

The 59th NIBB Conference “Neocortical Organization”

Organizers: Tetsuo Yamamori (NIBB), Yukiko Gotoh (The Univ. of Tokyo), Takuya Shimazaki (Keio Univ.), Ikue Mori (Nagoya Univ.)

March 10 (Sat)-13 (Tue), 2012

From March 10th to the 13th 2012 the 59th NIBB Conference, in partnership with the Grant-in-Aid for Scientific Research on Innovative Areas “Neural Diversity and Neocortical Organization” was held at the Okazaki Conference Center, with 137 members (31 speakers) gathered together from all around the world.

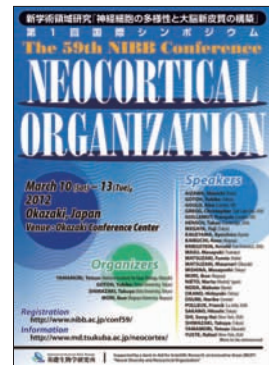
This conference was held with a special focus on the cerebral neocortex, with the objective of shedding light on the current state of research and to spur on more activity in the research field. This was probably the first international symposium on Neocortical Organization to be held over a period of 4 days in Japan, with top researchers from around the world gathering to discuss the newest research in the field.

The poster session, focusing primarily on younger researchers, was also quite fruitful, with 48 researchers making presentations. Their discussions extended on into the evening dinner parties, some of which went on to become the basis of actual research collaborations.

Though much of the current advances in this field of research pertain to the processes by which diverse controls in neural stem cells give rise to the different types of cells in

each layer of the neocortex, as research moves forward we expect that elucidation of these control mechanisms will contribute to our understanding of thalamo – cortical projections and cortico– cortical connections in the brain, and the formation of different areas within the neocortex.

(Tetsuo Yamamori)



Speakers

Guillemot, Francois (NIMR), Hensch, Takao (Harvard Univ.), Kriegstein, Arnold (UCSF), Nieto, Marta (CSIC), Polleux, Franck (TSRI), Shi, Song-Hai (MSKCC), Yuste, Rafael (Columbia Univ.)
 Aizawa, Shinichi (RIKEN CDB), Ikegaya, Yuji (The Univ. of Tokyo), Okano, Hideyuki (Keio Univ.), Osumi, Noriko (Tohoku Univ.), Kaibuchi, Kozo (Nagoya Univ.), Kageyama, Ryoichiro (Kyoto Univ.), Kano, Masanobu (The Univ. of Tokyo), Kawaguchi, Yasuo (NIPS), Gotoh, Yukiko (The Univ. of Tokyo), Sakano, Hitoshi (The Univ. of Tokyo), Shimazaki, Takuya (Keio Univ.), Tagawa, Yoshiaki (Kyoto Univ.), Nabekura, Junichi (NIPS), Noda, Makoto (Kyoto Univ.), Hanashima, Carina (RIKEN CDB), Masu, Masayuki (Univ. of Tsukuba), Matsuzaki, Masanori (NIBB), Matsuzaki, Fumio (RIKEN CDB), Mishina, Masayoshi (The Univ. of Tokyo), Murakami, Fujio (Osaka Univ.), Mori, Ikue (Nagoya Univ.), Yamamori, Tetsuo (NIBB)

The 58th/60th NIBB Conference “Germline -Specification, Sex, and Stem Cells-”

Organizers: Robert E. Braun (The Jackson Laboratory), Mark Van Doren (The Jackson Laboratory), Satoru Kobayashi (NIBB), Shosei Yoshida (NIBB)

July 17 (Tue) - 21 (Sat), 2012

Originally the 58th NIBB conference on “Gamete Stem Cells” was to be held in July, 2011, however, due to the March 11th earthquake and tsunami the meeting was postponed. Fortunately, the 60th NIBB conference on “Germline Development” was planned for this year and we were able to hold this unprecedented “58th and 60th ‘joint’ NIBB conference”.

At the symposium we focused on three subjects central to germline research, the formation of the germline, the sexual characteristics of the germline, and gamete stem cells, and thoroughly discussed the universal and distinctive aspects of a wide range of species, including mammals (primates, mice), birds, fish, ascidians, hydra, nematodes, planarians, and fruit flies. Over 130 participants from around the world took part, with four scientists who are pushing the bounds of present research giving special lectures based on data from the cutting edge of this field, which lead to impassioned debate from the beginning to the end of the conference.

Following the special lectures, lectures on the mechanisms regulating specification and sexual development of the germline continued. The topics included identification of the genes that induce feminization or masculinization of primordial germ cells, somatic control of germline sex, and the regulatory mechanisms of gene expression in germline cells. Research using birds, planarians, ascidians, and hydra was also presented, allowing for participants to share the invaluable viewpoint of evolutionary conservation and divergence of the regulatory mechanism underlying germline development, and to feel the true breadth of the germline research field.

On the following days, researchers investigating the stem cells of gametogenesis in a variety of animals, including mice, primates, fish and fruit flies, were able to come together and discuss their research in a single venue, making this a historic opportunity. Many debates were presented based on similarities in the gamete stem cell systems in mice, fruit flies, and other animals that display substantial differences in gonadal morphology, as well as computer

simulations and quantitative statistical analyses of stem cell dynamics. A variety of revolutionary germ cell manipulating techniques motivated by medical science, animal husbandry, and fisheries science was another important theme of the conference, with much lively debate on the subject to be had.

Though the schedule for the whole event was rather tight, we believe the conference provided ample ground for participants to meet between talk and poster sessions, and at meals and other get-togethers, and to strengthen and broaden their personal bonds. It is our hope that these new connections might become the seeds for new breakthrough research in the field.

Finally, we would like to give our thanks to all the participants for this year’s conference for attending, the Office of International Cooperation and the members of Kobayashi and Yoshida Laboratories of NIBB for managing the conference, Grant-in-Aid for Scientific Research on Innovative Areas, “Regulatory Mechanisms of Gamete Stem Cells” from the Ministry of Education, Culture, Sports, Science, and Technology for co-sponsoring the event, and to the Inoue Foundation for Science and the Daiko Foundation for their support.

(Shosei Yoshida)



Speakers

Braun, Robert (The Jackson Laboratory), de Rooij, Dirk (Univ. of Amsterdam), Han, Jae Yong (SNU), Koopman, Peter (Univ. of Queensland), Lehmann, Ruth (NYU), Matunis, Erika (Johns Hopkins Univ.), Newmark, Phillip (UIUC), Orwig, Kyle (Univ. of Pittsburgh), Page, David (Whitehead Institute), Seydoux, Geraldine (Johns Hopkins Univ.), Simons, Benjamin (Univ. of Cambridge), Spradling, Allan (CIW), Van Doren, Mark (Johns Hopkins Univ.), Yamashita, Yukiko (Univ. of Michigan Ann Arbor) Kobayashi, Kazuya (Hirosaki Univ.), Kobayashi, Satoru (NIBB), Kumano, Gaku (Osaka Univ.), Matsui, Yasuhisa (Tohoku Univ.), Nakamura, Akira (RIKEN CDB), Niki, Yuzo (Ibaraki Univ.), Ogawa, Takehiko (YCU), Saga, Yumiko (NIG), Saitou, Mitunori (Kyoto Univ.), Shinohara, Takashi (Kyoto Univ.), Tanaka, Minoru (NIBB), Yoshida, Shosei (NIBB), Yoshizaki, Goro (TUMSAT),