

Society for Gynecologic Investigation
59th Annual Meeting of the Society for Gynecologic Investigation
“Improving Women’s Health through Personalized Medicine”
Manchester Grand Hyatt, San Diego, CA, USA
March 21-24, 2012

Tuesday, March 20, 2012

2:00 p.m. - 6:00 p.m. SGI Council Meeting (SGI Council Members Only) – [Betsy A&B](#)

3:00 p.m. – 6:00 p.m. Registration – [Elizabeth Foyer East](#)

Wednesday, March 21, 2012

7:00 a.m. – 7:00 p.m. Registration – [Elizabeth Foyer East](#)

8:30 a.m. – 4:30 p.m. SGI Satellite Meetings

**Placenta Association of the Americas – [Elizabeth E](#)
Satellite Symposium 2012**

Program Director: John J. Moore, M.D., Division of Neonatology Department of Pediatrics
MetroHealth Medical Center, Cleveland, OH, USA

8:30 a.m. – 9:30 a.m. **Unique Insights into the Causes of Preterm Labor – Understanding Membrane Rupture**
Martha Lappas, Ph.D., University of Melbourne, Melbourne, Australia

9:30 a.m. – 10:00 a.m. **Coffee Break**

10:00 a.m. – 11:00 a.m. **Use of In Vitro Model System to Develop Strategies for Prevention of Preterm Premature Rupture of Fetal Membranes**
Deepak Kumar, M.D., MetroHealth Medical Center, Cleveland, OH, USA

11:00 a.m. – 12:00 p.m. **Angiogenesis and the Placenta – Regulation of Placental Angiogenic Factors and Inhibitors by Heparanase and LMWH**
Simcha Yagel, M.D., Hadassah-Hebrew University Medical Center, Jerusalem, Israel

12:00 p.m. – 1:00 p.m. **Lunch**

1:00 p.m. – 2:00 p.m. **Angiogenesis and the Placenta – Endothelial Progenitor Cells in the Human Placenta and Fetal Growth Restriction**
Peter Sipos, M.D., MSc, University of Manchester, Manchester, UK

2:00 p.m. – 3:00 p.m. **Human Chorionic Gonadotropin Inhibits Onset of Preeclampsia in a “Humanized” Mouse Model and Replenishes Uterine Regulatory T Cells**
Surendra Sharma, Ph.D., Women and Infants Hospital-Warren Alpert Medical School, Providence, RI, USA

3:00 p.m. – 3:30 p.m. **Coffee Break**

3:30 p.m. – 4:30 p.m. **Angiogenic Factors and their Inhibitors in the Prediction of Preeclampsia and other Obstetric Complications**
Leslie Myatt, Ph.D., University of Texas HSC at San Antonio, San Antonio, TX, USA

Fetal Physiology Satellite Symposium 2012 – [Elizabeth F](#)

8:15 a.m. - 8:30 a.m. **Introduction**
Michael Ross, M.D., MPH, Harbor UCLA Medical Center, Torrance, CA, USA
Mina Desai, Ph.D. Harbor UCLA Medical Center, Torrance, CA, USA

8:30 a.m. – 9:30 a.m. **Understanding Fetal Physiology and Pathology through Doppler Ultrasound**
Giancarlo Mari, M.D., University of Tennessee Health Science Center, Memphis, TN, USA

9:30 a.m. – 10:00 a.m. **Coffee Break**

10:00 a.m. – 10:30 a.m. **Programming of Hypertension: Renal Contribution**
Mark Nijland, Ph.D., University of Texas Health Science Center at San Antonio, San Antonio, TX, USA

10:30 a.m. – 11:00 a.m. **Programming of Hypertension: Vascular Contribution**
William Pearce, Ph.D., Loma Linda University, Loma Linda, CA, USA

11:00 a.m. -12:00 p.m. **Maternal Under or Over Nutrition Programs Offspring Obesity**
Mina Desai, Ph.D., Harbor UCLA Medical Center, Torrance, CA, USA

12:00 p.m. – 1:00 p.m. **Lunch**

1:00 p.m. – 2:00 p.m. **Preventing Preterm Birth by Tackling Intrauterine Inflammation and Infection**
John Newnham, M.D. FRANZCOG, University of Western Australia, Perth, Australia

- 2:00 p.m. – 2:30 p.m. Inflammation/ Cytokines Results in Fetal/ Newborn Damage**
Carl Weiner, M.D., MBA, University of Kansas School of Medicine, Kansas City, KS, USA
- 2:30 p.m. – 3:00 p.m. Acidosis Results in Fetal/ Newborn Brain Damage**
Bryan Richardson, M.D., University of Western Ontario, London, ON, Canada
- 3:00 p.m. – 3:30 p.m. Coffee Break**
- 3:30 p.m. – 4:30 p.m. Ethical Aspects of Fetal Programming: Interventions and Therapy**
Frank A. Chervenak, M.D., Weill Medical College, Cornell University, New York, NY, USA

**Myometrial Function and Parturition – [Elizabeth H](#)
Satellite Symposium 2012**

- 8:15 a.m. – 8:30 a.m. Introduction:**
Ann Word, M.D., University of Texas Southwestern Medical Center, Dallas, TX, USA
Michael Taggart, Ph.D., Newcastle University, Newcastle Upon Tyne, UK
- 8:30 a.m. – 9:30 a.m. Premature Decidual Senescence Provokes Preterm Birth**
S.K. Dey, Ph.D., Cincinnati Children's Hospital & Medical Center, Cincinnati, OH, USA
- 9:30 a.m. – 10:00 a.m. Coffee Break**
- 10:00 a.m. – 11:00 a.m. In Search of the Pacemaker Site in the Pregnant Uterus**
Wim Lammers, M.D., Ph.D., UAE University, Al Ain, United Arab Emirates
- 11:00 a.m. – 12:00 p.m. A Novel Approach to Investigate Premature Labour: The Link with Maternal Congenital Heart Disease**
Carrie Ris-Stalpers, Ph.D., Academic Medical Centre, Amsterdam, The Netherlands
- 12:00 p.m. – 1:00 p.m. Lunch**
- 1:00 p.m. – 2:00 p.m. Physiologic Inflammation and Labour Onset: Integrating Mechanical and Endocrine Signals**
Oksana Shynlova, Ph.D., Mount Sinai Hospital, Toronto, ON, Canada
- 2:00 p.m. – 3:00 p.m. The Prostacyclin Paradox in Myometrium**
Kathleen Martin, Ph.D., Yale University School of Medicine, New Haven, CT, USA
- 3:00 p.m. – 3:30 p.m. Coffee**
- 3:30 p.m. – 4:30 p.m. Cervical Shortening and Progesterone: Molecular Mechanisms and Clinical Advances for the Prevention of Preterm Birth**
Sonia Hassan, M.D., Wayne State University School of Medicine, Detroit, MI, USA

**Endometrial Bleeding – [Betsy ABC](#)
Satellite Symposium 2012**

- 8:15 a.m. – 8:30 a.m. Introduction:**
Peter Rogers, Ph.D., University of Melbourne, Melbourne, Australia
Asgi Fazleabas, Ph.D., Michigan State University, Grand Rapids, MI, USA
- 8:30 a.m. – 9:00 a.m. The Immunology of Menstruation**
Ian Fraser, M.D., FRANZCOG, University of Sydney, Sydney, Australia
- 9:30 a.m. – 10:00 a.m. Coffee Break**
- 10:00 a.m. – 10:30 a.m. Hypoxia and Human Endometrial Function**
Jackie Maybin, MBChB, Ph.D., MRC Center for Reproductive Health, University of Edinburgh, Edinburgh, UK
- 10:30 a.m. – 11:00 a.m. Laser Doppler Perfusion and Xenograft Studies of Human Uterine Bleeding Disorders**
Jane Girling, Ph.D., University of Melbourne, Melbourne, Australia
- 11:00 a.m. – 12:00 p.m. Sex Steroid Impacts on Heavy Menstrual Bleeding**
Philippa Saunders, Ph.D., The Queen's Medical Research Institute, Edinburgh, UK
- 12:00 p.m. – 1:00 p.m. Lunch**
- 1:00 p.m. – 2:00 p.m. Xenografts of Human Endometrium Help to Decipher Mechanisms of Menstrual Bleeding and Regeneration**
Etienne Marbaix, M.D., Ph.D., Universite Catholique de Louvain, Bruxelles, Belgium
- 2:00 p.m. – 2:30 p.m. Endometrial Repair – New Directions**
Jemma Evans, Ph.D., Prince Henry's Institute of Medical Research, Clayton, Victoria, Australia
- 2:30 p.m. – 3:00 p.m. Angiogenic Factors and Vascular Homeostasis in the Dynamic Hormonal Environment of the Endometrium**
Nihar Nayak, Ph.D., Stanford University, Stanford, CA, USA
- 3:00 p.m. – 3:30 p.m. Coffee Break**
- 3:30 p.m. – 4:30 p.m. Molecular and Functional Aspects of Menstruation in the Macaque**
Ov Slayden, Ph.D., Oregon National Primate Center, Beaverton, OR, USA

**Global Issues for Preterm Birth: Epidemiology, Genetics and Pathophysiology – [Elizabeth G](#)
Updates by Preterm Birth International Collaborative (PREBIC) and World Health Organization
Satellite Symposium 2012**

Symposium Coordinator: Ramkumar Menon, MS, Ph.D., University of Texas Medical Branch at Galveston, Galveston, TX, USA

Morning Session:

Moderator: Calvin J. Hobel, M.D., David Geffen School of Medicine at UCLA, Los Angeles, CA, USA

8:30 a.m. – 9:30 a.m. The Epidemiology and Etiology of Preterm Birth

Michelle A. Williams, Sc.D., Harvard School of Public Health, Boston, MA, USA

9:30 a.m. – 10:00 a.m. Coffee Break

10:00 a.m. – 11:00 a.m. Lessons from Genome Wide Association Studies in Preterm Birth

1. NICHD Genomic Proteomic Network (GPN) Study

John V. Ilekis, Ph.D., NIH, Rockville, MD, USA

2. PREBIC – Preterm Birth Genome Project

Craig Pennell, MBBS, Ph.D., the University of Western Australia, Perth, Australia

11:00 a.m. – 12:00 p.m. Pathways to Preterm Birth: A Systems Biology Perspective

Irina A. Buhimschi, M.D., Yale University School of Medicine, New Haven, CT, USA

12:00 p.m. – 1:00 p.m. Lunch

Afternoon Session:

Moderator: Mario Meriardi, M.D., Ph.D., MPH, World Health Organization, Geneva, Switzerland

1:00 p.m. – 2:00 p.m. Are Inflammation and Oxidative Stress the Chicken and the Egg of Preterm Birth?

Elizabeth A. Bonney, M.D., University of Vermont College of Medicine, Burlington, VT, USA

2:00 p.m. – 3:00 p.m. Like Effects of Nutritional Flow for Boys and Girls in the Womb

Kent Thornburg, Ph.D., Oregon Health & Sciences University, Portland, OR, USA

3:00 p.m. – 3:30 p.m. Coffee Break

3:30 p.m. – 4:30 p.m. Recent Advances in Obstetric Collaborations: Update from the Global Obstetric Network (GONet)

Catherine Y. Spong, M.D., NICHD/NIH, Bethesda, MD, USA

12:00 p.m. – 1:00 p.m. Reproductive Sciences Editorial Board Meeting (Members Only) – [Edward D](#)

4:45 p.m. – 6:15 p.m. SGI/ WiRS New Investigator Roundtable Event – [Elizabeth D](#)

(Supported in part with a grant from Ferring Pharmaceuticals, Inc.)

Groups of 10 young investigators will discuss the topics listed below for 15 minutes each. Discussions will be led by a Moderator chosen from among SGI members, NIH or industry representatives. Each young investigator will rotate through and discuss each of the 5 topics.

Topics

a. Life as a Basic or Clinical Scientist

Moderators:

Ira Bernstein, M.D., University of Vermont College of Medicine, Burlington, VT, USA

Ian Bird, Ph.D., University of Wisconsin, Madison, WI, USA

Hilary Critchley, M.D., University of Edinburgh, Edinburgh, UK

Lois Salamonsen, Ph.D., Prince Henry's Institute of Medical Research, Clayton, Victoria, Australia

Areas for discussion

- a) Career paths – Clinical
- b) Career paths – Basic science
- c) Balancing a clinical/research career
- d) Balancing science with service and administration
- e) Work-life balance

b. Getting a Position

Moderators:

Caroline Gargett, Ph.D., Monash Institute of Medical Research, Clayton, Victoria, Australia

Linda Giudice, M.D., Ph.D., University of California-San Francisco, San Francisco, CA, USA

Murray Mitchell, D.Phil, University of Queensland, Brisbane, Australia

Gerson Weiss, M.D., UMDNJ New Jersey Medical School, Newark, NJ, USA

Areas for discussion

- a) The application, the interview and navigating the search committee
- b) Negotiating a position
- c) Setting up a lab
- d) Managing a team

c. Getting Funded and Presenting Data

Moderators:

Carole Mendelson, Ph.D., UT Southwestern, Dallas, TX, USA
Kelle Moley, M.D., Washington University School of Medicine, St. Louis, MO, USA
Yoel Sadovsky, M.D., Magee-Women's Research Institute, Pittsburgh, PA, USA
Hugh Taylor, M.D., Yale University School of Medicine, New Haven, CT, USA

Areas for discussion

- a) Presentation skills, oral and poster
- b) Writing a paper
- c) Reviewing a paper
- d) Grant writing
- e) The view from the study section

d. Leadership and Networking Skills

Moderators:

Jane Norman, M.D., University of Edinburgh, Edinburgh, UK
Louis Peeters, M.D., University Medical Centre Utrecht, Utrecht, The Netherlands
Nanette Santoro, M.D., University of Colorado at Denver, Aurora, CO, USA
Gordon Smith, M.D., Ph.D., University of Cambridge, Cambridge, UK

Areas for discussion

- a) Finding a mentor and mentee expectations
- b) The art of supervision
- c) Creating your network
- d) Building national and international collaborations
- e) Becoming a mentor and a leader

e. Alternative Career Pathways

Moderators:

Alicia Armstrong, M.D., NICHD/NIH, Bethesda, MD, USA
Barry Komm, Ph.D., Pfizer, Inc., Collegeville, PA, USA
Andrew La Barbera, Ph.D., American Society for Reproductive Medicine (ASRM), Birmingham, AL, USA
Pamela Stratton, M.D., NICHD/NIH, Bethesda, MD, USA

Areas for discussion

- a) Alternate pathways- Pharma Industry
- b) Alternate pathways- Biotechnology
- c) Alternate pathways- Administration
- d) Alternate pathways -Compliance/regulatory affairs

6:30 p.m. - 8:00 p.m. **Welcome Reception** – [Pool Deck](#)

8:00 p.m. – 9:30 p.m. **New Investigator Social** – [Casino – Elizabeth A](#)

Thursday, March 22, 2012

7:00 a.m. – 5:00 p.m. **Registration** – [Elizabeth Foyer East](#)

8:00 a.m. – 8:10 a.m. **Welcome Address** – [Elizabeth A, B, C, D](#)

8:10 a.m. – 9:00 a.m. **President's Distinguished Lecture** – [Elizabeth A, B, C, D](#)
Personalized Medicine

Leroy Hood, M.D., Ph.D., Institute for Systems Biology, Seattle, WA, USA

9:00 a.m. – 10:00 a.m. **President's New Investigator Plenary Session** – [Elizabeth A, B, C, D](#)

10:00 a.m. – 12:00 p.m. **Poster Session I (with coffee break)** – [Douglas A, B, C, D](#)

12:00 p.m. – 1:30 p.m. **Pfizer President's Presenter Awards Luncheon (invitation only)** – [Ford B & C](#)
(Supported with a grant from Pfizer Pharmaceuticals, Inc.)

12:00 p.m. – 1:00 p.m. **PerkinElmer Lunchtime Symposium: Current Trends in Prenatal Screening** – [Elizabeth A, B, C, D](#)
Moderator: Morey Kraus, CSO, PerkinElmer, Inc., Cambridge, MA, USA

- a. **The Pyramid of Prenatal Care**
Kypros Nicolaidis, Professor of Maternal-Fetal Medicine, King's College, London, UK
- b. **Screening for Preeclampsia – Risk Assessment**
Howard Cuckle, D.Phil, University of Leeds School of Medicine, Leeds, UK
- c. **Clinical Management of High-Risk Pregnancies**
Amhet Baschat, M.D., University of Maryland School of Medicine, Baltimore, MD, USA

Mini Symposia I

1:30 p.m. - 3:30 p.m.

a. **New Frontiers in Placental Biology** – [Elizabeth E](#)

Moderator: Colin Sibley, Ph.D., University of Manchester, Manchester, UK

Co-Moderator: Helen Jones, Ph.D., Cincinnati Children's Hospital, Cincinnati, OH, USA

Placental dysfunction is at the heart of the common pregnancy diseases. This session will highlight new areas of placental biology which are important for understanding these diseases and which also provide clues to potential therapies directed at the placenta. The symposium begins with a consideration of how the placenta handles cholesterol, both in terms of its provision for the fetus and in terms of protecting the placenta from the accumulation of the potentially damaging cholesterol metabolite - oxysterol. The next two speakers will consider epigenetic and sex effects on placental function and the aetiology of pregnancy disease, epigenetic mechanisms might be central to sex effects as well as environmental modifications of placental gene expression. Finally, the symposium will consider potential new techniques for focusing novel treatments to specific targets in the placenta.

1:30 p.m. – 2:00 p.m. Placental Transport: MDRP, Cholesterol Transport and Oxysterols

Jeff Keelan, Ph.D., University of Western Australia, Perth, Australia

2:00 p.m. – 2:30 p.m. Epigenetics and the Placenta in Preeclampsia

Wendy Robinson, Ph.D., University of British Columbia, Vancouver, BC, Canada

2:30 p.m. – 3:00 p.m. Sex Differences in the Placenta and Sex Specific Therapies

Vicki Clifton, Ph.D., University of Adelaide, SA, Australia

3:00 p.m. – 3:30 p.m. Placental Homing Peptides and Targeted Drug Delivery

Lynda Harris, Ph.D., University of Manchester, Manchester, UK

b. **The Art and Science of Embryo Selection** – [Edward A, B, C](#)

Moderator: Robert Casper, M.D. – University of Toronto, Toronto, ON, Canada

Co-Moderator: Hananel Holzer, M.D., McGill University, Montreal, Canada

The goal of a healthy singleton pregnancy in IVF treatment has focused on elective single embryo transfer whenever feasible. Early work on preimplantation genetic diagnosis has led to new molecular tests for chromosomal euploidy to aid in embryo selection for transfer. The present symposium will describe the latest technologies in PGD and PGS, including an historical perspective. In addition, with the emphasis on female aging and the importance of oocyte quality on pregnancy outcome, the contribution of the sperm to embryo quality is often overlooked and needs to be considered. Finally, new clinical and embryology strategies for improving IVF outcome will be described.

1:30 p.m. – 2:00 p.m. Advances in Pre-Implantation Genetic Diagnosis

Mark Hughes, M.D., Ph.D., Genesis Genetics Institute, Detroit, MI, USA

2:00 p.m. – 2:30 p.m. Pre-Implantation Genetic Screening: qPCR Versus Array CGH and FISH

Richard T. Scott, M.D., Reproductive Medicine Associates, Morristown, NJ, USA

2:30 p.m. – 3:00 p.m. Genetic Contribution of Sperm to Embryo Quality

Denny Sakkas, Ph.D., Yale University School of Medicine, New Haven, CT, USA

3:00 p.m. – 3:30 p.m. Novel IVF Strategies

Catherine Racowsky, Ph.D., Brigham and Women's Hospital, Boston, MA, USA

c. **Obesity: Impact on Reproduction and Development** – [Elizabeth F](#)

Moderator: Patrick Catalano, M.D., MetroHealth Medical Center, Cleveland, OH, USA

Co-Moderator: Perrie O'Tierney, Ph.D., Oregon Health and Science University, Portland, OR, USA

The mini symposium on obesity will address the very common problem of obesity in women using a life cycle approach. The effects of maternal obesity on a woman's fertility and reproductive success will be discussed, specifically focusing on oocyte quality and subsequent embryo development. In addition to adverse pregnancy outcomes in obese women, the maternal physiological mechanisms affecting fetal development and approach to prevention will be addressed. Continuing with the life cycle approach, the impact of early life events, particularly nutrition on reproductive health of the offspring will improve our understanding and provide insight into our current understanding of reproductive disorders. Last, the mechanism by which obese women are at increased risk for breast cancer and the role of Vitamin D relating to targeted prevention strategies will be explored.

1:30 p.m. – 2:00 p.m. Reproductive Potential in Obesity

Kelle Moley, M.D. – Washington University School of Medicine, St. Louis, MO, USA

2:00 p.m. – 2:30 p.m. Adverse Pregnancy Outcomes

Patrick Catalano, M.D., MetroHealth Medical Center, Cleveland, OH, USA

2:30 p.m. – 3:00 p.m. Neonatal Health and Reproductive Function

Deborah Sloboda, Ph.D., University of Auckland, Auckland, New Zealand

3:00 p.m. – 3:30 p.m. Obesity and Breast Cancer

Julia Knight, Ph.D., Samuel Lunenfeld Research Institute, Toronto, ON, Canada

d. Reproductive Epigenomic Health – [Elizabeth H](#)

Moderator: Yoel Sadovsky, M.D., Magee-Women's Research Institute, Pittsburgh, PA, USA

Co-Moderator: Chiara Mando, Ph.D., University of Milan, Milan, Italy

The application of epigenomic information to reproductive health requires the thorough informatics-based interrogation of high throughput data, and the logical, stratified application of these data to mechanisms, diagnosis, treatment, and prevention of diseases. This mini symposium will provide information on cutting edge tools that amalgamate a large volume of epigenomic, biological, and exposure datasets with clinical and epidemiological data in order to highlight new clinical insights. Presentations will drill down through stem cells and early embryonic milestones that are central for postnatal health.

1:30 p.m. – 2:00 p.m. Systems and Personalized Medicine in Reproductive Medicine

Atul Butte, M.D., Ph.D., Stanford University, Palo Alto, CA, USA

2:00 p.m. – 2:30 p.m. A Systems Biology Perspective on Stem Cells

Louise Laurent, M.D., Ph.D., UCSD School of Medicine, San Diego, CA, USA

2:30 p.m. – 3:00 p.m. Exposure Biology and DNA Methylation

Carmen Marsit, Ph.D., Dartmouth Medical School, Hanover, NH, USA

3:00 p.m. – 3:30 p.m. A Macro-Search for MicroRNA Targets

Yoel Sadovsky, M.D., Magee-Women's Research Institute, Pittsburgh, PA, USA

e. Stem Cells and Reproductive Health – [Elizabeth G](#)

(In collaboration with (SSR) Society for the Study of Reproduction)

Moderator: Leen Blok, Ph.D., Erasmus University Medical Centre, Rotterdam, The Netherlands

Co-Moderator: Marie van Dijk, Ph.D., VU University Medical Center, Amsterdam, The Netherlands

Identification, characterization and isolation of stem cells of the female reproductive tract have been subject of investigations for a number of years and are of utmost importance. For diseases like endometriosis and endometrial cancer, it is reasonable to assume that genetically or epigenetically changed stem cells of the female reproductive tract are involved. Interestingly, for ovarian cancer more and more evidence accumulates that indicates involvement of cells of the distal oviduct. In this mini symposium, the latest research on (cancer) stem cells in the normal and diseased reproductive tract will be discussed. Furthermore, the last speaker in this session will address the enormous potential of reprogramming somatic cells into pluripotent stem cells (iPS) and their putative use in regenerative medicine.

1:30 p.m. – 2:00 p.m. Identification of Stem-Like Cells in the Distal Oviduct?

Leen Blok, Ph.D., Erasmus University Medical Centre, Rotterdam, The Netherlands

2:00 p.m. – 2:30 p.m. Endometrial Stem Cells and Endometriosis

Caroline Gargett, Ph.D., Monash Institute of Medical Research, Clayton, Victoria, Australia

2:30 p.m. – 3:00 p.m. Ovarian Cancer Stem Cells

Bo Rueda, Ph.D., Massachusetts General Hospital, Boston, MA, USA

3:00 p.m. – 3:30 p.m. iPS Stem Cells in Regenerative Medicine

Andras Nagy, Ph.D., Samuel Lunenfeld Research Institute, Toronto, ON, Canada

f. Women and Children's Health: A Global Perspective – [Betsy A, B, C](#)

Moderator: Alan Bocking, M.D., University of Toronto, Toronto, ON Canada

Co-Moderator: Brenna Anderson, M.D., Women's and Infants Hospital, Providence, RI, USA

This symposium will focus on four major aspects of global women and newborn, children's health. Maternal mortality and stillbirths worldwide continue to be a major challenge with unacceptable rates in many parts of the world. Similarly, neonatal deaths contribute significantly to the less than five-year childhood mortality rates worldwide. The symposium will provide an overview of initiatives that have been proven to be effective in reducing maternal morbidity and mortality as well as perinatal morbidity and mortality in low resource countries. This symposium will also address the mechanisms whereby maternal malaria infection may give rise to intrauterine growth restriction and/or preterm birth. In addition, cervical cancer is the leading killer related to cancer for women in many parts of the world including Sub Saharan Africa. Recent advances in approaches to screening as well as understanding the mechanisms whereby women with HIV are predisposed to cervical cancer, provides new insights into how this major disease can be addressed.

1:30 p.m. – 2:00 p.m. The Placenta: Lessons Learned from Malaria

Kevin C. Kain, M.D., FRCPC, University of Toronto, Toronto, ON, Canada

2:00 p.m. – 2:30 p.m. Prevention of Stillbirth and Neonatal Deaths

Zulfiqar A. Bhutta, MB, BS, FRCPCH, FAAP, FCPS, Ph.D., Aga Khan University, Karachi, Pakistan

2:30 p.m. – 3:00 p.m. Maternal Mortality and Morbidity

Alan Bocking, M.D., University of Toronto, Toronto, ON, Canada

3:00 p.m. – 3:30 p.m. HIV and Cervical Cancer

Groesbeck Parham, M.D., University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

3:30 p.m. – 3:45 p.m. Break

3:45 p.m. – 5:45 p.m. Concurrent Oral Presentations I (6 Concurrent Sessions)

- a. Parturition: Myometrium, Membranes, Cervix – [Elizabeth E](#)
- b. Endometriosis, Contraception and Gynecologic Surgery – [Betsy A, B, C](#)
- c. Fetus: Genetics, Growth & Metabolism – [Elizabeth F](#)
- d. Placenta I – [Edward A, B, C](#)
- e. Preeclampsia I – [Elizabeth G](#)
- f. Ovary and Gamete Biology – [Elizabeth H](#)

6:00 p.m. – 7:30 p.m. Minority Investigator's Forum – [Elizabeth A, B, C, D](#)

Learning Objectives: The first talk will consider **a)** Academic career pathways, **b)** Decision options regarding faculty positions, and **c)** Funding efforts and opportunities. The second presentation will consider **a)** Concepts in maternal immunity, **b)** Immuno-tolerance of pregnancy – role of T cells and **c)** Inflammation and immunity during pregnancy.

1. Profiles in Academic Medicine

Mark Phillippe, M.D., MHCM, University of Vermont College of Medicine, Burlington, VT, USA

2. Investigations in Maternal Immunity

Elizabeth Bonney, M.D., University of Vermont College of Medicine, Burlington, VT, USA

7:30 p.m. – 9:30 p.m. President's Dinner (invitation only) – [Gallery](#)

Friday, March 23, 2012

7:00 a.m. – 5:00 p.m. Registration – [Elizabeth Foyer East](#)

7:00 a.m. – 8:00 a.m. SGI Annual Business Meeting (SGI Members Only) – [Elizabeth A, B, C, D](#)

8:00 a.m. – 9:00 a.m. Plenary Lecture I: Stem Cells, Pregnancy Disorders and Disease Models – [Elizabeth A, B, C, D](#)
Janet Rossant, Ph.D., FRS, FRSC, University of Toronto, Toronto, ON, Canada

9:00 a.m. – 11:00 a.m. Poster Session II (with coffee break) – [Douglas A, B, C, D](#)

11:00 a.m. – 12:30 p.m. Concurrent Oral Presentation II (6 Concurrent Sessions)

- a. Clinical Parturition/Prematurity – [Elizabeth E](#)
- b. Clinical Perinatology I – [Elizabeth G](#)
- c. Fetus: Programming I – [Elizabeth F](#)
- d. Gynecologic Oncology – [Betsy A, B, C](#)
- e. Maternal Health & Infection – [Edward A, B, C](#)
- f. Reproductive Endocrinology: Infertility & PCOS – [Elizabeth H](#)

11:30 a.m. – 1:00 p.m. Past Presidents' Luncheon (Invitation Only) – [Edward D](#)

12:30 p.m. – 1:30 p.m. Pain and Endometriosis Symposium – [Elizabeth A, B, C, D](#)

Moderators: Linda Giudice, M.D., Ph.D., MSc, University of California-San Francisco, San Francisco, CA, USA
Robert Taylor, M.D., Ph.D., Wake Forest University School of Medicine, Winston-Salem, NC, USA

Learning Objectives: **a)** Increase knowledge of neural mechanisms of pain in endometriosis as well as pelvic pain in general. **b)** Improve understanding of how animal models can contribute to this knowledge. **c)** Increase understanding of how this knowledge can be used to improve strategies for pain alleviation.

a. The Clinician's Perspective

Pamela Stratton, M.D., NICHD/NIH, Bethesda, MD, USA

b. The Neuroscientist's Perspective

Karen J. Berkley, Ph.D., Florida State University, Tallahassee, FL, USA

Mini Symposia II

1:30 p.m. - 3:30 p.m.

a. Maternal Health Following Complicated Pregnancies – [Betsy A, B, C](#)

Moderator: John Kingdom, M.D., Mount Sinai Hospital, Toronto, ON, Canada

Co-Moderator: Yanhong Yu, M.D., Ph.D., Southern Medical University, Guangdong Province, P.R., China

Participants at the maternal health symposium will review emerging data on long-term health, and opportunities for secondary prevention, following a spectrum of pregnancy complications as follows; the relationship between clinical manifestations of placental dysfunction and the metabolic syndrome, the links between pre-eclampsia and cardiovascular and renal disease long term, evidence for brain dysfunction following pre-eclampsia and finally the utility of a national UK surveillance system to estimate long-term health following rare serious disorders of pregnancy.

1:30 p.m. – 2:00 p.m. Complicated Pregnancies as (useful) Signals of Long-Term Metabolic Risk?

Naveed Sattar, M.D., Ph.D., University of Glasgow, Glasgow, UK

2:00 p.m. – 2:30 p.m. Maternal Cardiovascular/ Renal Function after Complicated Pregnancies

Louis Peeters, M.D., Ph.D., UMC Utrecht, Utrecht, The Netherlands

2:30 p.m. – 3:00 p.m. Maternal Brain Health after Complicated Pregnancies
Gerda G. Zeeman, M.D., University Medical Center, Hattem, The Netherlands

3:00 p.m. – 3:30 p.m. Rare Severe Maternal Diseases of Pregnancy and Outcomes
Catherine Williamson, M.D., Imperial College London, London, UK

b. Aging and Reproductive Function – [Elizabeth F](#)

Moderator: Nanette Santoro, M.D., University of Colorado at Denver, Aurora, CO, USA

Co-Moderator: Genevieve Neal-Perry, M.D., Ph.D., Albert Einstein College of Medicine, New York, NY, USA

In developed countries, a woman's age at the birth of her first child is the most advanced in recorded history. What are the consequences of delayed childbearing on pregnancy and the fetus? How is pregnancy managed in post-reproductive women who utilize egg donors to conceive? As reproductive aging progresses to the post-fertile years of a woman's life span, how do the brain, ovary and urogenital tissues adapt? This interdisciplinary symposium examines the new science in this area of medicine and prepares the clinician to address the practical concerns of patients who are navigating the late reproductive years, perimenopause and menopause. Learning Objectives: At the end of this symposium the learner is expected to be able to: 1) Enumerate the most common adverse pregnancy outcomes associated with advanced maternal age at conception; 2) List the new stages of reproductive aging; 3) Assess a woman for signs and symptoms of urogenital tissue consequences of reproduction, aging and menopause; 4) Associate reproductive aging with brain aging, cognition and hypothalamic-pituitary axis function.

1:30 p.m. – 2:00 p.m. Reproductive Aging and Pregnancy Complications
Michael Varner, M.D., University of Utah Health Science Center, Salt Lake City, UT, USA

2:00 p.m. – 2:30 p.m. Reproductive Endocrinology and Menopause
Nanette Santoro, M.D., University of Colorado at Denver, Aurora, CO, USA

2:30 p.m. – 3:00 p.m. Reproductive Aging and Urogynecology
Kathleen Connell, M.D., University of Colorado at Denver, Aurora, CO, USA

3:00 p.m. – 3:30 p.m. The Aging Brain and Reproductive Function
Yolanda Smith, M.D., MS, University of Michigan, Ann Arbor, MI, USA

c. Personalized Medicine in Reproductive Health – [Elizabeth H](#)

Moderator: Kelle Moley, M.D., Washington University School of Medicine, St. Louis, MO, USA

Co-Moderator: Shannon Hawkins, M.D., Ph.D., Baylor College of Medicine, Houston, TX, USA

The age of Personalized Medicine is here, and with this comes the expectation of breakthroughs and new methods of molecular analysis to better manage a patient's disease or predisposition to disease. Personalized medicine is already changing the way drugs are developed and how medical care is given. These four speakers will bring their own perspectives of personalized medicine in women's health. The topics discussed will encompass gynecologic oncology treatments as well as obstetrical care.

1:30 p.m. – 2:00 p.m. Pharmacogenomics of Maternal Tobacco Use: Metabolic Gene Polymorphisms and Risk of Adverse Pregnancy Outcomes
Kjersti Aagaard, M.D., Ph.D., Baylor College of Medicine, Houston, TX, USA

2:00 p.m. – 2:30 p.m. Individualized Pharmacotherapy in Pregnancy
Thomas Easterling, M.D., University of Washington, Seattle, WA, USA

2:30 p.m. – 3:00 p.m. Gynecologic Cancers
Elaine Mardis, PhD., Washington University School of Medicine, St. Louis, MO, USA

3:00 p.m. – 3:30 p.m. Biological Therapeutics, Pharmacogenomics and Ovarian Cancer
David Curiel, M.D., Ph.D., Washington University School of Medicine, St. Louis, MO, USA

d. Corticotropin Releasing Factor (CRF) and Reproduction: A 30-Year Journey – [Elizabeth G](#)

Moderator: Felice Petraglia, M.D., University of Siena, Siena, Italy

Co-Moderator: Vicki Clifton, Ph.D., University of Adelaide, SA, Australia

Corticotropin releasing factor (CRF) is a hypothalamic neurohormone stimulating pituitary ACTH secretion. Discovered 30 years ago as major candidate of stress-related mechanisms in the brain, CRF was later discovered in placenta, ovary, uterus and fallopian tubes and investigated for its possible role in reproductive function. With the discovery of urocortins, neuropeptides sharing a high amino acid sequence homology, with CRF and CRF receptors, the picture was made more complex. The endometrium is a source and target of CRF and urocortins and these factors modulate local cell differentiation and inflammatory process, indicating a role in endometriosis. Placental and fetal CRF and urocortins are relevant products involved in the developmental processes of pregnancy. Their role in the regulation homeostatic mechanisms in the fetus becomes critical in the lead up to birth.

1:30 p.m. – 2:00 p.m. Regulation of CRF in Reproduction
Roger Smith, MB, BS, Ph.D., University of Newcastle, Newcastle, Australia

2:00 p.m. – 2:30 p.m. CRF and the Endometrium
Felice Petraglia, M.D., University of Siena, Siena, Italy

2:30 p.m. – 3:00 p.m. The CRF Family and the Placenta
John Challis, Ph.D., DSc, University of Toronto, Toronto, ON, Canada

3:00 p.m. – 3:30 p.m. CRF and the Developing Fetal Brain
Dean Myers, Ph.D., University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA

e. Early Programming of Lifelong Health: A Focus on Mechanism – [Elizabeth E](#)

Moderator: John Newnham, M.D. FRANZCOG, University of Western Australia, Perth, Australia

Co-Moderator: Mina Desai, Ph.D., David-Geffen School of Medicine at UCLA, Los Angeles, CA, USA

Our knowledge that events in early life may play a critical role in health and disease in later life began with initial observations that birth weight is inversely related to subsequent risk. This understanding has evolved to our current paradigm known as the Developmental Origins of Health and Disease (DOHaD), describing more complex patterns of fetal programming and involving environmental, genetic and epigenetic factors. The field addresses the epidemics of chronic disease including obesity, diabetes and allergic conditions, which together pose some of the greatest risks ever to global human health and our health care systems. In this mini-symposium, we will explore the mechanisms that underpin the relationships between our genetics, early life events, and later health. The presentations will include the role played by epigenetics in modifying future disease risk; how oxygen and fetal growth restriction influence development and later health; the factors affecting immune development in an effort to understand why so many of our children and young adults have allergic conditions; and how our genes and environment interact to prepare us for our future world. Together, the mini-symposium speakers and the audience will address the possibility that we are now close to developing interventions that have great promise to improve life-long health.

1:30 p.m. – 2:00 p.m. Genetic Connections in Developmental Health

Craig Pennell, MB, BS, Ph.D., University of Western Australia, Perth, Australia

2:00 p.m. – 2:30 p.m. Early Life and the Epigenome

Moshe Szyf, Ph.D., McGill University, Montreal, Canada

2:30 p.m. – 3:00 p.m. Oxygen and Growth Restriction: Long-Term Influences on Health

Sandra Davidge, Ph.D., University of Alberta, Edmonton, AB, Canada

3:00 p.m. – 3:30 p.m. Programming and Implications for Immune Function

Petra Arck, M.D., University Medical Centre, Hamburg, Germany

2:00 p.m. – 3:00 p.m. SGI Corporate Advisory Board Meeting (Members Only) – [Edward D](#)

3:30 p.m. – 3:45 p.m. Break

3:45 p.m. – 5:45 p.m. Concurrent Oral Presentations III (6 Concurrent Sessions)

- a. Parturition: Hormones & Cytokines – [Elizabeth E](#)
- b. Fetus: Hypoxia, Cardiovascular & Brain – [Elizabeth F](#)
- c. Preeclampsia II – [Elizabeth G](#)
- d. Endometrium and Fibroid Biology – [Elizabeth H](#)
- e. Stem Cells & Genetics – [Betsy A, B, C](#)
- f. Reproductive Immunology and Aging – [Edward A, B, C](#)

6:00 p.m. – 7:30 p.m. Presidential Address & President's Award Lectures – [Elizabeth A, B, C, D](#)

- Distinguished Scientist
- Achievement Award
- Frederick Naftolin Mentorship Award

Wine & Cheese Reception – [Elizabeth Foyer](#)

Saturday, March 24, 2012

7:00 a.m. – 3:30 p.m. Registration – [Elizabeth Foyer East](#)

8:00 a.m. – 9:00 a.m. Plenary Lecture II – [Elizabeth A, B, C, D](#)

The Human Microbiome: Explorations of Diversity

David A. Relman, M.D., Stanford University, Palo Alto, CA, USA

9:00 a.m. – 11:00 a.m. Poster Session III (with coffee break) – [Douglas Pavilion B, C, D](#)

11:00 a.m. – 12:30 p.m. Concurrent Oral Presentation IV (6 Concurrent Sessions)

- a. Parturition: Inflammation & Infection – [Elizabeth E](#)
- b. Endometrial Biology – [Betsy A, B, C](#)
- c. Clinical Perinatology II – [Elizabeth G](#)
- d. Epidemiology – [Elizabeth H](#)
- e. Fetus: Programming II – [Elizabeth F](#)
- f. Placenta II – [Edward A, B, C](#)

11:00 a.m. – 12:00 p.m. SGI Program Committee Meeting (Committee Members Only) – [Edward D](#)

12:00 p.m. – 1:30 p.m. The Microbiome in Pregnancy, and its Relationship to Health and Disease – [Douglas Pavilion A](#)

Moderator: Roberto Romero, M.D., Perinatology Research Branch, NICHD, NIH, Detroit, MI and Bethesda, MD, USA

Co-Moderator: Indira Mysorekar, Ph.D., Washington University School of Medicine, St. Louis, MO, USA

1. To describe the laboratory and bioinformatic tools required to characterize the microbial ecosystem of the vagina using sequence-based techniques (culture-independent)
2. To describe changes in the human vaginal microbiome during the menstrual cycle using sequence-based techniques
3. To illustrate changes in the vaginal microbiome during pregnancy in patients with a normal outcome.
4. To explore the potential value of probiotics to restore the vaginal microbial ecosystem and its potential implications for health and disease.

a) Sequence-Based Methods to Characterize the Microbial Ecosystem of the Vagina

Jacques Ravel, Ph.D., University of Maryland School of Medicine, Baltimore, MD, USA

b) The Human Vaginal Microbiome in Non-Pregnant Healthy Patients: Further Observations and Implications for Further Studies

Kjersti Aagaard-Tillery, Ph.D., Baylor College of Medicine, Houston, TX

c) The Vaginal Microbiome During Pregnancy and Before Preterm Labor and Delivery

Roberto Romero, M.D., Perinatology Research Branch, NICHD, NIH, Detroit, MI and Bethesda, MD, USA

d) The Use of Probiotics to Restore Vaginal Health

Gregor Reid, Ph.D., University of Western Ontario, London, ON, Canada

12:30 p.m. – 1:30 p.m. State of the Art Research Technologies Symposium – [Edward A, B, C](#)

Moderator: Murray Mitchell, DPhil, DSc, University of Queensland, Brisbane, Australia

- a. **High-Frequency Ultrasound and Photoacoustic Imaging for Preclinical Research: An Overview of the Possibilities for Angiogenesis, Blood Flow, Hypoxia and Nanoparticle Studies**
Catherine Theodoropoulos, Ph.D., VisualSonics, Toronto, ON, Canada
- b. **From Discovery to Clinical Practice: Translating Relevant Biomarkers into a Point-of-Care Platform to Diagnose and Risk Predict in Pregnancies with Suspected Placental Dysfunction**
Brian Noland, Senior Director, Research & Development, Alere, San Diego, USA
Christopher Redman, Emeritus Professor of Obstetric Medicine, University of Oxford, Oxford, UK

1:30 p.m. – 3:00 p.m. Awards Ceremony and Pizza – [Douglas Pavilion A](#)

- Pfizer President's Presenter Awards
- Giorgio Pardi Awards
- Best New Investigator Poster Awards

3:15 p.m. Meeting Adjourns

3:30 p.m. – 5:30 p.m. SGI Council Meeting (SGI Council Only) – [Edward D](#)