

Okazaki Conference

The 72nd Okazaki Conference Ultimate Control of Coherence

(January 8–10, 2013)

Organizers: K. Ohmori (*IMS*), Y. Ohshima (*IMS*)

Invited Oversea Lecturers: W. C. Campbell (*UCLA*), G. Pupillo (*Univ. Strasbourg*), S. Jochim (*Univ. Heidelberg*), P. Hommelhoff (*MPI, Garching*), G. Engel (*Univ. Chicago*)

The 72nd Okazaki Conference, designated as “Ultimate Control of Coherence,” was held on January 8–10, 2013 at the Okazaki Conference Center. Following the celebrated tradition of the preceding Okazaki Conferences, of which origin dated back to just after the foundation of IMS, the conference focused on the topic that is emerging as a fundamental issue in the field of molecular science and related research area. This time, 20 invited lectures (including those given by 5 overseas lecturers) represented cutting-edge researches addressing the essential questions:

- 1) How far can we push the limit of control over quantum mechanical systems?
- 2) What is the possible impact of such an unprecedented control, *e.g.*, onto fundamental physics, quantum computation, and other application?
- 3) What is the strategy to share a unified aspect in control of

coherence between diverse systems and disciplines, *e.g.*, ultracold physics and ultrafast chemistry?

- 4) How far can we extend the boundary for implication of coherence to complex systems?

Fifty-nine participants contributed to and enjoyed with extensive discussions on the questions.

It was to be most notable that all the overseas lecturers are still in the age of thirties yet have already made outstanding achievements in the field of research. The abroad frameworks that enable to foster such young bright “stars” will be a good model for improving the Japanese research community. It was recognized by most of the participants that the conference was unique as promoting concentrated discussions on creation, observation, and manipulation of coherence in the diverged research areas, and it surely provided us a unified concept that overpasses the various disciplines. At the conference dinner held in the Okazaki New Grand Hotel, many addressed a notion that new friendship among people working in diverse fields will be the driving force to lead to innovative researches. We are very much confident that the present conference was the platform to ignite such friendship.

