo/Japan	
Keishiro YAMASHITA	Undergraduate Student/The University of Tokyo/Japan	
Jeongah YI	System Engineer/TPS /Japan	
-India side		
Atanu GHOSH	Ph.D. Student/IIT Madras/India	*
Madhuri JASH	Ph.D. Student/IIT Madras/India	*
Papri CHAKRABORTY	Ph.D. Student/IIT Madras/India	*
Manju CHERUVATTIL KOYITTI	Ph.D. Student/IIT Madras/India	*
Bharath BANNUR	Ph.D. Student/JNCASR/India	*
Maku MORONSHING	Ph.D. Student/IIT Bombay/India	*
Amrita SIKDER	Doctoral Researcher/IACS/India	*
-Other Persons		
Kun-Cheng KE	Ph.D. Student/National Taiwan University/Taiwan	*
Nai-Wen CHANG	Ph.D. Student/National Taiwan University/Taiwan	*
Doo Ho LEE	Ph.D. Student/Seoul National University/Korea	*

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8. Please describe the achievements of the seminar.

(1) Scientific Achievements

The theme of this seminar was “Advanced Materials, Processes and Systems for Sustainable Development.” All lectures were extremely high-level, and were from multidisciplinary fields, including new materials and high-tech machinery. Although the topics covered were broad, all lectures discussed goals for sustainable societies and included many fields from all levels; from basic to advanced, and from soft to hard industries. Invited speakers were distinguished scientists from India, Japan, Korea, and Taiwan. During the seminar, there were constructive and enthusiastic discussions between students and invited speakers. All participants are expected to realize sustainable and safe developments around the world, and many young researchers can be expected to make progress in their research fields. Feedback from the participants suggested they appreciated being exposed to topics beyond their own research,

particularly applied or real-world examples. In the near future, the seminar participants may start international collaborations between Asian countries, especially between India and Japan. Exchanges between young scientists and distinguished speakers continued as long as time permitted. Furthermore, the steering committee asked young scientists to present their works in the poster session (along with short oral presentations). This seminar had a strong impact on younger students and scientists because of the excellent lectures and active discussion.

(2) International Exchange and Young Researcher Encouragement Achievements

In addition to this lecture seminar, which was provided to young researchers, a one-day seminar at the Embassy of India, Japan was held to enhance the interchanges of young researchers through a poster session and discussion. This seminar also allowed the young researchers in our seminar to meet and connect with other young researchers who have been studying and working in Japan. The exchanges and interactions between young Asian researchers are expected to generate innovations in the fields of new materials and high-tech machinery for the next generation. Moreover, the attendees visited a precision tool company representative in Japan, as well as its factory (located at the base of Mt. Fuji). Through the visit to the research & development section of the factory, the participants were able to have a glance at the present situation of the high-tech industry in Japan. They were also able to directly observe the latest results of the technology in practice. As a result, the participants realized that the eco-technologies integrated in the high-tech machinery contribute to decreasing resource consumption, reducing greenhouse gas emissions, and reducing the environmental load at the global level. They also learned that technological innovations are expected to provide a wide range of breakthroughs that aid the establishment of a sustainable society. These opportunities gave them a strong basis for beneficial professional relationships in the future. The events featured many fruitful discussions on research problems of great interest in both Japan and India, which suggested many cooperative research projects for the future that should lead to new insights and new approaches for sustainable societies.