

# The 62<sup>nd</sup> NIBB Conference "Force in Development"

Organizers: Lance Davidson (Univ. Pittsburgh, USA), Toshihiko Fujimori (NIBB, Japan), Shigeo Hayashi (RIKEN CDB, Japan), Carl-Philipp Heisenberg (IST, Austria, Austria), Kenji Matsuno (Osaka Univ., Japan), Hiroyuki Takeda (Univ. Tokyo, Japan), Naoto Ueno (NIBB, Japan)

November 17 (Mon) - 19 (Wed), 2014

For the past 30 years, in the field of developmental biology, the primary focus has been on elucidating the role of genes on developmental regulation, with biologists pouring the bulk of their time and effort into the investigation of genes, proteins, and their signal transduction systems, that forms the central dogma. It is indisputable that genes and proteins are absolutely required components exerting fundamental biological actions, however, in recent years new light has been shed on the importance of physical forces generated by the shape-change and movement of cells and tissues, as well as the responses of cells and tissues to such forces in developmental processes making elucidation of these physical forces a rising hot-topic in the biological sciences.

In order to capitalize on this opportunity, the 62nd NIBB Conference "Force in Development" was planned as an international convention. The meeting was held at the Okazaki Conference Center from November 17th to the 19th of 2014. With three keynote speakers, 21 lectures by invited researchers, Six sessions including seven short talks, and 44 poster presentations; the total number of participants was over 130 people. The Mekanobiology field has already existed for a long time, however, rather than cultured cells, the effects of force on multicellular systems, especially dynamics of cells and tissues which alter the physical environment of the embryo and how this impacts morphogenesis was the main theme of this conference. We are extremely grateful that top-class researchers from around the world were willing to gather in Okazaki during their tight

schedules. This meeting, by bringing renowned researchers together, made it possible to deeply explore the theme of the conference, and we believe this will be seen as an epoch-making meeting for the future development of this field. In addition, with so many young researchers from home and abroad who participated in the poster presentations and discussions I feel that this specific area is growing exponentially. We are confident that these connections will become the foundation of future collaborative research and international cooperation.

The conference was possible because of three research groups, all of which are supported by the Grant-in-Aid for Scientific Research on Innovative Areas (MEXT, Japan): "From molecules and cells to organs: trans-hierarchical logic for higher-order pattern and structures" (Project leader: Hiroyuki Takeda), "Cross-talk between moving cells and microenvironment as a basis of emerging order in multicellular systems" (Project leader: Takaki Miyata, Nagoya University), and "Cell community in early mammalian development" (Project leader: Toshihiko Fujimori), I would like to express my gratitude for their generous support for this meeting.

(Naoto Ueno)



## Speakers

Davidson, Lance (Univ. Pittsburgh), Eaton, Suzanne (MPI-CBG), Grill, Stephan (MPI-CBG), Heisenberg, Carl-Philipp (IST, Austria), Kiehart, Daniel (Duke Univ.), Lecuit, Thomas (IBDM), Leptin, Maria (EMBL Heidelberg), Munro, Edwin (Univ. Chicago), Plachta, Nicolas (EMBL/Monash Univ., Australia), Toyama, Yusuke (MBI, NUS/TLL) Vermot, Julien (IGBMC), Weber, Gregory (Rutgers Univ.) Fujimori, Toshihiko (NIBB), Hayashi, Shigeo (RIKEN CDB), Inoue, Yasuhiro (Kyoto Univ.), Matsumoto, Takeo (NITech), Matsuno, Kenji (Osaka Univ.), Miyata, Takaki (Nagoya Univ.), Ogura, Toshihiko (Tohoku Univ.), Sugimura, Kaoru (Kyoto Univ.), Takeda, Hiroyuki (Univ. Tokyo), Takeichi, Masatoshi (RIKEN CDB), Ueno, Naoto (NIBB), Wang, Yu-Chiun (RIKEN CDB)