

9th International Workshop on Biomaterials in Biosis-Abiosis Intelligent Interface Science

- Innovative Research for Biosis-Abiosis Intelligent Interface Summer Seminar 2014 -

Development of intelligent interface between human constituents and biomaterials is of importance because of strong demands for replacing various parts in human-body with artificial products. The experts, researchers and students from various fields related to biomaterials gathered at the 9th International Workshop on Biomaterials in Biosis-Abiosis Intelligent Interface Science 2014 on Aug. 26–27th at Sendai, Japan. The keynote lectures by three distinguished professors, invited lectures by three experts from abroad and 30 papers provided valuable opportunity for cross-over discussion, interdisciplinary idea sharing and new collaboration to develop and establish the intelligent interface science on biomaterials.

Interdisciplinary and international activities are necessary to develop the biomaterials, such as artificial bone and tooth, because the biomaterials should meet the various demands to control biofunctionalities and mechanical properties in a wide range from nano- to micro-scale, as well as compatibility with human body. Three Institute in Tohoku University, namely Institute for Materials Research (IMR), Graduate School of Dentistry and Graduate School of Biomedical Engineering, have been collaborating and involved the 5-year project on Biomaterials in Biosis-Abiosis Intelligent Interface Science. As the series of international forums in the frame this project, the 9th International Workshop on Biomaterials in Biosis-Abiosis Intelligent Interface Science 2014 in conjunction with Innovative Research for Biosis-Abiosis Intelligent Interface Summer Seminar 2014 was held on Aug. 26th–27th, 2014, at Miyagi Zao, Sendai.

The 2-days technical program in this workshop included 30 papers in which 3 keynote lectures and 3 invited lectures were given by distinguished professors and experts on biomaterials from Korea, China and Japan. About 70 participants of professors, researchers and students attended in the workshop.

Prof. Kiyoshi Koyano (Kyushu Univ.) provided a keynote lecture on establishment and maintenance of oral tissue-dental implant interface. The keynote lecture by Prof. Mitsugu Todo (Kyushu Univ.) was on osteochondral tissue engineering by hybridization of biocomposites and mesenchymal stem cells. Prof. Takao Hanawa (Tokyo Medical and Dental Univ.) gave a keynote lecture on Creation of biosis-abiosis intelligent interface. The

state-of-the-art research was provided as invited lectures by three experts from abroad. The biological function and mechanisms of the protein Cpne7 was presented by Prof. Joo-Cheol Park (Seoul National Univ., Korea). Prof. Xing-quan Jiang (Shanghai Jiao Tong Univ., China) gave an invited lecture entitled "Application of structure and chemical cues in biomaterials design to regulate stem cells differentiation". Dr. Youngjin Cho (Korea Institute of Science and Technology, Korea) provided updated research on the next generation nano-bio fusion materials and interfaces. In addition to the lectures, the progress and present state of the collaborating 5-year project were introduced. Furthermore, presentations by speakers with various academic backgrounds provided valuable opportunity for sharing updated and interdisciplinary viewpoints and ideas to the all participants. The collaborative discussion had great contributions to the development on the intelligent interface science on biomaterials.



Fig. 1 Group photo and one shot in an invited lecture.

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Takashi GOTO (Multi-Functional Materials Science)
E-mail: goto@imr.tohoku.ac.jp
<http://interface2014.imr.tohoku.ac.jp/>