Kinken Wakate: “Spintronics & Spin Current”

On September 24-25, Kinken Wakate “Lectures on Spintronics & Spin Current” was held in Sendai as a collaborative activity by ERATO-SQR, Nano Spin Conversion Science, and ICC-IMR. The aim of this program is providing young researchers with cutting-edge reviews of various aspects of spin science and encouraging them to challenge the frontier of this research field.

Spintronics and spin-current are the novel scientific concepts emerging from notable developments of nanotechnology during past two decades. The use of spin and flow of spin are now at the stage of seeking commercial applications and GMR, TMR, and MRAM are spectacular success of such challenges. The aim of this series of lectures is encouraging young researchers to challenge the frontier of spin science and to network with each other for their future collaborations. As a result, about 100 young distinguished researchers and students attended this program and vigorous discussions were exchanged among participants throughout the event. We believe thus established spin science community contributes to the future development of this field of research.

On 24 September Dr. Eiji Saitoh, Director of ERATO-SQR, Tohoku University, delivered an opening remark. His point was that a truly innovative idea came up from people rather than a specific individual and that sharing new concept among researchers like this event would be a timely catalyst for creating innovative ideas.

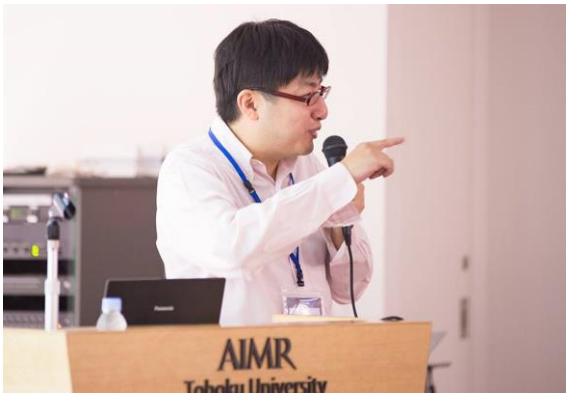

Fig.1 A scene of opening remark

The lecture started from Dr. Yoshinori Tokura, Riken Center for Emergent Matter Science, titled “Magnetic Skyrmion” covering various research results about Skyrmion physics. Then Dr. Katsuaki Sato, Center of Research & Development Strategy, JST, Dr. Hiromi Yuasa, Graduate School and Faculty of Information Science and Electric Engineering, Kyusyu University, Dr. Jun Hayakawa, Center for Exploratory Research Hitachi, Ltd., Research &Development Group, and Dr. Koki Takanashi, IMR, Tohoku University delivered lectures respectively. The lectures covered many topics from basic to applied research, theoretical to experimental aspect, spintronics to the related fields such as skyrmion.

Fig.2 A scene of lecture

After the lecture, participants moved to Sakunami, western city of Miyagi, to lodge together, and their energetic discussion continued even at dinner time.

Next day (on 25 September), Dr. Eiji Saitoh, and Dr. Shuichi Murakami, Department of Physics, Tokyo Institute of Technology, delivered lectures on spin current and topological phenomena in spintronics. Dr. Naoya Okamoto, Nissan Institute Modern Japanese Studies, University of Oxford talked about his Ph.D. research in physics and carrier and roles of Ph.D. holders in Japan.

Then the closing remark was given by Dr. Shuichi Murakami. He summarized this two-day intensive lectures, and expressed his deep gratitude with all persons involved in this event.

After the event, the participants enjoyed excursions either Nikka whisky factory tour or Tohoku University IMR tour. About 30 people joined this IMR tour with the cooperation of 6 laboratories and Public Relations Office in IMR.

The organizers appreciates kind collaborations of all participants, lecturers and contributors for the success of this lecture.

Keywords: spin current, skyrmion, Spin Hall Effect
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