

TT2013 Preliminary Program (version January 11, 2013)

Venue: Baiyun International Convention Center, Guangzhou, P.R. China, 25-27 February 2013

Sunday, February 24, 2013

- 10:00 - 11:00 Organizing Committee Meeting
- 11:00 - 13:00 ISTT Council Meeting
- 13:00 - 18:00 Registration and Poster Set Up
- 18:00 – 20:00 Optional pre-meeting private dinner cruise upon Pearl River (Guangzhou)

Monday, February 25, 2013

7:00 - Registration

Opening

8:30 - 9:00 Welcome Address: Organizer, Authorities, Organizing Committee, ISTT President

Session 1. Opening session

Chairs: Boris Jerchow and Ming Zhao

- 9:00 - 9:30 **Depei Liu** (Chinese Academy of Medical Science and Peking Union Medical College, Beijing, PR China)
OPENING LECTURE for the TT2013 MEETING
- 9:30 - 10:00 **Qi Zhou** (The State Key Laboratory of Reproductive Biology, Institute of Zoology, Chinese Academy of Sciences, Beijing, PR China)
From Haploid Stem Cells to Transgenic Mice
- 10:00 - 10:30 **Naomi Nakagata** (Center for Animal Resources and Development, Kumamoto University, Japan)
Overview and Progress in sperm cryopreservation and IVF
- 10:30 - 11:15 Coffee Break, Posters and Exhibitors, **45 min break**

Session 2. Functional genomics and international consortia

Chair: Kent Lloyd

- 11:15 - 11:45 **Xiang Gao** (Model Animal Research Center of Nanjing University, Nanjing, PR China)
China in the International Mouse Functional Genomics Consortia
Designing constructs and genetic modifications
- 11:45 - 12:15 **Michael Dobbie** (Australian Phenomics Facility, The Australian National University, Canberra, Australia)
The Australian Phenomics Network: Creating and Delivering New Research Tools and Resources
- 12:15 – 12:45 **Kent Lloyd** (University of California, Davis, USA)
A comprehensive review of germline potential of gene-targeted KOMP ES cell clones
- 12:45 - 14:30 Lunch, Posters and Exhibitors, **1 hour and 45 min break**

Session 3: Targeted Nucleases in Animal Transgenesis

Chair: Thom Saunders

- 14:30 - 15:00 **Dietmar Kappes** (Fox Chase Cancer Center, Philadelphia, PA)
Use of ZFNs for targeted mutagenesis in mice
- 15:00 - 15:30 **Bo Zhang** (College of Life Sciences, Peking University, Beijing, PR China)
TALEN Mediated Genome Modification in Zebrafish
- 15:30 - 16:00 **Liangxue Lai** (Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences, Guangzhou, PR China)
Generation of PPAR γ mono-allelic knockout pigs via zinc-finger nucleases and nuclear transfer cloning
- 16:00 - 16:45 Coffee Break, Posters and Exhibitors, **45 min break**
- 16:45 - 18:15 Round Table: How to Run a Transgenic Unit, **1 hour 30 min discussion**
Chair: Jan Parker-Thornburg (MD Anderson Cancer Center, Houston, TX, USA)
- Xin-an Pu** (The Ohio State Univ., Comprehensive Cancer Center, Columbus, OH, USA)
Trouble shooting, Managing errors, difficulties
- Benoît Kanzler** (Max-Planck Inst. for Immunobiology and Epigenetics, Freiburg, Germany)
Developing cutting edge technologies while still maintaining excellent basic services
- Thomas Kolbe** (Biomodels Austria & Inst. For Biotech. in Animal Production, Tulln, Austria)
The business aspects of running a transgenic unit

Session 4: ISTT Prize

- 18:15-18:30 Introduction to the 9th ISTT Prize for outstanding contributions to transgenic technologies
Luís Montoliu (National Center of Biotechnology, CSIC, Madrid, Spain; ISTT President)
Award Ceremony, with **Alexandre Fraichard**, CEO genOway
- 18:30 - 19:30 **Allan Bradley** (Wellcome Trust Sanger Institute, Hinxton, UK)
Embryonic stem cell technology 1980-2013: A personal journey over three decades
- 19:30 Reception, light meals and drinks
- 20:30 – 23:00 Optional Social event: Sightseeing tourism, Canton Tower (Guangzhou)

Tuesday, February 26, 2013

Session 5. Genetic Tools and assisted reproduction strategies in animal transgenesis

Chair: Liangping Li

- 8:30 - 9:00 **Fernando Benavides** (MD Anderson CC, Smithville, TX, USA)
The impact of genetic background in mouse and rat models: concerns and solutions
- 9:00 - 9:30 **Shannon Byers** (The Jackson Laboratory, Bar Harbor, ME, USA)
Assisted Reproduction Strategies in Mice

Short Oral Presentations selected among submitted abstracts:

- 9:30 - 9:45 **Francina Langa** (Institut Pasteur, Paris, France)
Frozen versus fresh embryos for ES cell microinjections: a comparative study with BALB/cN and C57BL/6N strains from seven transgenic facilities
- 9:45 - 10:00 **Gonzalo Moreno** (Instituto de Neurociencias de Alicante, CSIC/UMH, Alicante, Spain)
A New Methodology for serial sperm collection in Mice
- 10:00 - 10:15 **Kyle D. Lutes** (Department of Computer and Information Technology-CIT Faculty, Purdue University, West Lafayette, IN, USA)
Computer software application options for laboratory data management
- 10:15 - 11:00 Coffee Break, Posters and Exhibitors, **45 min break**

Session 6: Ethics and Animal Welfare

Chair: Karen Brenan

- 11:00 - 11:30 **Malcolm France** (Sydney, Australia)
Animal ethics and animal rights: lessons from history and implications for the future
- 11:30 - 12:00 **Catheryn O'Brien** (The Walter and Eliza Hall Institute, Melbourne, Australia)
Health monitoring protocols and transgenic facilities
- 12:00 - 12:30 **James Bussell** (Wellcome Trust Sanger Institute, Hinxton, UK)
Balancing High Throughput Production and Phenotyping with Animal Welfare, Care and Husbandry

Short Oral Presentations selected among submitted abstracts:

- 12:30 - 12:45 **Wiebke Garrels** (Institute of Farm Animal Genetics, Friedrich-Loeffler-Institut, Mariensee, Germany)
Precision genetic engineering in the pig genome and skin transplantation between members of a syngenic clone cohort carrying different vital reporter transposon
- 12:45 - 13:00 **Venus Lai** (VelociGene Division, Regeneron Pharmaceuticals, Inc., Tarrytown, NY, USA)
Differentiation-Dependent Self-Deleting Cassette (DDSDC), a new strategy for rapid and automatic generation of gene targeted mice free of selection cassette
- 13:00 - 15:00 Lunch, Posters and Exhibitors, **2 hours break**

Session 7: Epigenetics and Transgenesis

Chair: Benoît Kanzler

- 15:00 - 15:30 **Alfonso Gutiérrez-Adán** (Department on Animal Reproduction, INIA; Madrid, Spain)
The effects of in vitro culture on mammalian embryos
- 15:30 - 16:00 **Takashi Kohda** (Department of Epigenetics, Medical Research Institute, Tokyo Medical and Dental University, Japan)
Gene expression changes induced by intracytoplasmic sperm injection
- 16:00 – 16:30 **Guo-Liang Xu** (Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences, Shanghai, PR China)
DNA oxidation towards totipotency in mammalian development
- 16:30 - 17:30 Coffee Break, Posters and Exhibitors, **60 min break**

17:30 - 19:30 **ISTT General Assembly**

20:00 **Conference Banquet**

Wednesday, February 27, 2013

Session 8: Non-rodent transgenesis

Chair: Bruce Whitelaw

8:30 - 9:00 **Ning Li** (State Key Laboratories for Agrobiotechnology, China Agricultural University, Beijing, PR China)
Genetically engineering of large animals comes of age in China

9:00 - 9:30 **Scott Fahrenkrug** (Recombinetics, Minneapolis, MN, USA)
Gene inactivation and non-meiotic allele introgression in livestock species using TALENs

9:30-10:00 **Shoukhrat Mitalipov** (Oregon National Primate Res. Center, OHSU, Beaverton, OR, USA)
Primate chimeras and ES cells

10:00-11:00 Coffee Break, Posters and Exhibitors, **60 min break**

Session 9: Resources and research initiatives with genetically modified rodents

Chair: Wenhao Xu

11:00 - 11:30 **Yann Herculot** (Institut Clinique de la Souris, ICS and IGBMC, Illkirch/Strasbourg, France)
Overview of cre-mouse lines resources

11:30 - 12:00 **Takashi Kuramoto** (Institute of Laboratory Animals, Kyoto University, Kyoto, Japan)
National BioResource Project for the Rat in Japan

12:00 - 12:30 **Zhu-Gang Wang** (Shanghai Research Center for Model Organisms, Shanghai, PR China)
Studies on the physiological functions of novel G-protein-coupled receptors in mice

12:30 - 14:30 Lunch, Posters and Exhibitors, **2 hours break**

Session 10: New applications of ES cell-derived technologies

Chair: Lluís Montoliu

14:30 - 15:00 **Jinsong Li** (Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences, Shanghai, PR China)
Generation of genetically modified mice by oocyte injection of androgenetic haploid embryonic stem cells

15:00 - 15:30 **Masaru Okabe** (Genome Information Research Center Research, Institute for Microbial Diseases, Osaka University, Osaka, Japan)
Production of organs from ES cells in xenogeneic mouse<->rat chimera.

15:30 – 16:00 **Pentao Liu** (Wellcome Trust Sanger Institute, Hinxton, UK)
Rapid and Efficient Reprogramming of Mouse Somatic Cells to iPS Cells Using Six Factors.

16:00 - 16:45 Coffee Break, Posters and Exhibitors, **45 min break**

Closing Session

Chairs: Ming Zhao and Lluís Montoliu

- 16:45 – 16:55 Presentation of the 2nd ISTT Young Investigator Award
Paul Sheffele (CEO, inGenious Targeting Laboratory)
- 16:55 – 17:15 Short Lecture by the recipient of the 2nd ISTT Young Investigator Award
Toru Takeo (Division of Reproductive Engineering, Center for Animal Resources and Development-CARD, Kumamoto University, Japan)
Efficient production of mouse embryos via chemically assisted in vitro fertilization using frozen-thawed sperm
- 17:15 – 18:00 ISTT Registration Awards
TT2013 Best Poster awards
Presentation of TT2014 meeting
Concluding Remarks
- 18:00 **End of TT2013 meeting**

HANDS-ON Practical Workshop (limited to 30 participants)

Organized by:

Wenhao Xu (University of Virginia, Charlottesville, VA, USA), **Chair**

Ming Zhao (Southern Medical University, Guangzhou, China)

Jing An (Cancer Institute, Southern Medical University, Guangzhou, China)

Liangping Li (Sun Yat-sen University, Guangzhou, China)

Workshop venue: Sun Yat-sen University, Guangzhou, China

Associated hotel for participants: The University Town International Hotel

Thursday, February 28, 2013

09:00 – 17:00 Practical Workshop DAY 1

09:00 – 10:00 Lecture “Classical transgenesis”

10:00 – 11:00 Lecture “miRNA/ZFN/TALEN transgenesis”

11:00 – 12:00 Lunch provided for Group 1

12:00 – 13:00 Lab “1-cell embryo harvest” for Group 1

13:00 – 14:00 Lab “Video and new tools” for Group 1

14:00 – 15:00 Lab “Pronuclear injection” for Group 1

15:00 – 16:00 Lab “Surgical implantation” for Group 1

16:00 – 17:00 Lab “Pronuclear injection” for Group 1

Lab “1-cell embryo harvest” for Group 2

Lunch provided for Group 2

Lab “Pronuclear injection” for Group 2

Lab “Video and new tools” for Group 2

Lab “Pronuclear injection” for Group 2

Lab “Surgical implantation” for Group 2

Friday, March 1, 2013

09:00 – 17:00 Practical Workshop DAY 2

09:00 – 10:00 Lecture “Gene targeting design”

10:00 – 11:00 Lecture “ES and iPS cells”

11:00 – 12:00 Lunch provided for Group 1

12:00 – 13:00 Lab “8-cell embryo harvest” for Group 1

13:00 – 14:00 Lab “Laser application” for Group 1

14:00 – 15:00 Lab “Laser-assisted injection” for Group 1

15:00 – 16:00 Lab “NSET video/discussion” for Group 1

16:00 – 17:00 Lab “Non-surgical implantation” for Group 1

Lab “8-cell embryo harvest” for Group 2

Lunch provided for Group 2

Lab “Laser-assisted injection” for Group 2

Lab “Laser application” for Group 2

Lab “Non-surgical implantation” for Group 2

Lab “NSET video/discussion” for Group 2

Saturday, March 2, 2013

09:00 – 14:00 Practical Workshop DAY 3

09:00 – 10:00 Lecture “Colony management and ARTs”

10:00 – 11:00 Lab “Egg & sperm harvest” for Group 1

11:00 – 12:00 Lab “Laser-assisted IVF” for Group 1

12:00 – 13:00 Lunch provided for Group 1

13:00 – 14:00 Lab “Piezo-assisted ICSI” for Group 1

Lab “Laser-assisted IVF” for Group 2

Lab “Egg & sperm harvest” for Group 2

Lab “Piezo-assisted ICSI” for Group 2

Lunch provided for Group 2

Sponsoring/Collaborating Companies

Hamilton-Thorne, ParaTechs, Sutter, Prime Tech, Eppendorf, Research Instruments

Instructors

Wenhao Xu, Xin-an Pu, Xin Rairdan, Barbara Stone, Xiaojun Xing, Margaret Landis, Katja Becker, Ronald Naumann, Adair Oesterle, Oishi Takatsugu, Ian Rosewell, Lisa Ng, Christopher Lee, BJ Ham