



# IETS

## KYOTO 2007



IETS 33rd Annual Conference

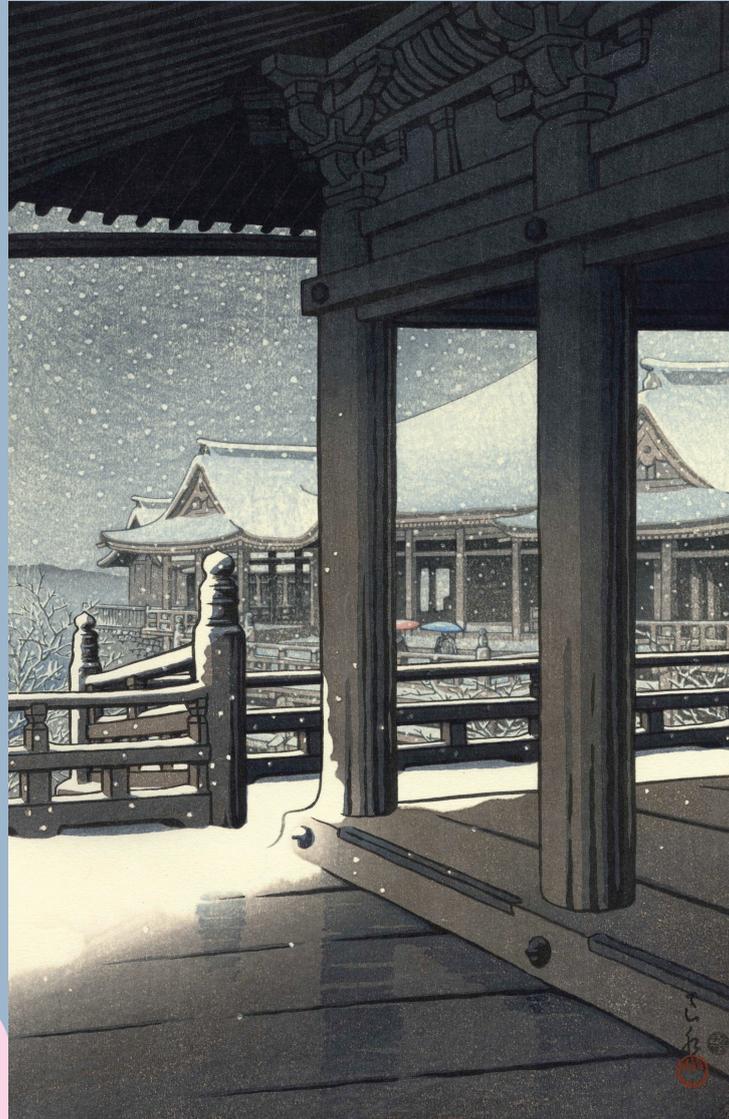


Image courtesy of S. Watanabe Color Print Co.

Kawase Hasui: "Kiyomizu Temple with Snow in Nightfall"



January 6-10, 2007

Kyoto International Conference Center  
Kyoto, Japan

# IETS 2007 MEETING SPONSORS

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*Purveyors of Quality Oocytes*

*As of December 1, 2006*

# *Program Book*

*The 33rd Annual Conference of the  
International Embryo Transfer Society*



*Embryo Quality and Fetal Development -  
Early Determinants of Developmental Success*

*January 6–10, 2007*

*Kyoto International Conference Center*

*Kyoto, Japan*

*Co-Chairs of the Scientific Program:  
Carol Keefer and Fulvio Gandolfi*

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## 2007 Preface and Acknowledgements

Welcome to the 33rd Annual Conference of the International Embryo Transfer Society (IETS) being held at the Kyoto International Convention Center, Kyoto, Japan, January 6–10, 2007. This is the IETS' first annual conference in Asia. As a true reflection of our international membership, the IETS has now held its conference on the continents of North and South America, Europe, Oceania (Australia & New Zealand) and Asia. This year's program theme is *Embryo Quality and Fetal Development – Early Determinants of Developmental Success*. The annual conference of the IETS is organized with five plenary sessions providing in depth overviews of different aspects related to the main theme together with short oral presentations selected from the submitted abstracts. Poster sessions address recent advances in animal biotechnology. In addition, Dr. Janet Rossant will give the keynote lecture on *Cellular and molecular mechanisms of early differentiation*.

We are grateful to many people for their valuable contributions of time and effort in organizing this scientific meeting. We would like to thank the main session speakers and their co-authors, the authors of the abstracts and the participants of the student competition for providing excellent scientific material. We sincerely appreciated the timely help of the manuscript reviewers and we are particularly grateful to all the section editors and abstract reviewers for their generous efforts during the summer, a time usually devoted to more pleasant occupations. Special thanks go to the Chair, Dr. Iritani, and the General Secretary, Dr. Imai, of the Local Organizing Committee, and their committee members as well as student volunteers for the tremendous efforts they have put forth in organizing the venue for the conference, the social events, and the post-conference symposium *Quality Control of Embryos for Embryo Transfer and Related Advanced Technologies in Cattle*. We also thank Dr. Dochi for organizing the Practitioners' Forum and Drs. Jeremy Thompson and Gábor Vajta for organizing the pre-conference symposium on *Innovative Techniques in Human and Animal Embryology*, and Drs. Imai, Kochhar, and Thibier for organizing the pre-conference symposium on *Assisted Reproductive Technologies and Food Safety in Farm Animals*. Our sincere appreciation is extended to Jennifer Gavel, the Executive Secretary of IETS, and Dr. Jennifer Henry, Managing Editor of *Reproduction, Fertility and Development* for their help in the production of the conference booklets and proceedings. We thank you all for attending and contributing to the conference and hope that you have an exceptionally rewarding time at the 33rd Annual Conference of the IETS.

Carol L. Keefer & Fulvio Gandolfi  
Program Co-Chairs

## 2006–2007 Board of Governors

Takashi Nagai, President  
Matthew B. Wheeler, Immediate Past President  
Naida Loskutoff, Vice President  
Richard Fayrer-Hosken, Secretary/Treasurer  
David Faber, Governor  
Peter Farin, Governor  
Pat Lonergan, Governor  
Ed Squires, Governor  
Janneke van Wagtendonk, Governor  
Christine Wrenzycki, Governor

*2007 Recipient of the IETS Pioneer Award*

*AKIRA IRITANI*

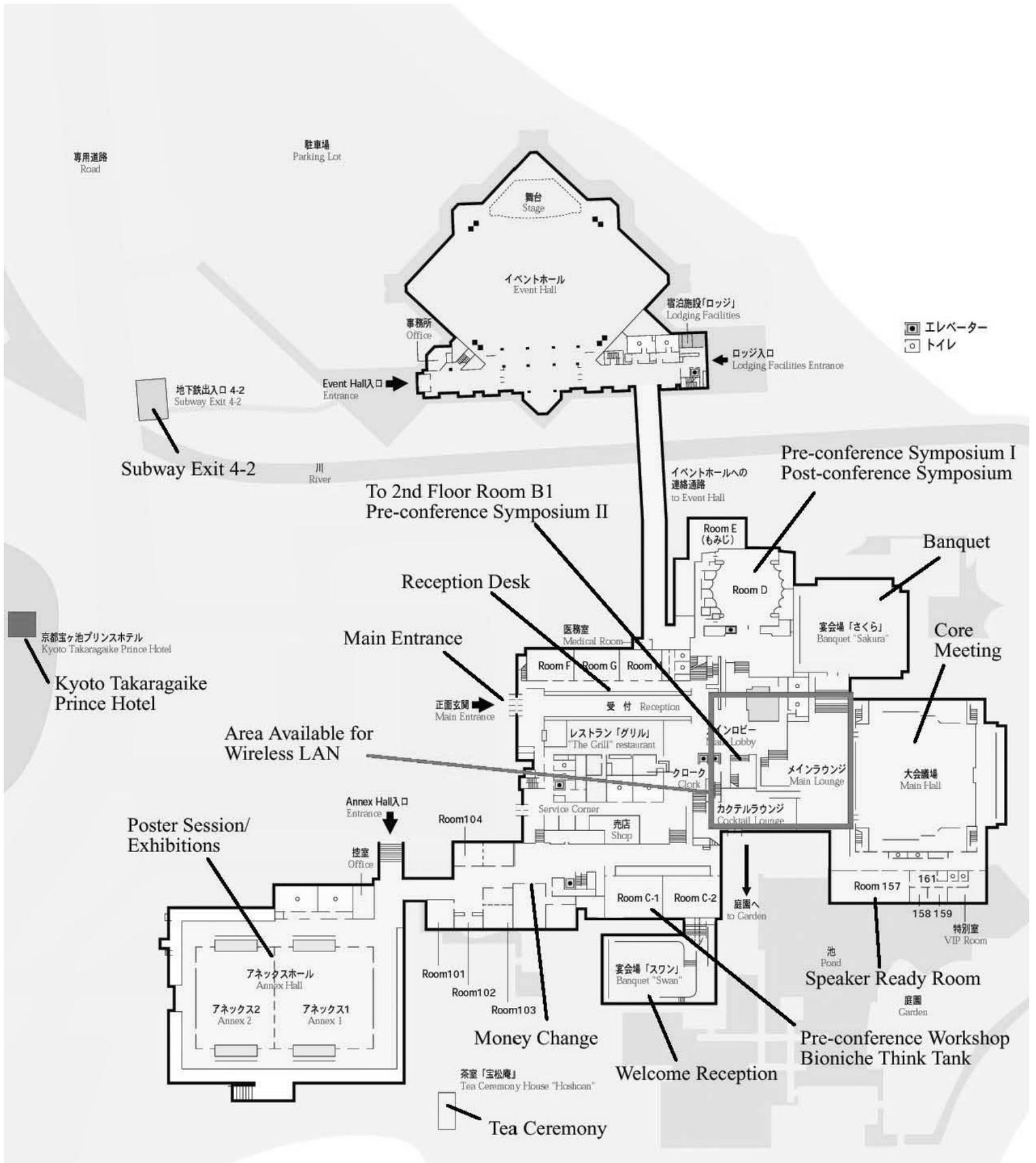


Award Presentation: Monday, January 8 at 16:00

*Previous Recipients:*

- |                               |                                   |
|-------------------------------|-----------------------------------|
| D. Kraemer (2006)             | R.G. Edwards (1993)               |
| S. Willadsen (2005)           | R.L. Brinster (1992)              |
| B. Brackett (2004)            | A.K. Tarkowski (1991)             |
| K. Betteridge (2003)          | J.D. Biggers (1990)               |
| R. Foote (2002)               | G.C. Thibault (1989)              |
| P.J. Dziuk (2001)             | A.L. McLaren and D. Michie (1988) |
| R. Yanagimachi (2000)         | E.J.C. Polge (1987)               |
| R.M. Moor (1999)              | T.M. Sugie (1986)                 |
| I. Gordon (1998)              | L.E.A. Rowson (1985)              |
| S. Wintenberger-Torres (1997) | L.E. Cassida (1984)               |
| W.K. Whitten (1996)           | M.C. Chang (1983)                 |
| C.R. Austin (1995)            | R.O. Berry (1982)                 |
| N.W. Moore (1994)             |                                   |

# Map of the Venue



# Calendar of Events

## Thursday, January 4, 2007

9:00–17:00 IETS Board of Governors Meeting (Takaragaike Prince Hotel)

## Friday, January 5, 2007

7:30–18:00 Speaker Preparation (Room 157)

9:00–17:00 IETS Board of Governors Meeting (Room 101)

8:00–16:00 Health And Safety Advisory Committee (HASAC)—Research Subcommittee (Room 103)

16:00–19:00 Registration with pick up of pre-registrations only (Main Entrance)

17:00–20:00 Health And Safety Advisory Committee (HASAC)—Regulatory Subcommittee (Room 103)

17:30–19:00 Public Program: From the Cell to the Animal-10 Year's Footprint from Dolly. (Kyoto University Clock Tower Centennial Hall)

## Saturday, January 6, 2007

7:00–18:00 Registration (Main Entrance)

8:00–17:00 **Pre-conference Workshop: Successful Publishing in an English Language Journal** (Room C-1)

8:00–17:00 **Pre-conference Satellite Symposium I: Innovative Techniques in Human and Animal Embryology** (Room D)

8:15–17:05 **Pre-conference Satellite Symposium II: Assisted Reproductive Technologies and Food Safety in Farm Animals** (Room B-1)

13:00–17:00 IETS Foundation Board of Trustees Meeting (Room 103)

16:30–18:30 W-1171 Research Group (Room 104)

18:00–20:00 Health And Safety Advisory Committee (HASAC)—Forms & Certificates Subcommittee (Room 103)

13:00–18:00 Poster Setup (Annex Hall)

13:00–18:00 Commercial Exhibit Setup (Annex Hall)

18:30–21:00 Welcome Reception (Swan Room)

## Sunday, January 7, 2007

7:30–8:30 Past President's Breakfast (Room 101)

7:30–8:30 Student Competition Breakfast with the Foundation Education Committee (Room 103)

7:00–18:00 Registration (Main Entrance)

8:00–9:30 Health And Safety Advisory Committee (HASAC)—Food Safety Subcommittee (Room 104)

8:00–17:00 Commercial Exhibits (Annex Hall)

8:00–12:00 **Pre-conference Workshop: Successful Publishing in an English Language Journal** (Room C-1)

8:00–17:00 A/V Library/Speaker Preparation (Room 157)

8:30–10:00 IETS Foundation Education Committee (Room 101)

9:30–10:00 **Opening and Welcome** (Main Hall)

10:00–12:00 **Session I: Oocyte Quality** (Main Hall)

12:00–13:30 Lunch Break

12:30–14:00 Poster Session I (Annex Hall)

14:00–16:00 **Session II: Early Embryo Development** (Main Hall)

16:00–16:30 Break

16:30–18:00 IETS Foundation: Student Competition Presentations (Main Hall)

18:00–20:30 Bioniche Think Tank (Room C-1)

*All rooms are at the Kyoto International Conference Center, unless otherwise noted*

*33rd Annual Conference*

## *Monday, January 8, 2007*

- 7:30–15:30 Registration (Main Entrance)  
8:00–18:00 Commercial Exhibits (Annex Hall)  
8:00–17:00 A/V Library/Speaker Preparation (Room 157)  
8:30–10:30 **Session III: Long-Term Consequences on Development** (Main Hall)  
10:30–11:00 Coffee Break/Exhibition (Annex Hall)  
10:30–13:30 Tea Ceremony (Tea Ceremony House)  
11:00–12:30 Poster Session II (Annex Hall)  
11:00–12:30 IETS Data Retrieval Committee Meeting (Room 103)  
12:30–13:30 Lunch Break  
13:30–15:30 **Session IV: Implantation and Gestation** (Main Hall)  
15:30–16:00 Coffee Break/Exhibition (Annex Hall)  
16:00–16:30 IETS-Pioneer Award Presentation (Main Hall)  
16:30–17:30 IETS Annual Business Meeting (Main Hall)  
17:30–19:30 Health And Safety Advisory Committee (HASAC)—Open Meeting (Main Hall)

## *Tuesday, January 9, 2007*

- 7:30–8:30 Organizational Meeting of the IETS Foundation (Room 103)  
8:00–15:00 Registration (Main Entrance)  
8:00–13:30 Commercial Exhibits (Annex Hall)  
8:00–17:00 A/V Library/Speaker Preparation (Room 157)  
8:30–10:30 **Session V: Sperm Evaluation and Physiology** (Main Hall)  
10:30–11:00 Coffee Break/Exhibition (Annex Hall)  
11:00–11:30 IETS-Distinguished Service Award (Main Hall)  
11:30–12:15 IETS-Foundation Student Competition Awards, CANDES & HASAC Updates (Main Hall)  
12:15–13:30 Lunch Break  
12:00–13:30 5<sup>th</sup> IETS Annual Running Competition  
13:30–15:00 **Practitioner's Forum: The Use of Embryo Transfer for Improvement of Fertility in Dairy Cows** (Main Hall)  
15:00–15:30 Coffee Break/Exhibition (Annex Hall)  
13:30–17:00 Commercial Exhibit & Poster Teardown (Annex Hall)  
15:30–16:30 **Session VI: Keynote Address** (Main Hall)  
16:30–17:00 Closing Ceremony (Main Hall)  
17:00–18:00 Organizational Meeting of the IETS Board of Governors (Room 101)  
18:00–20:00 Banquet (Sakura Room)  
20:00–21:30 Dance Party (Swan Room)

## *Wednesday, January 10, 2007*

- 8:00–18:00 **Post-conference Sattellite Symposium: Quality Control of Embryos for Embryo Transfer and Related Advanced Technologies in Cattle** (Room D)

## *Thursday, January 11, 2007*

- 9:00–17:00 Post-conference Tour: Excursion to see the world-famous Japanese Black cattle (Wagyu) and to taste their marbled beef with Sukiyaki

## General Information

### Meeting Room Directory

Main Conference Sessions	Main Hall
Exhibits	Annex Hall
Poster Displays	Annex Hall

Please see the Calendar of Events for additional room assignments.

### Registration Desk Hours

The Registration Desk is located in the Main Entrance of the Conference Center

*Pick-up of pre-registration packets only*

Friday, January 5 16:00–19:00

*Onsite Registration Open*

Saturday, January 6 07:00–18:00

Sunday, January 7 07:00–18:00

Monday, January 8 07:30–15:30

Tuesday, January 9 08:00–15:00

### Exhibit Information

Annex Hall

*Set-up*

Saturday, January 6 13:00–18:00

*Exhibits Open*

Sunday, January 7 08:00–17:00

Monday, January 8 08:00–18:00

Tuesday, January 9 08:00–13:30

*Teardown*

Tuesday, January 9 13:30–17:00

Details on the exhibitors can be found in the Exhibit Directory on page 62.

### Badges

As a security requirement, we request that all participants wear their Conference name badges to all sessions and social functions.

### Certificates of Attendance/Presentation

If you requested a Certificate of Attendance or Certificate of Presentation with your registration it is included in your badge packet. If you did not request a certificate and need one please see one of the IETS Headquarters staff at the Registration Desk.

## *Currency*

The Japanese yen is the legal tender in Japan. There are currency exchange centers located in the Kyoto International Conference Center and in banks in Kyoto city (open 9:00 and close 15:00). International credit cards are accepted throughout the country, but not in the venue. Traveler's checks can be changed at banks and hotels. Most shops, other than those at sightseeing places, are unaccustomed to traveler's checks. Japan is undoubtedly a cash society, and obtaining cash beforehand is highly recommended when visiting the country.

All on-site transactions for the conference will be done in US Dollars drawn on a US Bank.

## *Message Board*

Any messages received for conference delegates will be posted on the message board located near the Registration Desk.

## *Refreshments*

Morning and afternoon refreshments are included in your registration fee and are provided during the schedule break times in the Exhibition area located in the Annex Hall.

## *Meals*

The conference venue has a restaurant, which is open 10:00 to 17:00. Lunch can be found in local restaurant outside the venue within 10-20 minutes by walk. Information is included in the conference bag with useful map on nearby eateries.

For those that purchased lunch tickets, your lunch may be picked up in the Main Lounge in front of the Main Hall.

## *Internet Access*

Internet access is available from your own notebook PC through the wireless LAN system. The access is located in the Main Lounge area in front of the Main Hall. Internet service is also available in the Service Corner (Business Center) on 1st floor near the gift shop.

# *Section Editors and Reviewers*

## *Section Editors*

Ken Bondioli, Student Competition  
Heriberto Rodriguez-Martinez, Artificial Insemination  
Jose Cibelli, Cloning/Nuclear Transfer  
Gabor Vajta, Cryopreservation/Cryobiology  
Vilceu Bordignon, Developmental Biology  
Thomas E. Spencer, Early Pregnancy/Pregnancy Recognition  
Patrick Lonergan, Embryo Culture  
Marcelo Bertolini , Embryo Manipulation  
Osamu Dochi , Embryo Transfer  
Giovanna Lazzari , Embryonic Stem Cells  
David A. Stringfellow, Epidemiology/Diseases  
Martha Gomez, Exotic Species  
Steph Dieleman, Folliculogenesis/Oogenesis  
Erdogan Memili, Gene Expression  
Pierre Comizzoli, IVF/IVP  
Stephanie Clark, Male Physiology  
Poul Maddox-Hyttel, Microstructural Analysis  
Carol Keefer, Oocyte Activation  
Kazuhiro Kikuchi, Oocyte Maturation  
David Cran, Sexing  
Teruhiko Wakayama, Sperm Injection  
Reuben Mapletoft, Superovulation  
Barry D Bavister, Tissue Culture  
John Gibbons, Transgenesis  
Jaswant Singh, Ultrasound

## *Manuscript and Abstract Reviewers*

Gregg Adams	Keith Betteridge	Pierre Comizzoli
Yuksel Agca	Dean Betts	David Cran
Januskauskas Aloyzas	Zeki Beyhan	Elizabeth Crichton
Gary Anderson	Peter Blondin	Sandor Cseh
Cheryl J. Ashworth	Gabriel Bo	Cristina Cuello
Walters Anneke	Michele Boiani	Duane Davis
Juan Asturiano	Peter Bols	Billy Day
Christine Aurich	Kenneth Bondioli	Nanke Den Daas
Birthe Avery	Gottfried Brem	Steph Dieleman
Eva Axner	Mia Buehr	Andras Dinnyes
Janice Bailey	Keith Campbell	Walter Dixson
Hernan Baldassare	Elaine Carnevale	John Dobrinsky
Ciro Barros	Gilles Carpigny	Osamu Dochi
Cynthia Batchelder	Young-Ho Choi	Yutao Du
Barry Bavister	Sherrie Clark	Véronique Duranthon
Marcelo Bertolini	Marcos Colazo	Kenneth Eilertsen

Trudee Fair  
Charloette Farin  
Peter Farin  
Richard Fayer-Hosken  
Jean Feugang  
Hiroaki Funahashi  
Bart Gadella  
Cesare Galli  
Fulvio Gandolfi  
Julie Gard  
David Gardner  
John Gibbons  
Dan Givens  
Bob Godke  
Karen Goodrowe  
Frank Guazdauskas  
Alfonso Gutierrez-Adan  
Frank Gwazdauskas  
Peter Hansen  
Thomas Hansen  
Alex Harvey  
John Hasler  
Shuyang He  
Jason Herrick  
Yvan Heyman  
Jon Hill  
Yuji Hirao  
William Holt  
Reed Holyoak  
Kei Imai  
Rajesh Jaiswal  
Chacon Jorge  
John Kastelic  
Mika Katayama  
Carol Keefer  
Kazuhiro Kikuchi  
Ill Hwa Kim  
Allan King  
Satoshi Kishigami  
Duane Kraemer

Rebecca Krisher  
Michael Kubisch  
Keith Latham  
Sergio Ledda  
Stanley Leibo  
Carl Lessard  
M. Lorraine Leibfried-Rutledge  
Henry Leese  
Ann Lindberg  
Pat Lonergan  
Tom Lonergan  
Naida Loskutoff  
Zoltan Machaty  
Reuben Mapletoft  
Shonda Marley  
Brigitte Marquant-Le Guienne  
Marcelo Martinez  
Gabriela Mastromonaco  
Robert McCorkell  
Erdogan Memili  
Maya Mitalipova  
Takasahi Miyano  
Peter Mombaerts  
Rick Monson  
Karen Moore  
Jan Motlik  
Clifton Murphy  
Heiner Niemann  
Mark Nottle  
Atsuo Ogura  
Andrzej Palasz  
Disha Pant  
Krzysztof Papis  
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Earle Pope  
Randall Prather  
Scott Pratt  
Budhan Pukazhenth

Vernon Pursel  
Marcelo Ratto  
Caird Rexroad  
Claude Robert  
Jose Luiz Rodrigues  
Nelida Rodriguez  
Cheryl Rosenfeld  
Charles Rosenkrans  
Eimei Sato  
John Schenk  
George Seidel  
Richard Shine  
Jaswant Singh  
Malhi Singh  
Nucharin Songsasenn  
Rebecca Spindler  
Ed Squires  
Steve Stice  
Brad Stroud  
Qing-Yuan Sun  
Peter Sutosky  
Hiroshi Suzuki  
Neil Talbot  
Manoel Tamassia  
Robin Tervit  
Gabor Vajta  
Nguyen Van Thuan  
Teruhiko Wakayama  
Monika Ward  
W. Steven Ward  
Andrew Watson  
Mark Westhusin  
Brett White  
Lura Williamson  
Gemechu Wirtu  
Anthony Wrathall  
Christine Wrenzycki  
Akiko Yabuuchi  
Yoel Zeron

# Main Scientific Program

## Embryo Quality and Fetal Development – Early Determinants of Developmental Success

Sunday, January 7

9:30 Opening and Welcome.

### Session I: Oocyte Quality

Session Co-Chair: *Pat Lonergan, University College Dublin, Ireland*

Session Co-Chair: *Gyu-Jin Rho, Gyeongsang National University, South Korea*

- 10:00 Evaluation of Oocyte Quality: Morphological, Cellular and Molecular Predictors.  
*Q.-Y. Sun, State Key Laboratory of Reproductive Biology, Institute of Zoology, Beijing, China*
- 10:35 Oocyte Cryopreservation: Oocyte Assessment and Strategies for Improving Survival.  
*S. Ledda, Department of Animal Biology, Veterinary Faculty, University of Sassari, Sassari, Italy.*
- 11:10 Taxol™ Could Promote Embryo Development of Bovine Oocytes Vitrified by OPS.  
*R. Morató, University Autonomous of Barcelona, Bellaterra, Barcelona, Spain. (Abstract #124)*
- 11:25 Derivation of Presumptive Gonocytes *In Vitro* from Primate Embryonic Stem Cells.  
*T. Teramura, Department of Gynecology and Obstetrics, Graduate School of Medicine, Mie University, Tsu, Mie, Japan. (Abstract #229)*
- 11:40 *In Vitro* Maturation Alters the Expression of Specific Putatively Imprinted Genes in Bovine MII Oocytes.  
*M. G. Katz-Jaffe, Colorado Center for Reproductive Medicine, Englewood, CO, USA. (Abstract #270)*
- 11:55–12:30 Lunch Break
- 12:30–14:00 Poster Session I (Student Competition finalists and authors of odd numbered abstracts)

### Session II: Early Embryo Development

Session Co-Chair: *Cesare Galli, University of Bologna, Italy*

Session Co-Chair: *Teruhiko Wakayama, Riken, Center for Developmental Biology, Japan*

- 14:00 Maternally Derived Transcripts: Identification and Characterization During Oocyte Maturation and Early Cleavage.  
*N.-H. Kim, National Research Laboratory of Molecular Embryology, Chungbuk National University, Cheongju, Chungbuk, Korea.*
- 14:35 Temporal and Spatial Control of Gene Expression in Early Embryos of Farm Animals.  
*T. A. L. Brevini, Department of Anatomy of Domestic Animals, School of Veterinary Medicine, University of Milan, Italy.*
- 15:10 Immunocytochemical Studies of Oct-4, Sox-2, and  $\beta$ -Tubulin III Expression in Early Porcine Embryos.  
*K. Schauer, Anatomy and Cell Biology, Department of Basic Veterinary and Animal Sciences, Royal Veterinary and Agricultural University, Frederiksberg, Copenhagen, Denmark. (Abstract #153)*
- 15:25 Evidence for a Novel Perturbation in Cloned Fetuses: Mitochondrial DNA Depletion.  
*S. Hiendleder, Institute of Molecular Animal Breeding and Biotechnology, Gene Center of the Ludwig-Maximilian University, 81377 Munich, Germany. (Abstract #199)*
- 15:40 Dicer Gene Expression in Pre-Implantation Mouse Embryos: Implication of Transcription Regulation at the Blastocyst Stage.  
*X. S. Cui, Chungbuk National University, Cheongju, Chungbuk, South Korea. (Abstract #265)*
- 16:00–16:30 Refreshment Break / Exhibition

## *IFETS Foundation Student Competition Oral Presentations*

*Session Chair: Ken Bondioli, Louisiana State University, USA*

- 16:30 Xenografting of Adult Mammalian Testis Tissue.  
L. Arregui, *Center for Animal Transgenesis and Germ Cell Research, University of Pennsylvania, Kennett Square, PA 19348, USA, and Museo Nacional de Ciencias Naturales (CSIC), Madrid, Spain.* (Abstract #1)
- 16:45 Global Peptide Sequencing and Quantification of Proteins in Porcine Parthenotes by Proteomics.  
J. M. Jang, *Bio-Organ Research Center, Department of Animal Biotechnology, Konkuk University, Seoul 143-701, South Korea.* (Abstract #2)
- 17:00 Histone H4 Acetylation at Lysine 12 and Cdc2a Expression are Decreased in Aged Mouse Germinal Vesicle Stage Oocytes.  
I. Manosalva, *Centro de Investigaciones Biologicas, Madrid, Spain.* (Abstract #3)
- 17:15 Myostatin Gene Knockdown Through Lentiviral Mediated Delivery of Shrna for *In Vitro* Production of Transgenic Bovine Embryos.  
M. P. Milazzotto, *<sup>1</sup>Department of Animal Reproduction, FMVZ, Sao Paulo University, Sao Paulo, SP, Brazil.* (Abstract #4)
- 17:30 Nucleolar Development Requires Transcriptional Activity During Porcine Embryonic Genome Activation.  
O. Svarcova, *<sup>1</sup>Constantine the Philosopher University, Nitra, Slovakia.* (Abstract #5)
- 17:45 Timing of Deadenylation of Gdf-9 and Cyclin 3' Utr Constructs in Bovine Oocytes.  
D. J. Walker, *Animal Reproduction and Biotechnology Laboratory, Colorado State University, Fort Collins, CO, USA* (Abstract #6)

## *Monday, January 8*

*Session III: Long-Term Consequences on Development*

*Session Co-Chair: David Gardner, Colorado Center for Reproductive Medicine, USA*

*Session Co-Chair: Patrice Humblot, UNCEJA, France*

- 8:30 Embryo Culture and Long-Term Consequences.  
J. G. Thompson, *Research Centre for Reproductive Health, School of Paediatrics and Reproductive Health, the University of Adelaide, Adelaide, SA, Australia.*
- 9:05 Long Term Effects of Nutritional Programming of the Embryo and Fetus: Mechanisms and Critical Windows.  
M. E. Symonds, *Centre for Reproduction and Early Life, Institute of Clinical Research, University Hospital, Nottingham, United Kingdom.*
- 9:40 Anatomical Deviations In Apparently Healthy, Weaned, Cloned Calves.  
M. P. Green, *The Liggins Institute, Auckland, New Zealand, and Reproductive Technologies, AgResearch Ltd., Ruakura Research Centre, Hamilton, New Zealand.* (Abstract #37)
- 9:55 Normal Reproductive Capacity of Heifers Resulting from Transfer of *In Vitro*-Fertilized Embryos Cultured with an Antiviral Compound.  
M. D. Givens, *College of Veterinary Medicine, Auburn University, Auburn, AL, USA.* (Abstract #236)
- 10:10 Effects of Condition Score on Ovarian Response and Transferable Embryos in Superstimulated Cows in Argentina.  
A. Garcia Guerra, *Centro Genetico Bovino, Eolia SA, Libertad 6910, Marcos Paz, Buenos Aires, Argentina.* (Abstract #384)
- 10:25–11:00 Refreshment Break / Exhibition
- 11:00–12:30 Poster Session II (Authors of even numbered abstracts)
- 12:30–13:30 Lunch Break

### *Session IV: Implantation and Gestation*

*Session Co-Chair: Nancy Ruddock, Monash University, Australia.*

*Session Co-Chair: Jorge Piedrahita, North Carolina State University, USA*

- 13:30 Pregnancy Recognition and Conceptus Implantation in Domestic Ruminants: Roles of Progesterone, Interferons and Endogenous Retroviruses.  
T. E. Spencer, *Center for Animal Biotechnology and Genomics, Department of Animal Science, Texas A&M University, College Station, TX, USA.*
- 14:05 Gene Expression and Maintenance of Pregnancy in Bovine: Roles of Trophoblastic Binucleate Cells-Specific Molecules.  
K. Hashizume, *Department of Veterinary Medicine, Iwate University, Ueda 3-18-8, Morioka, Iwate 020-8550, Japan.*
- 14:40 Loss of Imprints of Parthenogenetic Embryonic Stem Cells in Murine Chimeras.  
T. Horii, *Biosignal Genome Resource Center, Institute for Molecular and Cellular Regulation, Gunma University, Gunma, Japan. (Abstract #222)*
- 14:55 Teratoma Formation by Bovine Embryos.  
M. L. Lim, *Monash Institute of Medical Research, Clayton, Victoria. (Abstract #225)*
- 15:10 Classical and Non-Classical Major Histocompatibility Complex Class I Gene Expression in *In Vitro*-Derived Bovine Embryos.  
J. Doyle, *University College Dublin, Belfield, Dublin, Ireland. (Abstract #267)*
- 15:25–16:00 Refreshment Break / Exhibition
- 16:00 2007 IETS Pioneer Award Presentation
- 16:30 IETS Annual Business Meeting
- 17:30–19:30 Health And Safety Advisory Committee (HASAC)—Open Meeting

### *Tuesday, January 9*

#### *Session V: Sperm Evaluation and Physiology*

*Session Co-Chair: Bill Holt, Institute of Zoology, United Kingdom*

*Session Co-Chair: Yutaka Fukui, Obihiro University of Agriculture & Veterinary Medicine, Japan*

- 8:30 State of the ART in Farm Animal Sperm Evaluation.  
H. Rodriguez-Martinez, *Division of Comparative Reproduction, Obstetrics and Udder Health; Department of Clinical Sciences; Faculty of Veterinary Medicine and Animal Science; Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden.*
- 9:05 Interactions of Sperm with the Female Reproductive Tract: Inspiration For Assisted Reproduction.  
S. S. Suarez, *Department of Biomedical Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY, USA.*
- 9:40 Lectin Dolichos Biflorus Agglutinin (DBA) is a Specific Marker for Primitive Germ Cells in Neonatal Porcine Testis.  
S. Goel, *Laboratory of Reproductive Biology, Graduate School of Agriculture, Kyoto University, Kyoto, Japan. (Abstract #146)*
- 9:55 Exposure of Spermatozoa to Solubilized Extracts of the Oviductal Epithelium Apical Plasma Membrane Enhances Fertilization in Porcine *In Vitro* Fertilization.  
N. Satake, *Royal Veterinary College, London, UK. (Abstract #312)*
- 10:10 Spermatozoa Retrieved from Male Mice Frozen for 15 Years Can Produce Normal Offspring.  
N. Ogonuki, *RIKEN Bioresource Center, Tsukuba, Ibaraki, Japan. (Abstract #377)*
- 10:25–11:00 Refreshment Break / Exhibition

11:00	2007 IETS Distinguished Service Award Presentation
11:30	Presentation the Student Competition Awards
11:45	CANDES Update
12:00	HASAC Update
12:15–13:30	Lunch Break
12:00	5 <sup>th</sup> Annual IETS Running Competition

*Practitioner's Forum*

*Session Co-Chair: Osamu Dochi, Rakuno Gakuen University, Japan*

*Session Co-Chair: Rueben Mapletoft, University of Saskatchewan, Canada*

13:30–15:00 The Use of Embryo Transfer for Improvement of Fertility in Dairy Cows.

Panel Speakers:

- Relationship between endometrial epidermal growth factor (EGF) and fertility after embryo transfer in repeat-breeder cows- Dr. S. Katagiri, *Graduate School of Veterinary Medicine, Hokkaido University, Japan*
- Improved pregnancy after embryo transfer of frozen–thawed embryos in repeat-breeder Holstein cows- Mr. K. Takahashi, DVM, *Genetics Hokkaido Assoc., Japan*
- Improvement of fertility after embryo transfer in dairy cows under heat-stress conditions- Dr. J.L.M. Vasconcelos, *Faculdade de Medicina Veterinaria e Zootecnia, UNESP, Botucatu, SP, Brazil*

15:00–15:30 Refreshment Break / Exhibition

*Session IV: Keynote Address*

*Sponsored by Bioniche Animal Health*

*Session Co-Chair: Fulvio Gandolfi, University of Milan, Italy*

*Session Co-Chair: Carol Keefer, University of Maryland, USA*

15:30 Stem Cells and Lineage Development in the Mammalian Blastocyst.  
J. Rossant, *Program in Developmental and Stem Cell Biology, Hospital for Sick Children, Toronto, Ontario, Canada.*

16:30 Closing Ceremony.

18:30 Banquet

20:00 Dance Party

## *Poster Sessions*

### *Location*

Posters are located in the Annex Hall of the Kyoto International Conference Center with the exhibitors.

### *Poster Numbers*

Posters are identified by the number corresponding to their abstract number in *Reproduction, Fertility and Development 2007*; 19 (1,2). Numbering begins at 1 and ends at 416.

### *Set-up*

Posters can be put up from 13:00-18:00 Saturday, January 6, 2007 from 07:00-08:00 on Sunday, January 7, 2007 and must remain up throughout the meeting. Authors of posters that are not put up by 8:00 on Sunday will be reported to the IETS President for possible disciplinary action.

### *Poster Session I*

Presentation by authors of 'odd' numbered abstracts (i.e. 7, 9, 11, etc.) in *Reproduction, Fertility and Development 2007*; 19(1,2) and the Student Competition finalist poster presentations will take place **Sunday, January 7, 2007 from 12:30 to 14:00.**

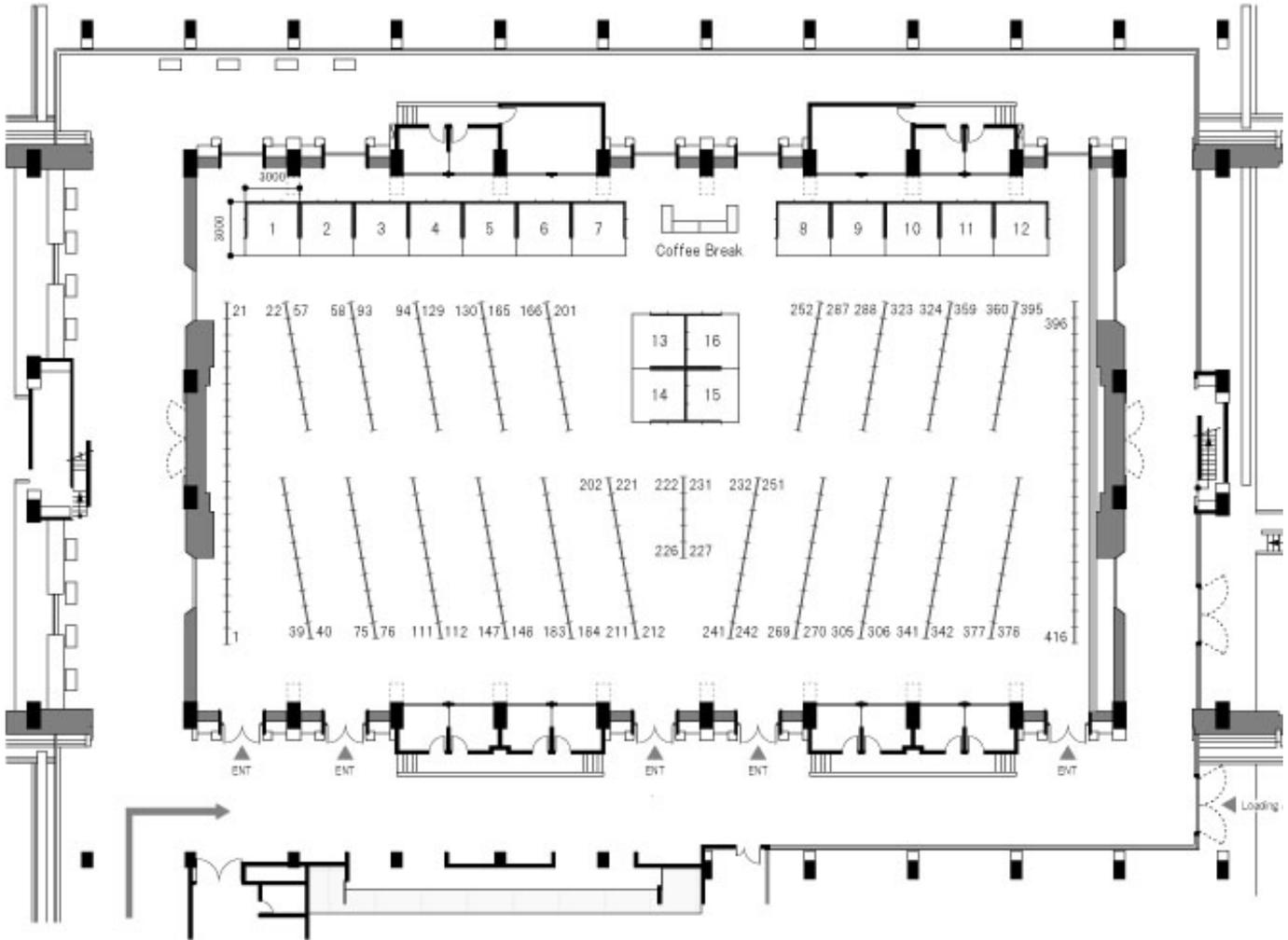
### *Poster Session II*

Presentation by authors of 'even' numbered abstracts (i.e. 8, 10, 12, etc.) in *Reproduction, Fertility and Development 2006*; 18(1,2) will take place **Monday, January 8, 2007 from 11:00 to 12:30.**

### *Teardown*

Poster teardown must take place from 13:30 to 17:00 Tuesday afternoon (January 9, 2007). Posters that are not taken down by 17:00 on Tuesday will be taken down and thrown away.

# Poster and Exhibit Room Layout



## Annex Hall

Please see page 62 for the Exhibit Directory.

# Poster Session Order by Topics, Titles & Authors

Poster Number = Abstract number in *Reproduction, Fertility and Development* 2007; 19 (1,2)

## Student Competition

- 1 XENOGRAFTING OF ADULT MAMMALIAN TESTIS TISSUE.  
L. Arregui, R. Rathi, W. Zeng, A. Honaramooz, M. Gomendio, E. R. S. Roldan, and I. Dobrinski.
- 2 GLOBAL PEPTIDE SEQUENCING AND QUANTIFICATION OF PROTEINS IN PORCINE PARTHENOTES BY PROTEOMICS.  
J. M. Jang, M. K. Gupta, J. W. Jung, S. J. Uhm, K. P. Kim, and H. T. Lee.
- 3 HISTONE H4 ACETYLATION AT LYSINE 12 AND CDC2A EXPRESSION ARE DECREASED IN AGED MOUSE GERMINAL VESICLE-STAGE OOCYTES.  
I. Manosalva, C. Goday, and P. Esponda.
- 4 MYOSTATIN GENE KNOCKDOWN THROUGH LENTIVIRAL VECTOR-MEDIATED DELIVERY OF SHRNA FOR *IN VITRO* PRODUCTION OF TRANSGENIC BOVINE EMBRYOS.  
M. P. Milazzotto, W. B. Feitosa, B. E. Strauss, M. Bajgelman, C. M. Mendes, M. E. O. A. Assumpção, and J. A. Visintin.
- 5 NUCLEOLAR DEVELOPMENT REQUIRES TRANSCRIPTIONAL ACTIVITY DURING PORCINE EMBRYONIC GENOME ACTIVATION.  
O. Svarcova, P. Maddox-Hyttel, H. Niemann, D. Hermann, Z. Rasmussen, I. Petrovicova, F. Strejcek, and J. Laurincik.
- 6 TIMING OF DEADENYLATION OF GDF-9 AND CYCLIN 3' UTR CONSTRUCTS IN BOVINE OOCYTES.  
D. J. Walker, C. J. Wilusz, and G. E. Seidel, Jr..

## Artificial Insemination

- 7 EFFECTS OF DIFFERENT TRYPSIN SOURCES AND CONCENTRATIONS ON THE VIABILITY OF BOVINE SPERM PRE- AND POST-CRYOPRESERVATION.  
B. A. Blevins, S. Steenson, and N. M. Loskutoff.
- 8 PREGNANCY RATE FOLLOWING TIMED AI IN BEEF HEIFERS TREATED WITH CUE-MATE AND pLH OR GnRH.  
M. G. Colazo, F. C. Dias, K. Lightfoot, O. Dochi, J. P. Kastelic, and R. J. Mapletoft.
- 9 CAN ONE PREDICT THE RESISTANCE OF BULL SPERM TO CRYOPRESERVATION BY ANALYZING MOTILITY PARAMETERS BEFORE FREEZING?  
L. Defoin, A. Granados, and I. Donnay.
- 10 EFFECTS OF INSEMINATION TIME, BREED, AND INSEMINATOR ON FERTILITY OF EWES INTRAUTERINALLY INSEMINATED WITH FROZEN–THAWED SEMEN IMPORTED FROM NEW ZEALAND.  
Y. Fukui, H. Kohno, T. Togari, T. Matsuoka, and H. Imai.
- 11 FERTILITY OF FRESH AND FROZEN–THAWED EPIDIDYMAL STALLION SPERM WITH OR WITHOUT EXPOSURE TO SEMINAL PLASMA.  
A. Heise, D. Gerber, D. H. Volkmann, W. Kähn, and N. K. Brouwer.
- 12 GENERATION OF RAT OFFSPRING DERIVED FROM CRYOPRESERVED SPERMATOZOA IN JAPANESE NATIONAL BIORESOURCES.  
N. Kashiwazaki, Y. Seita, K. Naoi, A. Takizawa, T. Kuramoto, and T. Serikawa.

- 13 MANAGEMENT SYSTEM FOR FROZEN BULL SEMEN USING A RADIO FREQUENCY IDENTIFICATION TAG.  
S. Kato, K. Mukojima, T. Otani, K. Sakai, K. Tamura, K. Miyazaki, N. Minami, and H. Imai.
- 14 MOTILITY AND FERTILITY OF BULL SPERMATOZOA FROZEN IN EGG YOLK EXTENDER SUPPLEMENTED WITH LACTOFERRIN.  
J. Kobayashi, Y. Suda, N. Takada, K. Komine, T. Kuroishi, T. Kohsaka, H. Sasada, and E. Sato.
- 15 EFFECT OF BULL EPIDIDYMIS STORAGE CONDITIONS ON CRYOPRESERVED EPIDIDYMAL SPERM *IN VITRO* FERTILITY AND LIPID PEROXIDATION STATUS.  
M. Nichi, T. Rijsselaere, A. Van Soom, J. B. P. De Clercq, I. G. F. Goovaerts, V. H. Barnabe, and P. E. J. Bols.
- 16 PROGESTERONE RELEASE PATTERNS FROM CUE-MATE IN COMPARISON TO OTHER INTRAVAGINAL PROGESTERONE-RELEASING DEVICES IN LACTATING DAIRY COWS.  
D. Rogan, M. F. Martinez, G. A. Bo, P. Chesta, F. Feresin, and R. J. Mapletoft.
- 17 WHITETAIL DEER OFFSPRING FROM ARTIFICIAL INSEMINATION WITH EPIDIDYMAL SPERM HARVESTED FROM A HUNTER-KILLED BUCK.  
J. R. Saenz, G. T. Gentry, W. Forbes, B. Olcott, J. Chenevert, K. R. Bondioli, D. E. Sanders, and R. A. Godke.
- 18 THE EFFECTS OF CIDR AND eCG TREATMENTS IN A GnRH-BASED PROTOCOL FOR TIMED AI OR EMBRYO TRANSFER ON PREGNANCY RATES IN LACTATING BEEF COWS.  
J. A. Small, M. G. Colazo, J. P. Kastelic, D. R. Ward, O. Dochi, and R. J. Mapletoft.
- 19 EFFECTS OF ESTRADIOL OR GnRH ON FOLLICULAR WAVE EMERGENCE AND PREGNANCY RATES FOR A CIDR-BASED TIMED AI PROTOCOL IN REPEAT BREEDER DAIRY COWS.  
G. H. Suh, U. H. Kim, T. Y. Hur, S. J. Kang, K. S. Baek, S. B. Park, H. S. Kim, H. G. Kang, and I. H. Kim.
- 20 SPERM CHARACTERIZATION OF ASTURCON PONIES AFTER COLLECTION AND EQUILIBRATION/REFRIGERATION BEFORE FREEZING.  
C. Tamargo, C. Díez, J. De La Fuente, M. Carbajo, J. M. Benito, and C. O. Hidalgo.
- 21 RELATIONSHIP BETWEEN DURATION OF ESTRUS BEHAVIOR DETERMINED BY RADIOTELEMETRY SYSTEM AND THREE FACTORS (MILK PRODUCTION, STEROID HORMONE, AND OVULATION TIME) IN DAIRY COWS.  
H. Yoshioka, H. Matsuda, K. Sasaguri, and M. Yonai.

### *Cloning/Nuclear Transfer*

- 22 RESPIRATORY ACTIVITY AND ULTRASTRUCTURAL FEATURES OF BOVINE SOMATIC NUCLEAR TRANSFER EMBRYOS.  
H. Abe, K. Aoyagi, S. Aoyagi, H. Shiku, T. Matsue, Y. Sendai, and H. Hoshi.
- 23 HYPOMETHYLATION OF DNA IN NUCLEAR TRANSFER EMBRYOS FROM PORCINE EMBRYONIC GERM CELLS.  
K. S. Ahn, S. Y. Heo, J. Y. Won, and H. Shim.
- 24 EFFECT OF TREATMENT WITH TRICHOSTATIN A ON *IN VITRO* DEVELOPMENT OF BOVINE NUCLEAR-TRANSFERRED EMBRYOS.  
S. Akagi, K. Fukunari, K. Matsukawa, S. Watanabe, and S. Takahashi.
- 25 THE EFFECTS OF OOCYTE SOURCES AND ACTIVATION PROTOCOLS ON THE DEVELOPMENT OF CLONED GOAT EMBRYOS.  
M. Apimeteeumrong, A. Thuangsanthia, N. Leingchaloen, V. Yiengvisavakul, A. Harintharanon, A. Kunavongkrit, X. Vignon, and M. Techakumphu.

- 26 SPERM REPRODUCTIVE POTENTIAL OF FETAL FIBROBLAST CELLS ON A NUCLEAR TRANSFER–CLONED BULL AND ON AN ORIGINAL PATERNAL BULL: A COMPARATIVE ANALYSIS.  
S.-H. Bae, D.-H. Kim, S.-W. Kim, G.-S. Im, M.-J. Lee, J.-W. Ryu, H.-H. Seong, B.-S. Yang, and B.-C. Yang.
- 27 CYTOPLASM OF A GERMINAL VESICLE OOCYTE CAN PROMOTE SOMATIC NUCLEAR REPROGRAMMING IN MICE.  
H. T. Bui, N. Van Thuan, S. Kishigami, S. Wakayama, T. Hikichi, H. Ohta, E. Mizutani, and T. Wakayama.
- 28 EXPRESSION OF MHC CLASS I IN THE PLACENTA AND THE LYMPHOCYTES OF BOVINE SOMATIC CLONES.  
P. Chavatte-Palmer, M. Guillomot, J. Roïz, J.-L. Servely, Y. Heyman, I. Hue, and S. Ellis.
- 29 COMPARISON OF DNA METHYLATION RATES BETWEEN CLONED CATS AND DOMESTIC CATS.  
S. J. Cho, S. H. Kang, S. G. Cho, I. H. Bae, C. J. Yang, X. J. Yin, and I. K. Kong.
- 30 GROWTH AND REPRODUCTIVE SUCCESS OF CLONED MALE CATS DERIVED FROM ADULT SOMATIC CELL NUCLEAR TRANSFER.  
E. G. Choi, X. J. Yin, H. S. Lee, S. H. Kang, Y. J. Lee, L. H. Kim, H. D. Shin, N. H. Kim, and I. K. Kong.
- 31 EFFECT OF TREATMENT OF OVINE CYTOPLASTS WITH CAFFEINE ON THE TRANSLOCALIZATION OF HSP27 IN SOMATIC CELL NUCLEAR TRANSFER RECONSTRUCTED EMBRYOS.  
I. Choi, J.-H. Lee, and K. H. S Campbell.
- 32 EFFECTS OF FUSION/ACTIVATION METHODS ON DEVELOPMENT OF EMBRYOS PRODUCED BY NUCLEAR TRANSFER OF PORCINE FETAL FIBROBLASTS.  
P. Q. Cong, E. S. Song, E. S. Kim, Z. H. Li, Y. J. Yi, and C. S. Park.
- 33 ENUCLEATION OF PRE-ACTIVATED MOUSE OOCYTES INDUCED BY DEMECOLCINE, NOCODAZOLE, AND VINBLASTINE.  
N. Costa-Borges, J. Santaló, and E. Ibàñez.
- 34 PIGLETS BORN FROM HANDMADE CLONING.  
Y. Du, Y. Zhang, J. Li, P. M. Kragh, M. Schmidt, I. B. Bøgh, X. Zhang, S. Purup, A. L. Jørgensen, A. M. Pedersen, K. Villemoes, H. Yang, L. Bolund, and G. Vajta.
- 35 RELATIONSHIP BETWEEN THE ONSET OF ENUCLEATION DURING MEIOTIC MATURATION OF RECIPIENT OOCYTES AND DEVELOPMENTAL ABILITY OF SOMATIC CELL NUCLEAR TRANSFER EMBRYOS IN PIGS.  
M. Fahrudin, K. Kikuchi, N. W. K. Karja, M. Ozawa, T. Somfai, M. Nakai, K. Ohnuma, J. Noguchi, H. Kaneko, and T. Nagai.
- 36 EPIGENETIC MODIFICATIONS OF CULTURED BOVINE FIBROBLASTS FOR NUCLEAR TRANSFER.  
A. M. Giraldo, J. W. Lynn, M. N. Purpera, R. A. Godke, and K. R. Bondioli.
- 37 ANATOMICAL DEVIATIONS IN APPARENTLY HEALTHY, WEANED, CLONED CALVES.  
M. P. Green, M. C. Berg, and R. S. F Lee.
- 38 RABBIT NUCLEAR TRANSFER AND *IN VIVO*-FERTILIZED EMBRYOS FAIL TO EXPRESS A MOUSE OCT-4 PROMOTER-DRIVEN EGFP REPORTER GENE.  
R. Hao, A. Wuensch, R. Klose, E. Wolf, and V. Zakhartchenko.
- 39 BOVINE SOMATIC CELL NUCLEAR TRANSFER USING CUMULUS–OOCYTE COMPLEXES COLLECTED FROM THE IDENTICAL INDIVIDUAL BY OVUM PICKUP.  
K. Hasegawa, S. Takahashi, S. Akagi, K. Takeda, K. Imai, M. Shimizu, T. Okazaki, S. Abe, and Y. Izaike.

- 40 TREATMENT OF DONOR CELLS AND ITS EFFECT ON INTERSPECIES NUCLEAR TRANSFER.  
M. A. Hashem, D. P. Bhandari, S. K. Kang, and B. C. Lee.
- 41 TRANSMISSION OF A PARASITE-RESISTANT PHENOTYPE FROM A DONOR RAM TO  
ITS CLONED OFFSPRING.  
J. Hill, W. Chang, R. Davey, K. Hutton, and G. Riding.
- 42 PREPARTUM HORMONAL CHANGES IN RECIPIENT COWS FOR SOMATIC CELL CLOONED  
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Miyamoto, and A. Minamihashi.
- 43 INFLUENCE OF DONOR CELL DIFFERENTIATION ON CLONING EFFICIENCY IN PIGS.  
N. Hornen, W. A. Kues, A. Lucas-Hahn, B. Petersen, P. Hassel, and H. Niemann.
- 44 NUCLEAR TRANSFER IN CATTLE USING SOMATIC CELLS FROM FROZEN TESTICLES  
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Y. Hoshino, N. Kobayashi, N. Hayashi, T. Matsushashi, K. Saeki, S. Ikeda, S. Taniguchi, A. Kasamatsu, D.  
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- 45 EFFECT OF OSMOLARITY IN CULTURE MEDIUM ON THE PRE-IMPLANTATION DEVELOPMENT  
OF PORCINE NT AND IVF EMBRYOS.  
I. S. Hwang, H. J. Moon, J. H. Shim, M. R. Park, D. H. Kim, B. C. Yang, Y. G. Ko, B. S. YANG, H.  
T. Cheong, and G. S. Im.
- 46 EFFECT OF MANIPULATION MEDIUM ON THE DEVELOPMENT OF RECONSTRUCTED  
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- 47 DIFFERENTIAL DEVELOPMENTAL ABILITY OF EMBRYOS CLONED FROM TISSUE-SPECIFIC  
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K. Inoue, N. Ogonuki, H. Miki, S. Noda, S. Inoue, K. Katayama, K. Mekada, H. Miyoshi, and A. Ogura.
- 48 EFFECTS OF TRICHOSTATIN A ON DEVELOPMENT OF BOVINE SOMATIC CELL NUCLEAR  
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- 49 TRANSCRIPT LEVEL OF mRNA IN BOVINE CLONED OR RE-CLONED EMBRYOS.  
G. Jang, H. Y. Jeon, K. H. Ko, H. J. Oh, H. J. Park, S. G. Hong, J. J. Kim, S. K. Kang, and B. C. Lee.
- 50 DNA METHYLATION PROFILES OF UPSTREAM ELEMENTS OF *Oct-3/4* GENE IN *IN VITRO*  
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M. Kawasumi, Y. Unno, M. Nishiwaki, K. Matsumoto, M. Anzai, T. Amano, T. Mitani, H. Kato, K. Saeki,  
Y. Hosoi, and A. Iritani.
- 51 PROTEOMICS ANALYSIS OF PLACENTOMEGALY IN CLONED MICE.  
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- 52 EFFECT OF DONOR CELLS WITH VARIOUS DIFFERENTIATED STATUS ON THE  
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J. G. Kim, E. J. Kang, M. K. Kim, S. Y. Choe, and G. J. Rho.
- 53 EFFECTS OF INSULIN-TRANSFERRIN-SELENIUM IN DEFINED AND PORCINE FOLLICULAR  
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- 54 SUCCESS OF MOUSE CLONING FROM AN OUTBRED STRAIN BY TRICHOSTATIN A TREATMENT AFTER SOMATIC NUCLEAR TRANSFER.  
S. Kishigami, H. Bui, S. Wakayama, N. Van Thuan, T. Hikichi, E. Mizutani, H. Ohta, R. Suetsugu, and T. Wakayama.
- 55 DIFFERENTIAL TRANSCRIPTIONAL GENE EXPRESSION BETWEEN MINIATURE AND LANDRACE PIG FETUSES: IMPLICATION FOR PRODUCTION OF CLONED MINIATURE PIGS USING LANDRACE PIGS AS OOCYTE DONORS AND SURROGATE MOTHERS.  
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- 56 TRANSGENESIS BY HANDMADE CLONING USING EGFP-TRANSFECTED YUCATAN FIBROBLASTS.  
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- 57 NO BENEFICIAL EFFECT OF AGGREGATION ON INTERFERON TAU ACTIVITY IN BOVINE CLONE OUTGROWTHS.  
S. Kurosaka, A. D. Ealy, and K. J. McLaughlin.
- 58 EFFECTS OF CAFFEINE AND VANADATE ON NUCLEAR REMODELING AND MICROTUBULE DISTRIBUTION OF PORCINE NUCLEAR TRANSFER EMBRYOS.  
D. J. Kwon, C. K. Park, B. K. Yang, C. I. Kim, and H. T. Cheong.
- 59 HIGHER BLASTOCYST FORMATION OF SOMATIC CELL NUCLEAR TRANSFER EMBRYOS DOES NOT GUARANTEE BETTER PREGNANCY IN PIG.  
E. Lee, K. Song, Y. Jeong, and S. Hyun.
- 60 IMPROVEMENT IN EFFICIENCY AND QUALITY OF CLONED AND PARTHENOGENETIC PORCINE EMBRYOS BY AMINO ACIDS.  
H. T. Lee, S. J. Uhm, J. M. Jang, S. H. Lee, and M. K. Gupta.
- 61 EFFICIENCY OF TWO ENUCLEATION METHODS FOR THE PRODUCTION OF TRANSGENIC PIG EMBRYOS BY HANDMADE CLONING.  
J. Li, Y.-H. Zhang, Y.-T. Du, P. M. Kragh, S. Purup, A. M. Pederson, K. Villemoes, A. L. Jørgensen, L. Bolund, Q.-Z. Xue, H.-M. Yang, and G. Vajta.
- 62 EXPRESSION AND DISTRIBUTION OF OCT-4 IN INTERSPECIES-CLONED LONG-TAILED MONKEY (*MACACA FASCICULARIS*) EMBRYOS.  
C. Lorthongpanich, K. Srirattana, S. Imsoonthornruksa, N. Sripunya, C. Laowtammathron, O. Kumpong, M. Ketudat-Cairns, and R. Parnpai.
- 63 PARTHENOGENETIC DEVELOPMENT OF PORCINE OOCYTES RECONSTRUCTED BY CENTRIFUGATION AND ELECTROFUSION AFTER METAPHASE-II CHROMOSOME TRANSFER.  
N. Maedomari, K. Kikuchi, M. Fahrudin, M. Nakai, M. Ozawa, J. Noguchi, K. Kaneko, T. Nagai, and N. Kashiwazaki.
- 64 PRODUCTION OF TRANSGENIC CLONED PIGS BY MEANS OF SOMATIC CELL NUCLEAR TRANSFER USING *KUSABIRA-ORANGE* GENE-TRANSFECTED CELLS.  
H. Matsunari, M. Kurome, R. Tomii, S. Ueno, K. Hiruma, H. Saito, K. Hiyama, N. Nakayama, M. Onodera, N. Tada, and H. Nagashima.
- 65 NUCLEAR REPROGRAMMING OF PORCINE CELLS AND THEIR USE AS DONOR CELL FOR NUCLEAR TRANSFER AFTER TREATMENT IN *XENOPUS* EGG EXTRACTS.  
K. Miyamoto, M. Ohnuki, N. Minami, M. Yamada, and H. Imai.
- 66 SUCCESSFUL ESTABLISHMENT OF PLURIPOTENT ntES CELL LINES FROM AGED MICE.  
E. Mizutani, S. Kishigami, N. V. Thuan, H. Ohta, T. Hikichi, B. H. Thuy, S. Wakayama, Y. Sakaide, and T. Wakayama.

- 67 CELL TYPE AND CULTURE OVER TIME EFFECT DNA METHYLTRANSFERASE 1 EXPRESSION IN BOVINE DONOR FIBROBLAST CELLS.  
K. Moore, E. Wroclawska, J. M. Kramer, and S. L. Goicoa.
- 68 GROWTH, REPRODUCTION, AND LACTATION IN SOMATIC CELL-CLONED HOLSTEIN COWS AND THEIR PROGENY.  
K. Nagano, J. Todoroki, M. Imamura, and C. Kubota.
- 69 APPLICATION OF BOVINE AMNIOTIC CELLS FOR PRENATAL GENETIC DIAGNOSIS AND NUCLEAR TRANSFER.  
Y. Nagao, T. Watanabe, R. Furutani, Y. Kato, R. Takahashi, M. Hirabayashi, S. Ueda, and T. Kurihara.
- 70 FETAL FIBROBLAST CELLS PERMEABILIZED WITH STREPTOLYSIN O IMPROVE THE RATES OF FUSION AND *IN VITRO* DEVELOPMENT OF PORCINE RECONSTRUCTED EMBRYOS.  
K. Naruse, Y. M. Shin, Y. S. Quan, C. S. Park, and D. I. Jin.
- 71 THE DEVELOPMENT OF INTRA- AND INTER-SPECIES CLONED EMBRYOS DERIVED FROM RABBIT OOCYTES: THE EFFECT OF DONOR CELL SOURCES.  
P. Numchaisrika, A. Thongphakdee, R. Rungsiwiwut, K. Pruksananonda, P. Virutamasen, and M. Techakumphu.
- 72 LIMITED REPROGRAMMING OF SOMATIC CELL NUCLEI TRANSFERRED INTO MOUSE IMMATURE OOCYTES.  
C. Palmieri, H. Fulka, J. Fulka Jr, P. Loi, G. Ptak, and L. Della Salda.
- 73 RE-CLONING BY SOMATIC CELL NUCLEAR TRANSFER FROM A CLONED KOREAN NATIVE GOAT.  
H. S. Park, S. Y. Jung, S. H. Park, A. N. Ha, J. I. Jin, J. K. Park, S. H. Sohn, J. S. Lee, and J. Y. Jung.
- 74 STUDY OF TRANSGENIC GOATS EXPRESSING HUMAN GRANULOCYTE-MACROPHAGE COLONY-STIMULATING FACTOR IN THE MAMMARY GLAND.  
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- 75 INHIBITION OF NK CELL CYTOTOXICITY IN CLONED MINI-PIGS EXPRESSING HUMAN LEUKOCYTE ANTIGEN-G1(HLA-G1) GENE.  
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## *2007 Recipient IETS Distinguished Service Award*

# *David Stringfellow*



Award Presentation: Tuesday, January 9 at 11:00

Most members of the International Embryo Transfer Society (IETS) have met with, talked to, or heard about Professor David Stringfellow because of the excellence of his research as applied to embryo transfer and because of his exceptional commitment to the IETS.

Professor D. A. Stringfellow, DVM, MS, started his career as a veterinary practitioner in Pennsylvania (USA), where he experienced food animal practice and gained an appreciation for the support practitioners needed from the academic world, something he never forgot.

Stringfellow worked several years with the United States Department of Agriculture before he took a position at Auburn University (AL), where he has applied his expertise in epidemiology, microbiology, cattle production and embryo transfer during lectures at the veterinary college. In the early 1980s, he began to generate original research on embryo-pathogen interactions, first with bacteria such as *Brucella* and then with mycoplasmas and viruses such as Herpes- or Pestiviruses. Stringfellow published dozens of papers on this topic and became a world leader in the area.

Very early in the development of his research, Stringfellow was aware of the importance of healthy, pathogen-free embryos for use in the transfer industry. As early as in 1984, together with other friends from North America and Europe, he became a member of the newly formed IETS Import/Export Committee, now known as the Health and Safety Advisory Committee (HASAC). He very rapidly took a preponderant place in the Research Subcommittee of which he became the chair close to ten years ago. For the last decade, he has monitored with extreme efficiency the IETS/HASAC, embryo-pathogen research data base (the Research Update) which is the most comprehensive source of information worldwide on this topic and is easily accessible by IETS members ([www.iets.org](http://www.iets.org)).

For over two decades, not only did Dr. Stringfellow publish and present many key papers, including those at IETS conferences, but he also made great contributions to three consecutive revisions of the IETS Manual. He and S. M. Seidel edited the third edition, which was released in 1998. Dr. Stringfellow reviewed all technical components of the manual with the greatest care! He has also used his expertise to advise many North American and other practitioners to help the embryo transfer industry become the safest way to exchange genes.

The whole embryo transfer industry and particularly members of the IETS owe him a great deal of gratitude, which is why Professor D. A. Stringfellow is being presented with the 2007 IETS Distinguished award.

## Public Program: From the Cell to the Animal—10 Years' Footprint from Dolly

Friday, January 5, 2007

17:30–19:00

To be held at Kyoto University Clock Tower Centennial Hall.

(see the university web site: <http://www.kyoto-u.ac.jp/index-e.html>).

This program is designed especially for young students (junior high school, senior high school and undergraduate students) to introduce them to transitions in the field of animal biotechnology, from past technologies to those expected in the future, with special reference to somatic cell nuclear transfer technology. This program is free of charge.

## Bioniche Think-Tank

Sunday, January 7, 2007

18:00 - 20:30 (Room C1)

At the IETS meetings in Auckland, Portland and Copenhagen, Bioniche Animal Health held “Think-tanks”, getting small groups of researchers and practitioners together to brain-storm about present and future needs within the industry, especially as they might be addressed by a biopharmaceutical company committed to serving that industry. We are intending to follow this up with another Think-tank at IETS 2007 in Kyoto, however, this will be slightly different. As most Japanese practitioners have not had an opportunity to experience such an event, we are inviting a small group of active participants to lead and participate in the discussion, but we are extending an invitation to all IETS registrants who might be interested in attending and observing.

## Tea Ceremony

Monday, January 8, 2007

10:30–13:30 (Tea Ceremony House “Hoshooan”)

A Japanese traditional tea ceremony program will be open to attendees on January 8 (Monday) at around lunchtime. The program will be held in the tearoom at the venue. The ceremony will be held in a separate group (~10–20 persons) and will take approximately 30–40 min. The registration fee is \$20 per person and includes Japanese green tea, a Japanese sweet and demonstration of the tea ceremony, with simultaneous translation service.

## Open Meeting of the Health And Safety Advisory Committee

Monday, January 8, 2007

17:30 – 19:30 (Main Hall)

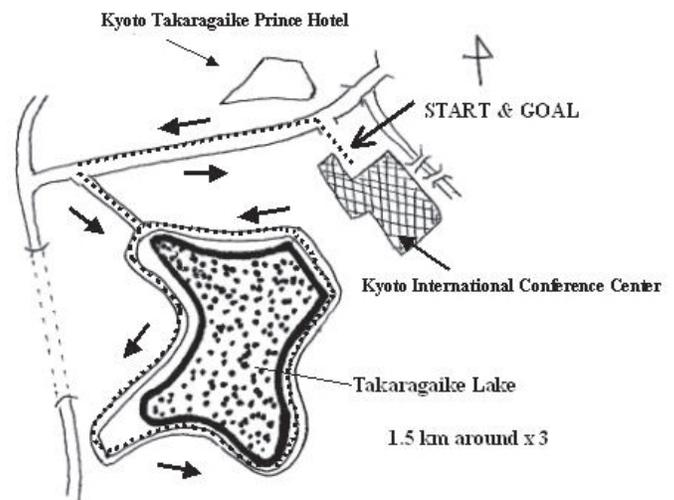
## 5<sup>th</sup> IETS Annual Running Competition

Tuesday, January 9, 2007

12:00

The traditional running competition will be held at a wonderful place—in a park, around a lake very close to the conference facilities (see attached map). To avoid problems with darkness (remember Copenhagen?) we have decided to hold the race on Tuesday, January 9, from 12:00 to 13:30. This time period will allow us ample time for slight modifications to the actual start time, which will be decided later.

The race will consist of 3 rounds around the lake (approx.  $3 \times 1.5$  km) plus the start–finish route, a total of 5 km. I think the laps will make the event more spectacular and enjoyable for the



## Special Events

spectators. We definitely hope that more young people will join us (so far, I've had the impression that the average age of participants increases faster than the passing years), and also that the Danish hegemony will be challenged, although both Poul Maddox-Hyttel and Peter M. Kragh, the previous winners, are expected to come. I have to extend special thanks to the Local Organizing Committee, Prof. Hiroshi Imai and all the volunteers he has offered us for the work they have done and will do to organize this event.

See you around the lake,

Gabor Vajta

### *Practitioner's Forum: The Use of Embryo Transfer for Improvement of Fertility in Dairy Cows*

Tuesday, January 9, 2007

13:30–15:00 (Main Hall)

Moderators: Prof. Osamu Dochi and Prof. Reuben J. Mapletoft

In recent years, fertility of lactating dairy cows has gradually decreased throughout the world. The cause of the reduced fertility may vary considerably from one country to the next. In this Practitioner's Forum, we will focus on and discuss the use of embryo transfer for overcoming the low fertility in dairy cattle. Three speakers will present recent information relevant to the topic.

- *Relationship between endometrial epidermal growth factor (EGF) and fertility after embryo transfer in repeat-breeder cows* - Dr. S. Katagiri (Graduate School of Veterinary Medicine, Hokkaido University, Japan)
- *Improved pregnancy after embryo transfer of frozen-thawed embryos in repeat-breeder Holstein cows* - Mr. K. Takahashi, DVM (Genetics Hokkaido Assoc., Japan)
- *Improvement of fertility after embryo transfer in dairy cows under heat-stress conditions* - Dr. J.L.M. Vasconcelos, (Faculdade de Medicina Veterinaria e Zootecnia, UNESP, Botucatu, SP, Brazil)

### *Banquet*

Tuesday, January 9, 2007

18:00–20:00 (Sakura Room)

A stand-up dinner party. Enjoy the various kinds of Japanese foods!

### *Dance Party*

Tuesday, January 9, 2007

20:00–21:30 (Swan Room)

Immediately following the Banquet

A dance party with Taku's Music Band will be held on January 9 (Tuesday) following the Banquet at the Swan Room. No registration fee is necessary, but there will be a charge for soft drinks and alcoholic beverages.

### *Post-conference Tour*

Thursday, January 11, 2007

9:00–17:00

This one-day tour near Kyoto is an "Excursion to see the world-famous Japanese Black cattle (Wagyu) and to taste their marbled beef with Sukiyaki" and will include the following sites: a Wagyu farm, the Shiga Prefectural Animal Experimental Station, a lunch with "Sabu-shabu" or "Sukiyaki," the Biwa Lake (one of the biggest lakes in Japan) and the Hieizan Temple (a world heritage) during the New Year's holiday. A simultaneous translation service will be available. The tour will be open by the entry of more than 35 participants. The registration fee is \$80 per person.

## Booth listing by booth number

Booth #	Company
1	Fujihira
2-3	Japan Livestock Trading Corp. / Microdyne Company LLC
4	Misawa Medical Industry Co., Ltd.
5	Eiken Chemical Co. Ltd.
6	Prime Tech Ltd.
7	Hamilton Thorne Biosciences
8	Nippon Medical & Chemical Instruments Co. Ltd.

Booth #.....	Company
9	CSIRO Publishing/RFD
10	Narishige Co. Ltd.
11	IMV Technologies
12	National Livestock Breeding Center (NLBC)
13-14	Bioniche Animal Health
15	Nepa Gene Co. Ltd.
16	Professional Embryo Transfer Supply, Inc. (PETS, Inc.)

## Booth listing by company name

### **Bioniche Animal Health**

P.O. Box 1570  
231 Dundas St. E  
Belleville ON K8N 5J2  
Canada  
Phone: 613-966-8058  
Fax: 613-966-4177  
Website: [www.bionicheanimalhealth.com](http://www.bionicheanimalhealth.com)  
Booth(s): 13-14

A Canadian Animal Health business which is responsible for researching, developing, manufacturing and marketing animal health biopharmaceutical products worldwide. The Company's animal health products are marketed directly in Canada, the United States, Australia and Europe and through selected distributors in the rest of the world.

### **CSIRO Publishing/RFD**

P O Box 1139  
Collingwood Victoria 3066  
Australia  
Phone: 61 3 9662 7601  
Fax: 61 3 9662 7600  
Website: [www.publish.csiro.au/](http://www.publish.csiro.au/)  
Booth(s): 9

Reproduction, Fertility and Development is a highly cited international journal publishing original research and reviews in vertebrate reproduction and developmental biology. There is a focus on assisted reproductive technologies in medicine, livestock production, wildlife conservation and pest management, as well as coverage of the broader aspects of embryo and fetal development and reproductive physiology, endocrinology, cell biology, genetics, and behaviour. Regular and timely reporting of novel science enables the journal to develop in tandem with the rapid progress in reproductive sciences, making it a must-read for those wanting to keep abreast of current findings in the discipline.

### **Eiken Chemical Co. Ltd.**

33-8, Hong 1-chome  
Bunkyo-ku  
Tokyo 113-8408  
Japan  
Phone: 81 3 3813 4888  
Fax: 81 3 3813 7173  
Website: [www.eiken.co.jp/en](http://www.eiken.co.jp/en)  
Booth(s): 5  
Loopamp Bovine Embryo Sexing Kit and Loopamp End Point Turbidimeter, LA-100 for rapid and easy test by LAMP (Loop-mediated Isothermal Amplification) are exhibited.

### **Fujihira Industry**

11-6 Hongo 6 Chome  
Bunkyo-ku, Tokyo 113-0033  
Japan  
Phone: 81 3 3812 2271  
Fax: 81 3 3812 3663  
Website: [www.fujihira.co.jp](http://www.fujihira.co.jp)  
Booth(s): 1

At present, there are a number of issues that need to be resolved in the veterinary medicine and livestock production sectors, including the introduction of various new biotechnology, greater international integration, consideration for the environment, and with these many issues appropriately and effectively, we provide users with better products that take full advantage of latest information and technology, as our company over so many years.

**Hamilton Thorne Biosciences**

100 Cummings Center  
Suite 465E  
Beverly MA 01915  
Phone: 978/921-02959  
Fax: 978/921-0250  
Website: [www.hamiltonthorne.com](http://www.hamiltonthorne.com)

Booth(s): 7

Hamilton Thorne Biosciences - Specializing in quality clinical and research tools for assisted reproductive technologies. Hamilton Thorne is featuring the XYClone laser system; a premier product for nuclear transfer, transgenic animal production, and embryonic stem cell research. Incorporating XYClone into standard reproductive research applications will allow for increased production and efficiency while reducing overall costs of consumables.

**IMV Technologies**

10 rue Clemeneau  
L'Aigle 61300  
France  
Phone: 33 233346464  
Fax: 33 233341198  
Website: [www.imv-technologies.com](http://www.imv-technologies.com)

Booth(s): 11

Known worldwide for the quality of its craftsmanship and manufacture, IMV Technologies has for many years been taking up the most noble of challenges in the field of assisted reproduction biotechnologies. Through artificial insemination techniques for animals and the application of our technology we both contribute to and participate in the improvement of species and the preservation of our genetic heritage. Based in the heart of Normandy, 80% of IMV Technologies' sales are generated internationally and in more than 100 countries. Our development is based on perfecting new technologies which answer the growing needs of our customers' genetic development programs. Innovators by nature, we constantly develop new know-how for artificial insemination techniques, embryo transfer, bio-repositories and blood banking, all of which have multiple applications for human kind. To that end, our advances in the area of Assisted Reproduction Techniques, aimed at resolving human infertility issues, confirm the technological choices we have made and the commitment of an ever growing list of customers to products of the highest standard quality.

**Japan Livestock Trading Corp.**

113 Banchi, Higashi 5-sen  
Showa-cho, Obihiro  
Hokkaido 089-1247  
Japan  
Phone: +81-155-64-5735  
Fax: +81-155-64-5736  
Website: [www.jlt.ne.jp](http://www.jlt.ne.jp) (Japanese only)

Booth(s): 2-3

We translate and publish Hoard's Dairyman magazine in Japanese. The high-quality publication offers insights and practical management advice for both large and small dairy producers.

We also represent ABS Global, a world leader for quality bull semen.

When you stop by booth #2 & #3 we will demonstrate the latest technology in estrus detection – The TattleTale™ Heat Detector. This reusable, accurate, electronic estrus detector tells you exactly when a cow's standing estrus begins and is an invaluable tool for both AI and embryo transfer.

**Microdyne Company LLC**

PO Box 6141  
St. Joseph MO 64506  
Phone: 816-662-2325  
Fax: 816-662-2360  
Website: [www.cowbreeder.com](http://www.cowbreeder.com)

Booth(s): 2-3

We are pleased to attend the annual IETS meeting in Kyoto and display the TattleTale™ Heat Detector with the Japan Livestock Trading Corp. of Hokkaido. Stop by our booth #2 & #3 for a demonstration. This reusable, accurate, electronic estrus detector tells you exactly when a cow's standing estrus begins and is an invaluable tool for both AI and embryo transfer.

The Japan Livestock Trading Corporation also translates and published Hoard's Dairyman magazine in Japanese and represents ABS Global.

**Misawa Medical Industry Co., Ltd.**

7-17-6 Hirai  
Edogawa-ku Toyko 132-0035  
Japan  
Phone: 81-3-3617-7210  
Fax: 81-3-3617-5762  
Website: [www.misawa-medical.com](http://www.misawa-medical.com)

Booth(s): 4

Misawa Medical Industry will feature the following items in their booth.

Embryo Transfer Syringe: mo-No.1 and mo-No.2 (use with 0.25ml-Straw).

Ovum Pick Up Needle Set: Cova-Needle (use with Aloka, Honda, Hitachi and other ultra-sound probes)

Disposable Needles for Veterinary (high quality needles, wide variety of size and point shape).

**Narishige Co. Ltd.**

27-9 Minamikarasuyama 4-chome  
Setagaya-ku  
Tokyo 154-0062  
Japan  
Phone: 81 3 3308 8383  
Fax: 81 3 3308 8700  
Website: [www.narishige.co.jp](http://www.narishige.co.jp)  
Booth(s): 10

Narishige Micromanipulators are widely used by experts around the world to perform elaborate experiments under a microscope in the fields of ICSI, biotechnology, electrophysiology, etc.

**National Livestock Breeding Center (NLBC)**

Odakurahara, Odakura, Nishigo-mura  
Nishishirakawa-gun  
Fukushima  
Japan  
Phone: 81 248 25 2794  
Fax: 81 248 25 3990  
Website: [www.nlbc.go.jp](http://www.nlbc.go.jp)  
Booth(s): 12

**Nepa Gene Co. Ltd.**

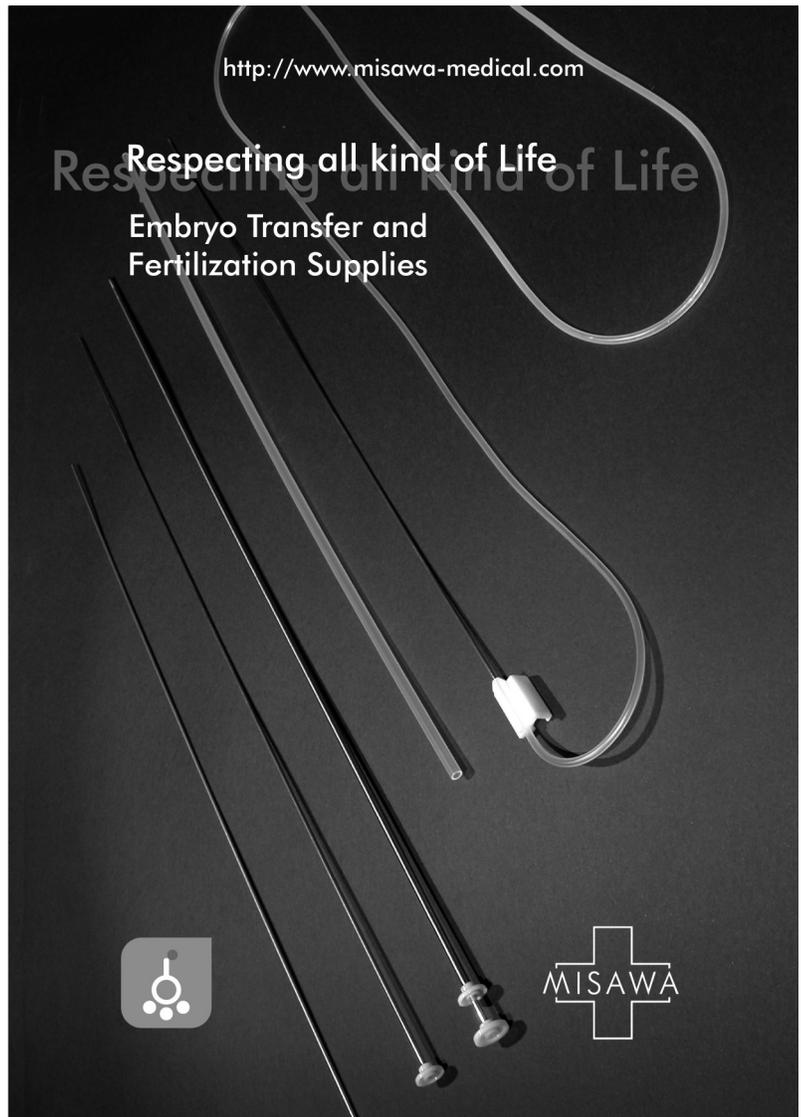
3-1-6 Shioyaki  
Ichikawa Chiba 272-0114  
Japan  
Phone: 81 047-306-7222  
Fax: 81 047-306-7333  
Website: [www.nepagene.jp](http://www.nepagene.jp)  
Booth(s): 15

Nepa Gene Co., Ltd. Offers the unique instruments such as the electrical nuclear transfer system and mechanical strain cell culture system.

**Nippon Medical & Chemical Instruments Co. Ltd.**

1-22-38, Edobori, Nishi-ku  
Osaka Osaka 550-0002  
Japan  
Phone: 81 6 6443 0712  
Fax: 81 6 6445 7641  
Website: [www.nihonika.co.jp](http://www.nihonika.co.jp)  
Booth(s): 8

Introduction IVF and ER related products to the customers: dean bench, small incubator, clean room, medium, vitrification system.



**Professional Embryo Transfer Supplies, Inc. (PETS, Inc.)**

PO Box 188  
Canton TX 75103  
Phone: 903-567-4536  
Fax: 903-567-4927  
Website: [www.pets-inc.com](http://www.pets-inc.com)  
Booth(s): 16  
Embryo Transfer supplies for bovine and equine. Hy-Flow, Maxi, EZ Way Filters, Ptri-Dished, 4-well and 6-well, etc.

**Prime Tech Ltd.**

635 Nakamukaihara  
Tsuchiwa Ibaraki 300-0841  
Japan  
Phone: 81 29 830 4517  
Fax: 81 29 830 4515  
Website: [www.primetech-jp.com](http://www.primetech-jp.com)  
Booth(s): 6  
Micromanipulator, piezo micromanipulator, microscope and micropipettes.

# *Pre-conference Satellite Symposium I*

## *Innovative Techniques in Human and Animal Embryology*

*January 6, 2007, Room D*

*Organizers: Jeremy Thompson (Adelaide, Australia)*

*Gábor Vajta (Tjele, Denmark)*

### **Timetable**

8:00 Introduction

8:05 Keynote Lecture by Stanley Leibo

#### **8:30 Section I—Maturation and Culture**

- Oocyte maturation: Emerging concepts and technologies to improve developmental potential. Robert Gilchrist
- Alternatives to culture in the petridish. Jeremy Thompson
- Quantification of embryo quality by respirometry. Henrik Callesen, Ana Lopes
- Metabolic profiling of human embryos in culture: Improving selection for transfer. Daniel Brison

10:10 Coffee Break

#### **10:30 Section II—Stem Cells**

- Derivation of human embryonic stem cell lines. Teija Peura
- Maintaining epigenetic and genetic integrity of human ES cells. Maisam Mitalipova
- Embryonic stem cells and animal models of early human development and adult disease. Kevin Sinclair
- Isolation and characterization of pluripotent cell lines from pig embryos of different origins. Fulvio Gandolfi

12:10 Lunch

#### **13:00 Section III—Cryopreservation**

- Analysis of oocyte physiology to improve cryopreservation procedures. David Gardner
- Highly efficient vitrification for cryopreservation of human oocytes and embryos: The Cryotop method. Masashige Kuwayama
- Toward verification of vitrification parameters—What is really important for oocyte cryopreservation. Amir Arav

14:20 Coffee Break

#### **14:40 Section IV—Embryo Manipulation**

- Oocyte-induced enucleation reveals spindle-associated regulators of cytoplasmic developmental competence. Eric Overstrom
- Comparative approach to nuclear transfer with the zona free method in cattle, horse, pigs and sheep. Cesare Galli
- Artificial gametes: When and how? Zsolt Peter Nagy
- The porcine epidermal stem cells as a biomedical model for wound healing and normal/malignant epithelial cell propagation. Jan Motlik

16:20 General Discussion and Conclusion

# *Pre-conference Satellite Symposium II*

## *Assisted Reproductive Technologies and Food Safety in Farm Animals*

*January 6, 2007, Room B1*

*Organizers: Dr. H. Kochhar, Dr. M. Thibier, and Dr. H. Imai*

8:45 Opening address—Dr. Michel Thibier, France

### ***Section I: Newer Assisted Reproductive Technologies***

***Section Chair: Dr. H. Imai***

9:00 Animal clones and methodology of cloning—Dr. Keith Campbell, UK

9:30 Transgenic animal production and animal biotechnology—Dr. Jim Robl, USA

### ***Section II: Newer Assisted Reproductive Technologies and Impacts on Food Safety***

***Section Chair: Dr. H.P.S. Kochhar***

10:00 Assessing the quality of products from cloned cattle: an integrated approach — Dr. Yvan Heyman, France

10:30 Health Break

11:00 How healthy are animal clones and their progeny? Five years of field experience —  
Dr. Martin Panarace, Argentina

11:30 Genomic stability and physiological assessments of live offspring sired by a bull clone, Starbuck II —  
Dr. W. Alan King, Canada

12:00 Fourteen weeks feeding test of meat and milk derived from cloned cattle in the rat —  
Dr. Seiya Takahashi, Japan

12:30 Lunch

14:00 Meat composition of offspring derived from cloned boars—Dr. Irina Polejeava, USA

14:30 Compositional analysis of products derived from clones and cloned transgenic cattle —  
Dr. Goetz Laible, New Zealand

15:00 Health Break

### ***Section III: Regulatory Considerations in Animal Biotechnology***

***Section Chair: Dr. M. Thibier***

15:30 Regulatory considerations in transgenic livestock from the aspect of Cartagena Protocol in Japan—  
Dr. Kazuhiko Yamanouchi, Japan

16:00 Current status for regulating biotechnology-derived animals in Canada—Animal health and food safety  
considerations—Dr. Harpreet Kochhar, Canada

16:30 The US Food and Drug Administration (FDA) and animal cloning: Risk and regulatory approach—  
Dr. Larisa Rudenko and Dr. John Matheson, USA.

17:00 Concluding remarks—Dr. Takashi Nagai, Japan

17:05 Adjournment.

### ***Features of the program***

Genetically modified livestock in agriculture are already an experimental reality and can rapidly become a commercial reality. The challenge is to see whether the existing science based safety-assessment model will work and whether the current marketing practices will be up to this challenge. The acid test of industry practices will be their capacity to build consumer confidence. On the other hand, scientists engaged in the development of transgenic livestock intended to supply food must recognize that regulators and the general public consider the transgenic technology as a considerable shift from the traditional animal breeding practices. Livestock breeding is and will continue to be a balancing act of multiple trait selection, and it is naïve to believe that transgenes will become so important as to monopolize the selection process. Food safety and regulatory requirements for transgenic livestock are not yet definitive, but clearly have the potential to affect important areas such as trade certifications, animal identification, product identity and traceability. Hence, this symposium will be an effort to flush out the issues pertaining to the science, food safety data from experiments in animal cloning and transgenesis, regulatory initiatives in this direction and the public perception of this technology. The program will have three components:

1. Newer Assisted Reproductive Technologies—Cloning, Transgenesis, etc.: The presenters will provide an overview of the technologies and show how we are at a stage at which there is a potential to market the food and products derived from these animals.
2. Food Safety Components: The presenters in this subtheme will provide valuable data in terms of safety of food derived from animal clones or transgenics as well as the parameters and strategies used to generate the data.
3. Regulatory Considerations: A tough decision to approve or not to approve the food based on the scientific information guides the regulations (which at present time are unclear for the biotechnology-derived animals). The presenters will look at the specific approaches of assessment by different countries and the public perception of the food derived from such animals.

# *Post Conference Satellite Symposium*

## *Quality Control of Embryos for Embryo Transfer and Related Advanced Technologies in Cattle*

*January 10, 2007, Room D*

08:00 Opening address: Local Organizing Committee Chair, Dr. A. Iritani

08:15 Introduction: Dr. Y. Izaike

### **Session I: Oocyte collection following superstimulation and ovum pick-up (OPU)**

08:30 Superovulation in the cow: Effects of gonadotrophins and follicular wave status  
Dr. R.J. Mapletoft (Canada)

09:00 The efficiency of embryo production by OPU  
Dr. K. Imai (Japan)

09:30 Application of ultrasound guided follicular aspiration (OPU) in prepubertal and adult cattle.  
Dr. H. Niemann (Germany)

10:00 Coffee Break

### **Session II: Quality control of oocytes and embryos for in vitro production systems**

10:30 The role of growth factor signaling on oocyte quality and maturation  
Dr. K. P. McNatty (New Zealand)

11:00 Embryo quality in bovine embryos: Influence of oocyte origin and culture environment  
on gene expression and developmental competence of IVF embryos  
Dr. P. Lonergan (Ireland)

11:30 Non-invasive quality assessment of IVP embryos  
Dr. H. Abe (Japan)

Lunch Break

### **Session III: Embryo cryopreservation and commercial application of frozen embryos**

13:30 Cryopreservation of manipulated embryos  
Dr. S. P. Leibo (USA)

14:00 Essential methods of freezing embryos for application in animal reproduction management  
Dr. O. Dochi (Japan)

14:30 Vitrification and direct transfer of bovine embryos  
Dr. G. Seidel (USA)

15:00 Mass production of cattle from IVM, IVF and cryopreservation of in vitro-produced embryos in Japan  
Dr. Hamano (Japan)

15:30 Coffee Break

### **Session IV: Early embryonic-loss and maintenance of early pregnancy with manipulated embryos**

16:00 What drives the formation of trophoblast during early embryonic development?  
Dr. R. M. Roberts (USA)

16:30 Interaction between fetal and maternal environments during early pregnancy in domestic species  
Dr. T. Ezashi (Japan)

17:00 Failure of uterine-conceptus interactions in cattle  
Dr. T. R. Hansen (USA)

17:30 Improving pregnancy maintenance in dairy cows  
Dr. W. W. Thatcher (USA)

18:00 Adjournment

# *Pre-conference Writer's Workshop*

## *Workshop for Authors*

### *Publishing Scientific Papers in English*

*Presented by*

*John P. Kastelic, DVM, PhD, Co-Editor-in-Chief, Theriogenology*

*Rose M. Kastelic, BA (French), MA*

Many manuscripts are delayed or rejected because of poor experimental design, analysis and presentation of data, and writing. This workshop is an overview of how to plan and conduct research, analyze and present your data, write a paper and interact with editors and reviewers. In addition to presentations of principles and common errors, there will be exercises and interactive discussions.

This workshop is primarily designed for those for whom English is a second language. Therefore, English syntax, grammar and punctuation will be reviewed. However, this workshop will also be valuable for those for whom English is their native language, especially students and young scientists.

This is a Pre-conference Workshop (in association with the 2007 IETS Conference). The workshop will be held in the Kyoto International Conference Hall (IETS Conference location) in Kyoto, Japan, on Saturday, 6 January (8:00 to 17:00) and Sunday, 7 January (8:00 to 12:00).

Class size is limited to the first 20 participants. Registration fees are payable to IETS via the registration form. The on-site registration fee is US\$250 for IETS members and US\$350 for nonmembers (if space is available). Student registration is US\$150 prepaid, or US\$200 at the door. The registration fee does not include meals.

*SAVE THE DATES*  
*IETS 2008*  
*JANUARY 5-9, 2008*  
*DENVER, COLORADO*



# *Notes*

NLBC contributes to the sustainable development of the livestock industry and provides rich and safe livestock products to consumer in Japan

#### **Our Activities**

**NLBC has five main areas of focus:**

- 1. Research on livestock technologies.**
- 2. Improvement and multiplication of livestock animals and improvement of feeding management.**
- 3. Beef traceability and individual identification of cattle.**
- 4. Production, distribution, and testing of seeds and seedlings of forage crops.**
- 5. Training and guidance on livestock technologies.**

**NLBC continually strives to improve livestock performance using new Livestock technologies. NLBC conducts studies on embryo transfer, meat quality evaluation and animal breeding by molecular genetics using new livestock technologies. Particularly in the area of embryo transfer technology, NLBC focuses on research of Ovum Pick-Up and in vitro Fertilization (OPU-IVF), characteristic Investigation of somatic cell cloned cattle, and other areas of research.**

#### **Contact Us**

NLBC is a major source of news and information for the livestock industry. Contact us for further details.

Phone: +81-248-25-2231 Fax: +81-248-25-3990 (Reception)

Phone: +81-248-25-6162 Fax: +81-248-25-3982 (Planning and Coordination)

Phone: +81-248-25-6164 Fax: +81-248-25-3990 (General Management of Technology Department)

Email: [inquiry@nlbc.go.jp](mailto:inquiry@nlbc.go.jp)

**National Livestock  
Breeding Center**



