



THE TERATOLOGY SOCIETY

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Letter from the President

Elaine M. Faustman, Ph.D.
University of Washington

As we start this year let me say Happy New Year and share with you some of the exciting opportunities that we have as a Society for 2007. As some of you know one of the biggest activities scheduled for this year is our third Strategic Planning Session to be held in April. We have had strategic sessions every five years and these have established some important new directions that have guided the progress of our Society. One example of this was the announcement at our 2006 meeting that we had reached our goal for financial health of the Society. We hope that our 2007 session will permit us to assess how far we have come, where we need to go next, how to better meet your needs as a member, and how to improve the Society overall.

Council has identified three topics as areas of focus for the 2007 session: 1) scientific excellence and leadership, 2) membership recruitment and retention, and 3) outreach and partnership by defining the role of the Teratology Society today and relationship with other sectors/organizations to enhance our science, education/training and understanding of our field. Council expects that one outcome of the session is to define the Teratology Society in terms of its internal and external (public) visibility in the three areas and to have a

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special thanks to Dr. Robert Parker who provided photos from last year's annual meeting.

Annual Meeting News

47th Annual Meeting, Pittsburgh, PA
June 23-28, 2007

Thomas B. Knudsen, Ph.D. *University of Louisville*
Becca Rhame, *Teratology Society*

The 2007 Annual Meeting Program Committee has organized an outstanding and expansive scientific program. The Committee worked with the Organization of Teratology Information Specialists (OTIS), the Neurobehavioral Teratology Society (NBTS), and the Behavioral Toxicology Society (BTS) to develop numerous education courses, scientific symposia, and workshops as well as platform talks and poster presentations. The session topics address newer concepts in the field and are likely to generate lively interaction.

Education Courses

The Education Course will revisit principles in teratology with a focus on basic concepts and research applications. Topics include methods for detecting birth defects, regulatory study design and interpretation, maternal-fetal considerations, animal-human concordance, nutritional factors, and new information in understanding mechanisms. Our Sunrise Mini-Course will address developmental and reproductive toxicity testing of biopharmaceuticals—agents used for therapeutic or *in vivo* diagnostic purposes that are produced (engineered) by biotechnology. Separate registration is required for both the Education Course and the Sunrise Mini-Course, so please register early!

Joint Symposia with TS/NBTS/OTIS

The general scientific program will begin Sunday afternoon with a joint symposium on prenatal drug abuse and adolescent developmental trajectories. More than 9.2 million children live with at least one illicit-drug-using parent or other

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President's Letter continued...

plan to reach these objectives. For this session to be successful, we need to know the ideas, concerns, and aspirations that our members have for the Teratology Society.

All members are invited to have input on these topics. In addition, each committee of the Teratology Society will be asked to provide written input on these topics and be invited to put forth the name of one member for consideration as a participant in the planning session.

The final list of participants will be selected by the chairs of the Organizing Committee, Drs. Christina Chambers and Melissa Tassinari and endorsed by Council. The number of participants will not exceed 25, which will include the members of Council, the Editors of the journal, and the members selected from nominations put forth by the committees and membership. If you are interested in submitting comments on these topics and being involved in these activities please let Christina (chchambers@ucsd.edu) or Melissa (melissa.s.tassinari@pfizer.com) know as soon as possible as we welcome your input. There will be some pre-work required from the participants and the agenda is designed to cover 2 to 2.5 days. The anticipated dates of the session are April 18-20, 2007. The location has not yet been determined.

In this newsletter we also have exciting descriptions of the Teratology Society Annual Meeting and updates on our search for an Editor for *Birth Defects Research Part A*. As you can see we have an important year ahead of us and we welcome your comments, inputs and insights.



*Melissa Tassinari and Carole Kimmel
at 2006 Past President's Luncheon.*

Editor Search

Lewis Holmes, M.D.
MassGeneral Hospital for Children

The Teratology Society announces a search for a new Editor for *Birth Defects Research Part A*. It was with reluctance that the Society accepted Dr. Phil Mirkes' resignation last year as his leadership as current Editor for *Birth Defects Research Part A* was one defined by growth and success. Dr. Lewis Holmes from Mass General Hospital for Children in Boston has agreed to chair this committee and welcomes nominations from the Society for this important position. Please send your nominations to him at: holmes.lewis@MGH.harvard.edu. Lew can also be contacted by phone at (617) 726-1742; information can be faxed to (617) 724-1911.

This editorship position is an important position for our Society and we welcome your interest and involvement in choosing a successor!

Website of Note

Many of our members identify new or recently improved websites of direct interest to our scientists. This one was identified by one of our student members, Josh Robinson, and may be of interest to others. The website is <http://genex.hgu.mrc.ac.uk/>.

This website was created by the UK MRC Human Genetics Unit in Edinburgh and it contains a "digital atlas of mouse development" which is linked to an extensive database of *in situ* gene expression in the developing mouse. The Edinburgh Mouse Atlas Project (emap) creates 3-D movies that are facilitated by interactive computer models which show gene expression spatially within the embryo at successive stages during development. We encourage you to view these exciting movies, a result of partnerships at the University of Edinburgh School of Biomedical Sciences and Glasgow School of Art.

adult. Mounting findings warn of the harmful links between parental drug use and children's developmental trajectories, and these effects may be exacerbated by prenatal drug exposure. This symposium will focus on the effects of prenatal drug exposure, the multiple factors associated with parent drug use, and potential connections to subsequent drug abuse vulnerability. A second joint TS/NBTS/OTIS symposium will be held Monday on Fetal Alcohol Spectrum Disorders (FASD). This session will address a wide range of basic and clinical issues associated with alcohol use during pregnancy. Prenatal alcohol damage affects an estimated 1% of liveborn infants and is the leading preventable cause of mental retardation. The complex etiology of FASD requires basic research to improve mechanistic understanding of prenatal alcohol damage and clinical research to identify at-risk newborns at the earliest possible age.

Symposia on Cutting-Edge Mechanistic Research

The March of Dimes will sponsor a symposium Tuesday on epigenetics and developmental programming of metabolic disorders. Clinical and epidemiological studies have shown significant correlations between the in utero and early life environments and increased risk of hypertension, coronary heart disease, diabetes, and obesity that are components of the metabolic syndrome. Understanding what epigenetic marks critically scar the genome is a new area referred to as "fetal or developmental programming". This symposium will present the state of the science in developmental programming with a particular focus on the metabolic syndrome. It also marks the 10th Anniversary of symposium support from the March of Dimes! Wiley-Liss will sponsor a symposium Wednesday on molecular clocks in embryonic development. This symposium, organized by the Publications Committee, will cover a new and exciting area of research that investigates how cells measure time in the embryo. Studies have found that developmental timekeeping is controlled by intrinsic "molecular clocks" expressed in cyclic pulses with periodicity independent of popular oscillatory functions such as the cell cycle. Their timing is essential for understanding the patterning of temporal gradients such as in somite segmentation, and this work can be translated into understanding human vertebral anomalies.

Symposia on Clinical and Epidemiological Advances

The Office of Rare Diseases at the National Institutes of Health will sponsor a symposium Wednesday on genetic and environmental risk factors for several major birth defects. The interaction of genetic susceptibility and environmental exposure explains some of the variance in expression of ad-

verse genetic traits and offers an opportunity for prevention of exposure in susceptible individuals. This symposium will examine four disorders (renal agenesis, polydactyly, hypospadias, and SALL1-related malformations) to illustrate the ways in which the environment may interact with genetic endowment to produce rare but important malformations. On Thursday we have a symposium that addresses the impact of personalized nutrition and medicine on perinatal development. The goal of personalized medicine is to get the right therapeutic to the right individual at the right time. Dietary agents such as vitamin A and folic acid are prime examples of food-borne chemicals that can be better understood at this level and thereby consumed in a manner promoting normal perinatal development. These and other cases will be used to demonstrate the utility of personalized nutrition and medicine to enhance children's health.

Sessions to Forge New Ground

The International Life Sciences Institute (ILSI) Health and Environmental Sciences Institute (HESI)-Developmental and Reproductive Toxicology Technical Committee will sponsor a platform session Sunday organized by the Public Affairs Committee which will be derived from abstract submissions. This year, the theme will be nonclinical studies that focus on applications and lessons learned regarding pharmacogenomics in drug development and regulatory science. "Pharmacogenomics" investigates how an individual's genetic composition affects response to drugs. Although many factors can influence the individual response to drugs, an understanding of individual genetic makeup is key to advanced diagnosis of individual susceptibility, as well as more powerful therapeutic efficacy and safety.

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2006 Robert L. Brent Lecturer, John Rogers, speaks of *Mice, Men and Monkeys*; photo from last year's meeting.

New research in cheminformatics and bioinformatics is underway to utilize emerging resources in information technology and molecular databases for making predictions related to developmental and reproductive toxicity. A Tuesday workshop will address the applications of high-information content data in reproductive and developmental toxicology. On Thursday, a workshop will tackle the issue of achieving worldwide elimination of folic acid-preventable spina bifida and anencephaly. Folate optimization is essential to this important public health campaign and this workshop will include a panel discussion with opportunity for input from meeting attendees. Also on Thursday, our regional partner the Midwest Teratology Association, will sponsor a workshop on selective estrogen receptor modulators (SERMs).

Satellite Session for Pittsburgh Educators and Healthcare Professionals

A special satellite session has been organized by the Public Affairs Committee (PAC) of the Teratology Society and is designed to educate teachers and healthcare professionals with the knowledge to empower them in the campaign to prevent alcohol use during pregnancy. Local educators will be invited to attend this satellite session which will be held at the University of Pittsburgh on Tuesday, June 26 at 8:00 AM.

We look forward to seeing you in Pittsburgh, June 23-28, 2007! Remember, the abstract and the early bird registration deadlines are February 15, 2007. For more information, please visit: www.teratology.org/meetings/2007/.

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