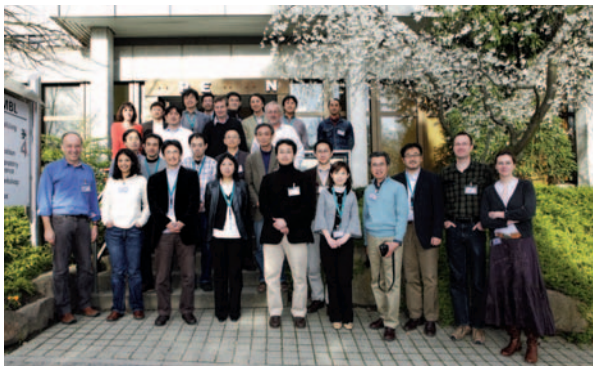
NIBB-EMBL JOINT MEETINGS

The 6th NIBB-EMBL Meeting: "Evolution of Epigenetic Regulations"

March 17 (Mon)-19 (Wed), 2008 | EMBL, Heidelberg

One of the most important questions in biology is how gene activity is temporally and spatially controlled. It has been several decades since we learned that not only DNA sequences but also other aspects of genetic regulation such as DNA/protein modifications influence chromatin remodeling and gene expression and thus the development of a variety of organisms. Epigenetic regulation involving methylation and acetylation of DNA or histone protein appears to be evolutionary conserved among species. However, it also seems that each organism evolves its own mechanism of epigenetic regulation of gene activity as shown by the fact that bacteria such as E. *coli*, yeast, the nematode, and the fruit fly lack DNA methylation. As organizers, Jürg Müller (EMBL), Kunio Shiota (Univ. Tokyo), and Shigeru Iida (NIBB) arranged this meeting in order to exchange the latest information on transcriptional regulation and remodeling of chromatin structure, regulation of cell differentiation, genomic imprinting, and so on. The sessions enabled discussion about both epigenetic regulation at different levels as well as the evolutional conservation of the epigenetic mechanism. As a result, species-specific mechanisms were highlighted through a series of presentations with a variety of organisms from yeast, plants, arthropods, to mammals. In addition, this meeting emphasized that genome-wide approaches to understanding the epigenetic state of the whole genome is important. We thank Drs. David Lane and Shigeru Iida for their stimulating plenary lectures.



Speakers

AKHTAR, Asifa (EMBL) , ALLSHIRE, Robin (Welcome Trust Univ. Edinburgh), LADURNER, Andreas (EMBL), MOSHER, Becky (The Sainsbury Laboratory), MUELLER, Juerg (EMBL), MUELLER, Christoph (EMBL), PASZKOWSKI, Jerzy (Univ. Geneva), REINBERG, Danny (HHMI at NYU School of Medicine), STANCHEVA, Irina (Univ. Edinburgh), HAMADA, Kyoko (RIKEN CDB), HIROSE, Susumu (National Institute of Genetics), IIDA, Shigeru (NIBB), IMAMURA, Takuya (Kyoto Univ.) , ISHINO, Fumitoshi (Tokyo Med. & Dent. Univ.), KAKUTANI, Tetsuji (National Institute of Genetics), MATSUI, Yasuhisa (Tohoku Univ.), NAKAYAMA, Jun-ichi (RIKEN CDB), OHGANE, Jun (Univ. Tokyo), SASAKI, Hiroyuki (National Institute of Genetics), SHINKAI, Yoichi (Kyoto Univ.), SHIOTA, Kunio (Univ. Tokyo), TANAKA, Satoshi (Univ. Tokyo)

The 7th NIBB-EMBL Meeting: "Systems Biology and Functional Genomics"

April 18 (Fri)-19 (Sat), 2008 | Center for Genomic Regulation, Barcelona

Center for Genomic Regulation (CRG) is located at the Barcelona Biomedical Research Park (PRBB), one of the largest research clusters in southern Europe. This meeting was held at the new CRG/PRBB building overlooking the beautiful Catalonian coast. The main purpose of the meeting was to bring Japanese and European scientists in the field together to grasp the current status of systems biology and functional genomics, and to discuss the future direction of the field. We also aimed to stimulate international collaborations between scientists. The meeting included excellent presentations on gene and protein networks, biological systems controlling higher-order phenomena such as complex morphogenesis of organs of animals and plants, and gene regulatory networking of circadian rhythm. As a result of the meeting we realized some key issues that need to be addressed are the setting-up of experimental systems by which data with minimum noise can be obtained,

comprehensive collection of data sets with different conditions or genetic backgrounds, a well-designed presentation of data that allows the extraction of biological significance, and the necessity of mathematical modeling to predict the principles behind biological phenomena. There is an ever increasing amount of biological data being accumulated by the achievements of large-scale biology such as genomic, proteomics, and phenomics, and therefore we certainly need sophisticated "Systems Biology" to make the best use of them.

Organizers of this meeting were Luis Serrano (EMBL/CRG), Eileen Furlong (EMBL), and Atsushi Mochizuki (NIBB).

Speakers

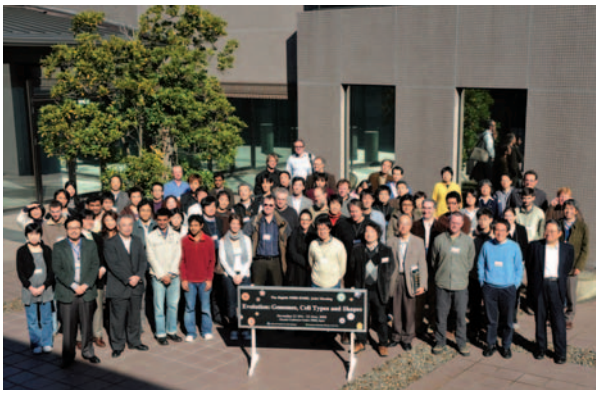
FURLONG, Eileen (EMBL), HUFNAGEL, Lars (EMBL), ISALAN, Mark (CRG), LEHNER, Ben (CRG), LEMAIRE, Patrick (IBDM), NEDELEC, Francois (EMBL), OLIVERI, Paola (UCL), PAPONOV, Ivan (Univ. Freiburg), RUSSELL, Rob (EMBL), SHARPE, James (CRG), STEINMETZ, Lars (EMBL), WITTBRODT, Jochen (EMBL)
HORIKAWA, Kazuki (Hokkaido Univ.), ISHIHARA, Shuji (Univ. Tokyo), ITO, Takashi (Univ. Tokyo), KURODA, Shinya (Univ. Tokyo), MIURA, Takashi (Kyoto Univ.), MOCHIZUKI, Atsushi (NIBB), SATOU, Yutaka (Kyoto Univ.), SHIGENOBU, Shuji (NIBB), UEDA, Hiroki (RIKEN, CDB)

The 8th NIBB-EMBL Meeting: "Evolution: Genomes, Cell Types and Shapes"

November 21 (Fri)-23 (Sun), 2008 | Okazaki Conference Center, Okazaki

This meeting was planned by three organizers, Detlev Arendt (EMBL), Mitsuyasu Hasebe (NIBB) and Shigeru Kurtani (RIKEN, CDB), to address current problems in evolutionary biology at different hierarchical levels of animal and plant life. The levels discussed included genomes, gene regulatory networks at the micro-level and organelles, cell types, organs, and morphology of species at the macro-level. Among the many meetings in evolutionary biology meetings, in which typically only a few limited topics of similar levels are discussed, this meeting was unique in that it overviewed the evolution of organismal life and brought the interconnectivity of the logic underlying different layers of evolutional events into focus. The life and evolutionary strategies of a variety of organisms, from single-celled organisms such as bacteria and yeast to higher plants and vertebrate including mammals, were presented and discussed not only with mechanistic insights but also from the aspect of their impact on the history of organismal life.

Four graduate students from EMBL were invited to contribute to the meeting and presented their work. They also had chances to meet with graduate students of NIBB and exchange thoughts on their scientific life at each institution.



Speakers

AKAM, Michael (Univ. Cambridge), ARENDT, Detlev (EMBL Heidelberg), BORK, Peer (EMBL Heid.), BOWMAN, John (Monash Univ.), CHOURROUT, Daniel (Univ. Bergen), DESPLAN, Claude (New York Univ.), FRIEDMAN, William (Univ. Colorado), FURLONG, Eileen (EMBL Heid.), HASELOFF, Jim (Univ. Cambridge), HASTINGS, Nicola (EMBL Heid.), KNOP, Michael (EMBL Heid.), LIU, Ya-Hsin (EMBL Heid.), LOWE, Christopher (Univ. Chicago), SPITZ, Francois (EMBL Heid.), STEINMETZ, Lars (EMBL Heid.), TECHNAU, Ulrich (Univ. Vienna), TOMER, Raju (EMBL Heid.), TRACHANA, Kalliopi (EMBL Heid.)
AGATA, Kiyokazu (Kyoto Univ.), HASEBE, Mitsuyasu (NIBB), ISHINO, Fumitoshi (Tokyo Med. & Dental Univ.), KURATANI, Shigeru (RIKEN CDB), NOJI, Sumihare (Univ. Tokushima), OKABE, Masataka (The Jikei Univ. School of Med.), OKADA, Norihiro (Tokyo Inst. Tech.), SATOH, Nori (Kyoto Univ.), TAMURA, Koji (Tohoku Univ.), TANAKA, Mikiko (Tokyo Inst. Tech.), TSUKAYA, Hirokazu (Univ. Tokyo), UENO, Naoto (NIBB), YAMAMORI, Tetsuo (NIBB)