

Meeting abstract

6th Transgenic Technology Meeting Report (<http://www.cnb.uam.es/~tt2005>)

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Abstract

The 6th Transgenic Technology Meeting was held in Barcelona, September 2005. The meeting in Barcelona was one of the largest in TTM series since its inception in Stockholm in 1999. Sessions held included topics on new transgenics technologies; the generation and breeding of transgenics and knockout mice; functional genomics; analysis of genetically modified mice and mouse genetics and development.

The 6th meeting on Transgenic Technologies was held in Barcelona (Spain) on September 11–13th, 2005 organized by the Barcelona Science Park (PCB) and the National Centre of Biotechnology (CNB-CSIC, Madrid). The Organizing Committee were Lluís Montoliu (CNB-CSIC, Madrid), Johannes Wilbertz (Karolinska Institute, Stockholm), Nelson Khoo (Umeå University, Umeå), Sagrario Ortega (CNIO, Madrid), Belen Pintado (INIA, Madrid), Anna Pujol (CBATEG, Barcelona), Mariona Arbonés (CRG, Barcelona) and M^aCarmen Muñoz (PCB, Barcelona). The meeting in Barcelona was one of the largest in TT-series since its inception in Stockholm in 1999. It also marked a turning point for the meeting series marked with a few “firsts”— first time for travel awards, first time meeting is associated with a journal, *Transgenic Research*, and first time to have the next meeting outside of Europe.

It started with a session on Vertebrate Non-mammalian transgenic animals. Robert Kelsh (University of Bath, UK) presented a case for fish as a model organism with his latest results in

transgenic fish. Junji Takeda followed with an example of complementarity of the two model organisms and introduced the audience to the new system of germ line transgenesis using a sleeping beauty transposon from fish system into the mouse.

The Fourth Genoway prize for Transgenic Technologies for outstanding contributions in the field of transgenic research was awarded to Andras Nagy (Mount Sinai Hospital, Toronto, Canada). Andras brought us along on his scientific and personal journey from Hungary to Canada, and the serendipitous discoveries that has sparked his career from developing the equipment for tetraploid aggregation to ES cells and knockout technology was both entertaining and enlightening.

Talks on new technologies in transgenesis were given in the session that followed the award. Francis Stewart (Technische Universität, Dresden) spoke of high throughput gene trapping using recombineering technology. Bruce Whitelaw (Roslin Institute, Edinburgh) gave his experiences using the lentiviral vectors and its use in large animals, in particular transgenic pigs. Michaela Scherr provided us a view on RNAi expression vectors and Norbert B. Ghyselinck showed us his work on

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monitoring Cre and Flp recombinations using reporting constructs containing directional lox and frt sites.

On the second day, the morning session's talks covered topics involved in the generation and breeding of transgenic mice. David Wolfer (University of Zürich) informed the audience on the choice of strains and how their genetic differences influence phenotypes. Rikke Thon (Harlan, Denmark) discussed the issue of variation of protocols used to monitor the welfare and characterization of genetically modified mice. Dominic Wells (Dept of Cellular and Molecular Neuroscience, Imperial College) presented data concerning tail biopsy and nociception. And Marie-Noëlle Martinez (Charles River, France) presented a relational workflow database for mouse colony management system.

The second session focused on the multi-nation projects designed to facilitate and promote research on a global level. Steve Brown (MRC, Harwell) informed and updated the audience on the Eumorphia and its "phenome" project. Martin Hrabé De Angelis (GSF National Research Centre for Environment and Health, Neuherberg) updated us on EMMA and its virtual structure of participating nations as well as its goals to cryopreserve interesting models. Harald Von Melchner (University of Frankfurt, Germany) provided information and focus of the Public Gene Trap Initiative using new directional recombinatorial cassettes.

Based on the success of the previous round table discussion held in Munich and Uppsala, another panel representing major transgenic facilities from Europe and US was well received. Frank Zimmermann (University of Heidelberg), Francina Langa (CIGM, Institut Pasteur, Paris), Sagrario Ortega (CNIO, Madrid), Thom Saunders (University of Michigan) and Shirley Pease (Caltech, Pasadena) gave brief descriptions of their units. They openly shared their experiences on running a transgenic unit in the open discussion with the audience.

The final session of the day provided the participants insights on the new non-invasive methods in imaging currently available. James Sharpe (MRC, Edinburgh) updated us on computer 3D imaging system and optical projection tomography, Marc Janier (ANIMAGE-CREATIS, Lyon) presented *in vivo* imaging system using magnetic resonance imaging and X-ray computer

tomography; and Manuel Desco (Laboratorio de Imagen, Gregorio Marañón Hospital, Madrid) finished the session with a new molecular imaging system.

The final day commenced with a session on topics detailing the phenotypic analysis of genetically modified mice including screening for the relevant clinically physiology (Raymond Romand, IGBMC, France), requisite knowledge on the observed pathology (Pierre Dubus, University of Boedeaux, France), developing and using discriminating tools for behavioural analysis (Mara Dierssen, Genomic Regulation Centre, Barcelona) and assessing development on the metabolic diseases (Fatima Bosch, CBATEG, Barcelona). The use of speed congenics in fast tracking backcrossing was detailed by Jean-Louis Guenet (Pasteur Institute, Paris).

The final session of the conference was on the hot topics in mouse genetics and development. Talks were given on genomic imprinting and its impact on phenotype (Gavin Kelsey, Babraham Institute, Cambridge); cell cycle and mouse genetics (Marcos Malumbres, CNIO, Madrid), CNS disorders (Xavier Estivill, Genomic Regulation Centre, Barcelona) and a new method in producing mice from ES cells (David Valenzuela, Regeneron Pharmaceuticals, USA).

TT2005 also offered a workshop detailing various basic transgenic techniques. This forum was held after the formal sessions and gave those new to transgenic and associated technologies the opportunity to learn more on various topics such as: construct design (Alfonso Gutiérrez-Adán, INIA, Madrid); ES cell culture (Sagrario Ortega, CNIO, Madrid); strain selection for experiments (Tom Fielder, UC-Irvine, USA); microbial impacts (José Manuel Sánchez-Morgado, MRC-NIMR, London) and surgery and narcotics (Ignacio Álvarez, Hospital Universitario La Paz, Madrid).

TT2005 also provided a unique opportunity for scientists, managers, lab heads, technicians and students to discuss the issue of founding an International Society for Transgene Technology. It is also clear that the TT meeting (TTM) series is now well recognized and serve as a marquee for the society. Lluís Montoliu, Johannes Wilbertz and Nelson Khoo opened the discussion for a society. The participants endorsed the initiative and a list of collaborating scientists was compiled

to move forward with the establishment of this society, with Carlisle Landel leading the general wave of support. It was also agreed that Lluís Montoliu and Johannes Wilbertz will serve as interim presidents until a fully elected executive committee is formed.

TT2005 had a participant list of over 370 people from academic and commercial institu-

tions. Lluís Montoliu and his local organizing committee are commended for a successful and enjoyable meeting. The Trans-Tech meeting is on the move Down Under for TT2007 (February). This meeting will see Brisbane host the meeting, with the local organizing committee represented by transgenic facilities from within Australia and New Zealand. We hope to see you there!!