52nd NIBB Conference
Reproductive Strategies

Organizing Chair: Motonori Hoshi (Keio University)
January 20 (Fri) - 23 (Mon), 2006

Reproduction is one of the most characteristic features of living organisms. Essential for preserving species, this ability to reproduce has maintained life since its beginnings 3.8 billion years ago. For mammals, including human beings, reproduction and sex (a mechanism for shuffling genes) are inseparable and each individual has a fixed sex. There exists, however, a great variety of reproductive strategies. Some living organisms reproduce asexually, while others use either sexual or asexual reproduction strategies depending upon the circumstances. Some organisms change their sex during their lifetime.

This conference brought together participants ranging in experience from veteran scientists whose names appear in the history of molecular biology to graduate students. The participants engaged in intense and spirited discussions on many aspects of sex and reproduction. Why does sex exist? How much diversity is there among reproductive strategies? How did such strategies evolve? What is the biological significance of such strategies? Discussions on these and other topics provided research training opportunities as well as opportunities to establish and develop friendships transcending age, experience, and nationality.

Scientific topics:

Origin and Evolution of Sexual Reproduction

Determination and Differentiation of Sex

Germ Differentiation and Meiosis

Gamete Interactions

Allo-Recognition in Sexual Reproduction

Epigenetics

Evolution and Adaptation of Embryos and Larvae

Conflict and Competition in Sexual Reproduction

Speakers

BIRKHEAD, Tim R. (University of Sheffield, UK), DARSZON, Alberto (Universidad Nacional Autonoma de Mexico, Mexico), DORRESTEIJN, Adriaan (University of Giessen, Germany), EPEL, David (Stanford University, USA), EXTAVOUR, Cassandra (University of Cambridge, UK), HEINZE, Jurgen (University of Regensburg Germany), HEYLAND, Andreas (The Whitney Laboratory for Marine Bioscience, USA), JOLY, Dominique (Centre National de la Recherche Scientifique, France), MESELSON, Matthew (Harvard University, USA), MICHIELS, Nico (University of Tuebingen, Germany), NIELSEN, Claus (University of Copenhagen, Denmark), NORMARK, Benjamin (University of Massachusetts, USA), OLSSON, Mats (University of Wollongong, Australia), PRUITT, Robert E. (Purdue University, USA), SCHARER, Lukas (University of Innsbruck, Austria), STEWART, James R. (East Tennessee State University, USA), VACQUIER, Victor D. (University of California, San Diego, USA), WAKE, Marvalee H. (University of California Berkeley, USA)

AIGAKI, Toshiro (Tokyo Metropolitan University, Japan), ABE, Shin-ichi (Kumamoto University, Japan), HASEBE, Mitsuyasu (National Institute for Basic Biology, Japan), HOSHI, Motonori (Keio University, Japan), INABA, Kazuo (Tsukuba University, Japan), ISHIKAWA, Fuyuki (Kyoto University, Japan), ISHINO, Fumitoshi (Tokyo Medical and Dental University, Japan), IWASA, Yoh (Kyushu University, Japan), KAKUTANI, Tetsuji (National Institute of Genetics, Japan), KISHIMOTO, Takeo (Tokyo Institute of Technology, Japan), KOBAYASHI, Ichizo (University of Tokyo, Japan), KOBAYASHI, Kazuya (Keio University, Japan), KOBAYASHI, Satoru (National Institute for Basic Biology, Japan), KUROIWA, Asato (Hokkaido University, Japan), MATSUI, Yasuhisa (Tohoku University, Japan), MOHRI, Hideo (Professor Emeritus, National Institute for Basic Biology, Japan), MOROHASHI, Ken-ichirou (National Institute for Basic Biology, Japan), NAGAHAMA, Yoshitaka (National Institute for Basic Biology, Japan), NOCE, Toshiaki (Mitsubishi Kagaku Institute of Life Sciences, Japan), OKABE, Masaru (Osaka University, Japan), SAWADA, Hitoshi (Nagoya University, Japan), SUNANAGA, Takeshi (Kochi University, Japan), TACHIBANA, Kazunori (Tokyo Institute of Technology, Japan), TAKAHASHI, Yoshiko (Center for Developmental Biology, RIKEN, Japan), YAMAMOTO, Masayuki (University of Tokyo, Japan)

53rd NIBB Conference
Dynamic Organelles in Plants

Organizing Chair: Mikio Nishimura
June 14 (Wed) -17 (Sat), 2006

Because they spread their roots in the ground, plants must survive in a given environment. In order to adapt, they utilize environmental changes in the life cycle as important signals that are necessary for their survival. Recent studies have shown that plant cells can induce, degenerate and differentiate their organelles to adapt to environmental changes.

This conference provided an excellent opportunity to review recent advances in the field of plant organelle studies with special emphasis on their dynamics. Thirty-three lectures were presented in five sessions, namely 1) Differentiation and degradation, 2) Biogenesis and protein transport, 3) Post-genome approach, 4) Metabolic regulation and signal transduction, and 5) Integrated functions. Over 200 researchers, including 20 researchers from overseas, participated in the conference, which also included one plenary lecture and 89 poster presentations.

The participants were inspired to develop their own research on dynamic organelles. The conference was well-timed to provide an excellent opportunity to clarify the molecular mechanisms underling organelle dynamics in plants.

The conference was supported by JSPS (Japanese Society of Promotion of Science), Grant-in Aid for Scientific Research of Priority Areas on ìO rganelle Differentiationî, National Institute for Basic Biology, Japan Plant Science Foundation and the Daiko Foundation.

Scientific topics:

Differentiation and Degradation

Biogenesis and protein Transport

Post-Genome Approach

Metabolic Regulation and Signal Transduction

Integrated Functions

Speakers

BAKER, Alison (University of Leeds, UK), BRODSKY, Jeffrey (University of Pittsburgh, USA), CHRISTELLER, John (Horticulture and Food Research Institute of NZ, New Zealand), DENECKE, Jurgen (University of Leeds, UK), DUPREE, Paul (University of Cambridge, UK), EHRHARDT, David (Carnegie Institution, USA), GREENBERG, Jean (The University of Chicago, USA), HUANG, Anthony (University of California, USA), INOUE, Kentaro (University of California at Davis, USA), KOROLEVA, Olga (John Innes Centre, UK), LEE, Youngsook (POSTECH, South Korea), MITTLER, Ron (University of Nevada, USA), THIEL, Gerhard (Darmstadt University of Technology, Germany)

ASADA, Kozi (Fukuyama University, Japan) HARA-NISHIMURA, Ikuko (Kyoto University, Japan), ISHIGURO, Sumie (Nagoya University, Japan), MIMURA, Tetsuro (Kobe University, Japan), MORITA, Miyo (Nara Institute of Science and Technology, Japan), NAKANO, Akihiko (The University of Tokyo, Japan), NISHIKAWA, Shuh-ichi (Nagoya University, Japan), NISHIMURA, Mikio (National Institute for Basic Biology, Japan), NISHITANI, Kazuhiko (Tohoku University, Japan), NISHIZAWA, Naoko K. (The University of Tokyo, Japan), OHSUMI, Yoshinori (National Institute for Basic Biology, Japan), SAITO, Kazuki (Chiba University/ RIKEN, Japan), SAKAMOTO, Wataru (Okayama University, Japan), SHIBATA, Daisuke (Kazusa DNA Research Institute, Japan), SHIKANAI, Toshiharu (Kyushu University, Japan), SHIMAZAKI, Ken-ichiro (Kyushu University, Japan), SHIRASU, Ken (RIKEN, Japan), TAKANO, Hiroyoshi (Kumamoto University, Japan), TANAKA, Kan (The University of Tokyo, Japan), UCHIMIYA, Hirofumi (The University of Tokyo, Japan), YAMAYA, Tomoyuki (Tohoku University, Japan)