The top ten in reproductive medicine: debating breakthrough basic and clinical papers with their authors

20-21 September 2013 - Florence, Italy
Dear Colleague,

There has never been a more exciting time in reproductive medicine, with advances in basic and clinical research bringing new hope to millions of people. SSIF’s ‘top ten’ project celebrates these advances but also poses some questions: “What makes this leading research so special? What difference is it really making to people’s lives?”

In Florence, SSIF is bringing together some of the very best authors in the field of reproductive medicine with key opinion forming clinicians and researchers. To reach our top ten has been a demanding but inspiring task, with an international panel of experts agreeing the final list. Each author will present their research, which will then be ‘challenged’ by respected experts in the field and then opened to discussion with the audience. We believe this approach is a unique one in continuing medical education, helping to drive yet further improvements in reproductive medicine to the benefit of patients everywhere.

In this final programme, provided in Florence, there is much more information on its format along with profiles of the key speakers. Everyone attending will also receive a special book containing all the ten selected papers reproduced in full. We hope that this will provide a unique record of this special occasion.

Following our ‘top ten’ event, in December, Science (the journal of the American Association for the Advancement of Science) will publish a special booklet in both print and digital form featuring an introductory paper by international experts on the future direction of reproductive biology and medicine, articles by the ‘top ten’ authors discussing their papers and the current state of research, and video highlights recorded during the ‘challenges’ put to each author during discussion on their work at this meeting.

Thank you for attending what I believe will be a showcase educational event in the world of reproductive medicine.

With very best wishes

Carlos Simón
Scientific organiser of the ‘top ten’ project
**General information**

**Venue**
Convitto della Calza  
Piazza della Calza, 6  
50125 Florence, Italy  
Tel: +39 055 222 287  
Fax: +39 055 223 912  
E-mail: calza@calza.it

**Language**
The official language of this conference will be English

**Scientific organiser**
Carlos Simón  
Professor of Obstetrics & Gynecology, Valencia University  
Instituto Valenciano de Infertilidad (IVI)  
Valencia, Spain

**Scientific secretariat**
Serono Symposia International Foundation  
Salita San Nicola da Tolentino, 1/B  
00187 - Rome, Italy

Senior Project Manager: Chloé Xilinas  
Junior Project Manager: Francesca Cucciolla  
Specialist Medical Advisor: Angelo Marino  
Tel: +39-06-420413 315  
Fax: +39-06-420413 677  
E-mail: info@seronosymposia.org

Serono Symposia International Foundation is a Swiss Foundation with headquarters in 14, rue du Rhône, 1204 Geneva, Switzerland

**Organising secretariat**
Meridiano Congress International  
Via Sapri, 6 - 00185 Rome (Italy)  
Congress Coordinator: Concetta Di Palma  
Tel: +39 (0)6 88 595 226  
Fax: +39 (0)6 88595 234  
E-mail: c.dipalma@meridiano.it
The top ten in reproductive medicine: debating breakthrough basic and clinical papers with their authors

Background
The unique idea behind SSIF’s ‘top ten’ project is to bring together the authors of ten of the top research papers in reproductive medicine in recent years and engage them with leading clinicians. We know research in reproductive medicine has made huge strides, but what have been the real ground-breaking papers, challenging traditional techniques and treatment and offering new opportunities to improve care to patients? SSIF believes that by facilitating discussion around these ‘top ten’ papers we can help stimulate real practical advances for clinicians and researchers alike.

Selecting the ‘top ten’ papers was no easy task with so much valuable research to choose from. In summer 2012, SSIF invited leading clinicians to join an expert panel. This panel selected from an initial 50 papers listed by a specialist independent bibliographer, with 25 related to basic research and 25 to clinical ‘in-field’ research, some of them deliberately chosen as ‘controversial’ papers. The 50 papers were selected by the number of downloads in the past two years and the number of citations in the past ten years. The expert panel, composed of eight experts in the field of reproductive medicine, then reduced the 50 to 10 (5 basic and 5 clinical papers).

The members of the expert panel that chose the final ‘top ten’ papers are:
• Sudhansu K. Dey, Director, Division of Reproductive Sciences
• Johannes L.H. Evers, Editor-in-Chief, Human Reproduction
• Robert Fischer, SSIF Scientific Committee Member and medical director, Fertility Center Hamburg
• Susan Fisher, Professor Director, Translational Research in Perinatal Biology and Medicine – MFM Division, University of California
• Randy Levinson, Senior Editor - Nature Medicine
• Martin M. Matzuk, Baylor College of Medicine, Stuart A. Wallace Chair and Professor
• Antonio Pellicer, Co-Editor in Chief - Fertility and Sterility
• Carlos Simón, Scientific Director, Instituto Valenciano de Infertilidad [IVI]

Format
The ‘top ten’ authors of the most influential basic and clinical research in reproductive medicine in recent years, as chosen by our panel of international experts, will in turn present their findings. Each presentation will then be reviewed by an expert ‘Challenger’ who will raise points about the speaker’s findings before opening up the session to general debate with the audience. SSIF reproductive medicine believes that this meeting will inspire an exciting new educational approach – updating and involving participants in the very latest research through open dialogue. We have designed the format to be similar to an expert focus meeting, targeted at a limited number of key opinion-forming clinicians and researchers working in the specialist field of reproductive medicine.

• Each of the ten speakers will have a total of 75 minutes focusing on their paper, beginning with around 30 minutes presentation to their audience
• There will then be 15 minutes when a ‘Challenger’ proposes an alternative view
• Finally 30 minutes is reserved for discussion and questions from participants.
Aims
The aim of The top ten in reproductive medicine, a new high quality live educational platform from SSIF, is to encourage dynamic communication between researchers (basic and clinical) and physicians, to help spread and put into practice the most up to date scientific knowledge and increase awareness of how the best papers are prepared and published worldwide. During the live educational event, the authors of the ten most relevant basic and clinical papers over the recent years in reproductive medicine will be presenting and discussing their work with the audience, and inviting participants to challenge their findings. Bringing together authors of the most relevant published papers in reproductive medicine and the key opinion formers of the clinical community is a great opportunity for real-time sharing of scientific knowledge, helping to drive improvement in patient quality of life.

Learning objectives
Attending the live educational event, learners will:
• Acquire specific knowledge on the most relevant contributions in reproductive medicine published in the recent years
• Compare the most relevant clinical acquisitions with the daily practice
• Recognize how the best papers are prepared for improving their own scientific activity
• Apply these relevant acquisitions for achieving the best clinical outcomes.

Target audience
The programme is in a similar format to an expert focus meeting and is targeted to a limited number of key opinion forming clinicians and researchers working in the specialist field of reproductive medicine. It is also relevant for PhD students and residents seeking to embrace innovative educational pathways.
Accreditation
Serono Symposia International Foundation (www.seronosymposia.org) is accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS), www.uems.net.

“The top ten in reproductive medicine: debating breakthrough basic and clinical papers with their authors” to be held in Florence, Italy on 20-21 September 2013, is designated for a maximum of 12 (twelve) hours of European CME credits (ECMEC). Each medical specialist should claim only those credits that he/she actually spent in the educational activity. EACCME® credits are recognized by the American Medical Association towards the Physician’s Recognition Award (PRA). To convert EACCME credit to AMA PRA category 1 credit, please contact the AMA.

This programme “The top ten in reproductive medicine: debating breakthrough basic and clinical papers with their authors” (20-21 September, 2013 - Florence, Italy) will be submitted for CME accreditation from the Italian Ministry of Health.

SSIF adheres to the principles of the Good CME Practice group.

We value your opinion!
We are continually trying to develop and improve our educational initiative to provide you with cutting-edge learning activities. During this live educational event you will be asked to answer an online survey and after this educational event you will be receiving an post online survey to help us to better tailor our future educational initiatives.
We thank you for participating!

Register to Serono Symposia International Foundation website:
www.seronosymposia.org
follow us on twitter SSIF_RM
http://twitter.com/SSIF_RM

This programme is made possible thanks to educational grants received from: Arseus Medical, Besins Healthcare, Bristol-Myers Squibb, Celgene, Centre d’Esclerosi Multiple de Catalunya (Vall d’Hebron University Hospital), Centre Hépato-Biliaire (Hôpital Paul Brousse), Croissance Conseil, Cryo-Save, Datanalyse, Doc33, Esaoe, Ferring, Fondazione Humanitas, Fundación HUM, GE Healthcare, GlaxoSmithKline Pharmaceuticals, IPSEN, International Society for Fertility Preservation, Johnson & Johnson Medical, K.I.T.E., Karl Storz, Lumenis, Merck Serono Group, PregLem, Richard Wolf Endoscopie, Sanofi-Avenlis, Stallergenes, Stotler, Teva Pharma, Toshiba Medical Systems, Université Catholique de Louvain (UCL), University of Catania.
# List of expert panel members, authors and challengers

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christina Bergh</td>
<td>Author</td>
<td>Professor/Senior Physician, Institute of Clinical Sciences, Department of Obstetrics and Gynaecology, Sahlgrenska University Hospital, Gothenburg, Sweden</td>
</tr>
<tr>
<td>Ana Cobo</td>
<td>Author</td>
<td>Cryobiology Unit Director, Clinical Embryologist, Instituto Valenciano de Infertilidad (IVI) Valencia, Valencia, Spain</td>
</tr>
<tr>
<td>Hilary OD Critchley</td>
<td>Challenger</td>
<td>Professor of Reproductive Medicine, MRC Centre for Reproductive Health, University of Edinburgh, The Queen’s Medical Research Institute, Edinburgh, UK</td>
</tr>
<tr>
<td>Sudhansu K. Dey</td>
<td>Expert Panel Member and Author</td>
<td>Lova Riekert Chair and Professor, Director, Division of Reproductive Sciences, Professor, Division of Developmental Biology, Professor, Division of Cancer and Cell Biology, Cincinnati Children’s Hospital Medical Center, Cincinnati, OH, USA</td>
</tr>
<tr>
<td>Johannes L. Hans Evers</td>
<td>Expert Panel Member and Challenger</td>
<td>Editor-in-Chief, Human Reproduction, Department of Obstetrics &amp; Gynaecology, Division Reproductive Medicine &amp; Biology, Maastricht University Medical Centre, Maastricht, The Netherlands</td>
</tr>
<tr>
<td>Robert Fischer</td>
<td>Expert Panel Member and Challenger</td>
<td>Serono Symposia International Foundation Scientific Commitee Member, Medical Director Fertility Center Hamburg, Hamburg, Germany</td>
</tr>
<tr>
<td>Susan Fisher</td>
<td>Expert Panel Member</td>
<td>Professor, Director, Translational Research in Perinatal Biology and Medicine [MFM Division], University of California San Francisco, San Francisco, CA, USA</td>
</tr>
<tr>
<td>David S. Guzick</td>
<td>Author</td>
<td>Senior Vice President, Health Affairs, University of Florida (UF) President, UF Health, Gainesville, FL, USA</td>
</tr>
<tr>
<td>S. Ananth Karumanchi</td>
<td>Author</td>
<td>Associate Professor of Medicine, Beth Israel Deaconess Medical Center &amp; Harvard Medical School, Boston, MA, USA</td>
</tr>
<tr>
<td>Randy Levinson</td>
<td>Expert Panel Member and Challenger</td>
<td>Senior Editor - Nature Medicine, New York, NY, USA</td>
</tr>
<tr>
<td>Martin Matthew Matzuk</td>
<td>Expert Panel Member and Author</td>
<td>Baylor College of Medicine, Stuart A. Wallace Chair and Professor, Houston, TX, USA</td>
</tr>
</tbody>
</table>
List of expert panel member, authors and challengers

Antonio Pellicer
**Expert Panel Member and Challenger**
Co-Editor-in-Chief, Fertility and Sterility
Professor in Obstetrics and Gynecology
Instituto Valenciano de Infertilidad (IVI)
Universidad de Valencia
Valencia, Spain

Renee A. Reijo Pera
**Author and Challenger**
George D Smith Professor of Stem Cell Biology & Regenerative Medicine
Director, Stanford University Doctoral Program in Stem Cell Biology & Regenerative Medicine
Institute for Stem Cell Biology & Regenerative Medicine
Department of Obstetrics and Gynecology
Stanford University School of Medicine
Stanford, CA, USA

Richard T. Scott, Jr.
**Author and Challenger**
Professor and Director
Division of Reproductive Endocrinology
Department of Obstetrics and Gynecology and Reproductive Science
Robert Wood Johnson Medical School
Clinical, Scientific and Laboratory Director
Reproductive Medicine Associates of New Jersey
Basking Ridge, NJ, USA

Carlos Simón
**Scientific Organiser, Expert Panel Member and Challenger**
Professor of Obstetrics & Gynecology, Valencia University
Instituto Valenciano de Infertilidad (IVI)
Valencia, Spain

Michael K. Skinner
**Author**
Professor and Founding Director
Center for Reproductive Biology
School of Biological Sciences
Washington State University
Pullman, WA, USA

Jonathan L. Tilly
**Author**
Professor of Obstetrics, Gynecology & Reproductive Biology
Harvard Medical School
Affiliated Faculty Harvard Stem Cell Institute
Boston, MA, USA

Felipe Vilella
**Challenger**
Researcher and Lab Manager
Instituto Valenciano de Infertilidad (IVI)
Valencia, Spain
## Friday, 20 September

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.00</td>
<td>Registration</td>
</tr>
<tr>
<td>08.20</td>
<td><strong>Serenos Symposium International Foundation (SSIF) opening</strong></td>
</tr>
<tr>
<td></td>
<td>R. Fischer (Germany)</td>
</tr>
<tr>
<td>08.30</td>
<td><strong>Welcome from the scientific organiser and introduction to the 10 best papers in reproductive medicine</strong></td>
</tr>
<tr>
<td></td>
<td>C. Simón (Spain)</td>
</tr>
</tbody>
</table>

### Session I - The best basic papers in reproductive medicine

**Chair:** C. Simón (Spain)

<table>
<thead>
<tr>
<th>Time</th>
<th>Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.45</td>
<td>L1 Oocyte formation by mitotically active germ cells purified from ovaries of reproductive-age women</td>
</tr>
<tr>
<td></td>
<td>J.L. Tilly (USA)</td>
</tr>
<tr>
<td>09.15</td>
<td><strong>Challenger:</strong> F. Vilella (Spain)</td>
</tr>
<tr>
<td></td>
<td><strong>Author:</strong> J.L. Tilly (USA)</td>
</tr>
<tr>
<td>09.30</td>
<td>Questions time</td>
</tr>
<tr>
<td>10.00</td>
<td>L2 The mammalian oocyte orchestrates the rate of ovarian follicular development</td>
</tr>
<tr>
<td></td>
<td>M.M. Matzuk (USA)</td>
</tr>
<tr>
<td>10.30</td>
<td><strong>Challenger:</strong> A. Pellicer (Spain)</td>
</tr>
<tr>
<td></td>
<td><strong>Author:</strong> M.M. Matzuk (USA)</td>
</tr>
<tr>
<td>10.45</td>
<td>Questions time</td>
</tr>
<tr>
<td>11.15</td>
<td>Coffee break</td>
</tr>
<tr>
<td>11.45</td>
<td>L3 Non-invasive imaging of human embryos before embryonic genome activation predicts development to the blastocyst stage</td>
</tr>
<tr>
<td></td>
<td>R.A. Reijo Pera (USA)</td>
</tr>
<tr>
<td>12.15</td>
<td><strong>Challenger:</strong> C. Simón (Spain)</td>
</tr>
<tr>
<td></td>
<td><strong>Author:</strong> R.A. Reijo Pera (USA)</td>
</tr>
<tr>
<td>12.30</td>
<td>Questions time</td>
</tr>
<tr>
<td>13.00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14.00</td>
<td>L4 Epigenetic transgenerational actions of endocrine disruptors and male fertility</td>
</tr>
<tr>
<td></td>
<td>M.K. Skinner (USA)</td>
</tr>
<tr>
<td>14.30</td>
<td><strong>Challenger:</strong> R.A. Reijo Pera (USA)</td>
</tr>
<tr>
<td></td>
<td><strong>Author:</strong> M.K. Skinner (USA)</td>
</tr>
<tr>
<td>14.45</td>
<td>Questions time</td>
</tr>
<tr>
<td>15.15</td>
<td>Coffee break</td>
</tr>
<tr>
<td>15.45</td>
<td>L5 Aberrant cannabinoid signaling impairs oviductal transport of embryos</td>
</tr>
<tr>
<td></td>
<td>S.K. Dey (USA)</td>
</tr>
<tr>
<td>16.15</td>
<td><strong>Challenger:</strong> H. Critchley (UK)</td>
</tr>
<tr>
<td></td>
<td><strong>Author:</strong> S.K. Dey (USA)</td>
</tr>
<tr>
<td>16.30</td>
<td>Questions time</td>
</tr>
</tbody>
</table>

17.00 | General discussion                                                     |
17.30 | End of the first day                                                   |
Scientific programme
20-21 September, 2013

Saturday, 21 September

Session II | The best clinical papers in reproductive medicine

Chair: A. Pellicer [Spain]

08.00 L6 Elective single-embryo transfer versus double-embryo transfer in in vitro fertilization
C. Bergh [Sweden]

08.30 Challenger: R. Fischer [Germany] vs
Author: C. Bergh [Sweden]

08.45 Questions time

09.15 L7 Comparison of concomitant outcome achieved with fresh and cryopreserved donor oocytes vitrified by the Cryotop method
A. Cobo [Spain]

09.45 Challenger: J.L.H. Evers [The Netherlands] vs
Author: A. Cobo [Spain]

10.00 Questions time

10.30 Coffee break

11.00 L8 Accurate single cell 24 chromosome aneuploidy screening using whole genome amplification and single nucleotide polymorphism microarrays
R.T. Scott [USA]

11.30 Challenger: C. Simón [Spain] vs
Author: R.T. Scott [USA]

11.45 Questions time

12.15 Lunch

13.15 L9 Sperm morphology, motility, and concentration in fertile and infertile men
D.S. Guizick [USA]

13.45 Challenger: R.T. Scott [USA] vs
Author: D.S. Guizick [USA]

14.00 Questions time

14.30 Coffee break

15.00 L10 Circulating angiogenic factors and the risk of preeclampsia
S.A. Karumanchi [USA]

15.30 Challenger: R. Levinson [USA] vs
Author: S.A. Karumanchi [USA]

15.45 Questions time

16.15 General discussion and future perspectives

16.45 Scientific organiser closing

17.00 End of the live educational event
Disclosure of faculty relationships

Serono Symposia International Foundation adheres to guidelines of the European Accreditation Council for Continuing Medical Education (EACCME) and all other professional organizations, as applicable, which state that programs awarding continuing education credits must be balanced, independent, objective, and scientifically rigorous. Investigative and other uses for pharmaceutical agents, medical devices, and other products (other than those uses indicated in approved product labeling/package insert for the product) may be presented in the program (which may reflect clinical experience, the professional literature or other clinical sources known to the presenter). We ask all presenters to provide participants with information about relationships with pharmaceutical or medical equipment companies that may have relevance to their lectures. This policy is not intended to exclude faculty who have relationships with such companies; it is only intended to inform participants of any potential conflicts so participants may form their own judgments, based on full disclosure of the facts. Further, all opinions and recommendations presented during the program and all program-related materials neither imply an endorsement, nor a recommendation, on the part of Serono Symposia International Foundation. All presentations solely represent the independent views of the presenters/authors.

The following faculty provided information regarding significant commercial relationships and/or discussions of investigational or non-EMEA/FDA approved (off-label) uses of drugs:

Christina Bergh  
Declared receipt of grants and contract from Merck Serono, 42,000 Euros/year, 3 years, 2010-2012 for a study: “Weight management interventions for obese women and live birth outcome of in vitro fertilization (IVF): a randomized controlled trial”.

Ana Cobo  
Declared no potential conflict of interests.

Hilary OD Critchley  
Declared no potential conflict of interests.

Sudhansu K. Dey  
Declared no potential conflict of interests.

Johannes L. Hans Evers  
Declared receipt of grants and contracts from the department where he works, that receives two unrestricted grants from MSD NL and Ferring NL.

Robert Fischer  
Declared being member of the Scientific Committee of Serono Symposia International Foundation.

David S. Guzick  
Declared no potential conflict of interests.

S. Ananth Karumanchi  
Declared receipt of honoraria or consultation fees from ThermoScientific, and Siemens Diagnostics. He declared to be stakeholder in Aggarin Therapeutics LLC. He declared otherwise benefit from a relationship with a commercial enterprise as he is Co-inventor on patents held by Beth Israel Deaconess Medical Center that have been outlicensed to multiple companies.

Randy Levinson  
Declared no potential conflict of interests.

Martin Matthew Matzuk  
Declared no potential conflict of interests.

Antonio Pellicer  
Declared no potential conflict of interests.
Renee A. Reijo Pera
Declared receipt of grants and contract from NIH and State of California. She declared receipt of honoraria and consultation fees from ASRM and ESHRE. She declared to be member of advisory boards, boards of director or similar groups: Auxogyn Inc. She also declared to be stakeholder in a company: Auxogyn Inc.

Richard T. Scott, Jr.
Declared receipt of grants and contract from Ferring Farmaceutical. He declared to be member of advisory boards, boards of director or similar group: Ferring Farmaceutical.

Carlos Simón
Declared being member of the Advisory Committee of Serono Symposia International Foundation; stakeholder in Equipo IVI, IVIOMICS.

Michael K. Skinner
Declared no potential conflict of interests.

Jonathan L. Tilly
Declared to be member of advisory boards, boards of director or similar group: OvaScience Inc., and to be stakeholder in a company: OvaScience Inc.

Felipe Vilella
Declared no potential conflict of interests.

The following faculty have provided no information regarding significant relationship with commercial supporters and/or discussion of investigational or non-EMEA/FDA approved (off-label) uses of drugs as of 09/09/2013

Susan Fisher
Biosketch
Christina Bergh is Professor in Obstetrics and Gynecology at Sahlgrenska University Hospital, Gothenburg University. Head of the HTA (Health Technology Assessment) unit in the South Western part of Sweden. Head of the National Quality Registry of assisted reproduction in Sweden.
Special interest in Evidence Based Medicine.
She has produced randomized trials, on a national and international level in different interventional aspects of ART.
Publications: 110 original publications in both basic and clinical research, around 20 reviews and 50 book chapters, debates and others.
Professor Bergh has been supervisor for eight PhD thesis and is currently supervisor for five PhD doctors. She has been invited to give lectures at more than 50 national/international congresses.

Ana Cobo, PhD, has been a member of the embryology staff at Instituto Valenciano de Infertilidad (IVI), Valencia, Spain, since 1995 and is currently in charge of the Cryobiology Unit. She was a graduate of the University of Valle in Colombia in 1988, and obtained a Master of Biological Sciences degree in Biology of Reproduction at the University of Chile in 1994, a Masters degree in Human Reproduction in 1998, and a PhD degree at the University of Valencia, Spain, in 2003.
Dr Cobo’s major areas of interest are female fertility preservation through oocyte and embryo cryopreservation. She is active in investigating novel treatments, including vitrification as a new approach to oocyte banking, preserving fertility in cancer patients, and novel approaches to safe cryostorage.
Biosketch

**Hilary OD Critchley**

Professor of Reproductive Medicine  
MRC Centre for Reproductive Health  
University of Edinburgh  
The Queen’s Medical Research Institute  
Edinburgh, UK

Professor Critchley is Professor of Reproductive Medicine at the University of Edinburgh and has been a clinical Consultant in Obstetrics and Gynaecology at the Royal Infirmary, Edinburgh since 1993. She held the position of Senior Lecturer in Obstetrics and Gynaecology at Edinburgh University from 1993 and her University Personal Chair was awarded in 1999. From 2009-2012 she was Head of Section of Obstetrics and Gynaecology and in August 2012 became Head of School of Clinical Sciences in the College of Medicine and Veterinary Medicine, University of Edinburgh.

Professor Critchley’s research group examines key areas common to pivotal reproductive processes: menstruation and implantation. Laboratory based studies have focused upon local uterine/endometrial mechanisms. Clinical areas of study include: assessment and evaluation of abnormal uterine bleeding; role for progesterone receptor modulators in management of heavy menstrual bleeding; including women with uterine fibroids; exploration of novel magnetic resonance imaging (MRI) strategies for evaluating vasculature morphology of uterine fibroids; and late effects of treatment of childhood cancer upon uterine and ovarian function. Her research contributions may be accessed: http://www.crm.ed.ac.uk/research/

---

**Sudhansu K. Dey**

Lova Riekert Chair and Professor  
Director, Division of Reproductive Sciences  
Professor, Division of Developmental Biology  
Professor, Division of Cancer and Cell Biology  
Cincinnati Children’s Hospital Medical Center  
Cincinnati, OH, USA

S. K. Dey’s life-long research mission is to understand the endocrine, paracrine, autocrine and juxtacrine signaling networks that influence uterine biology in the context of embryo-uterine interactions during pregnancy. His lab was the first to discover that uterine cyclooxygenase-2 (Cox2) is critical to ovulation, fertilization, and implantation, and that Cox2 derived prostacyclin (PGI2) mediates embryo implantation via PPARδ. These studies had a profound impact on the understanding of female fertility and PGI2-PPARδ signaling in other systems. Using genetic approaches, his group also showed the relative importance of Cox1 and Cox2 in parturition and that a short delay in implantation creates adverse ripple effects throughout pregnancy, leading to defective feto-placental growth and pregnancy loss. This is consistent with data that implantation beyond the normal window causes pregnancy loss in women. Additionally, his group has shown that aberrant cannabinoid signaling impairs oviductal embryo transport, which has a clinical relevance to ectopic pregnancy in women. This discovery that estrogen levels are critical in specifying the window of uterine receptivity for implantation has drawn the attention of many IVF programs. In brief, Dr. Dey’s career has been dedicated to defining a roadmap for embryo-uterine interactions during implantation at the molecular and genetic level, and his research has made a lasting impact in the field of female fertility.
**Biosketch**

**Johannes L. Hans Evers**  
Editor-in-Chief, Human Reproduction  
Department of Obstetrics & Gynaecology  
Division Reproductive Medicine & Biology  
Maastricht University Medical Centre  
Maastricht, The Netherlands

Johannes L. Hans Evers is Professor of Obstetrics and Gynaecology at Maastricht University, Maastricht, The Netherlands and Director of the Centre for Reproductive Medicine and Biology at the Maastricht University Medical Centre. He is also Programme Leader of the research programme Infertility & Early Development in the Division of Developmental Biology, GROW, School for Oncology and Developmental Biology, Maastricht University, Maastricht, The Netherlands. He is Editor-in-Chief, Human Reproduction and is Past-Chairman of the European Society of Human Reproduction and Embryology (ESHRE), of the Dutch National Committee on Research in Human Subjects, and of the World Endometriosis Society.

He has (co)authored well over 250 original articles in peer-review journals. Honours and awards include fellowship ad eundem of the British Royal College of Obstetricians and Gynaecologists; Established Clinician Award of ESHRE; and World Infertility Award of the American Infertility Association; honorary member of scientific societies in the Middle East, Argentina, Australia, India, Argentina, Russia and the UK.

**Robert Fischer**  
Serono Symposia International Foundation Scientific Committee Member  
Medical director Fertility Center Hamburg  
Hamburg, Germany

Robert Fischer is Founder and Medical Director of the IVF unit at the Hamburg Fertility Center, a leading German IVF centre, and one of the largest in the country. In July 1998 the Fertility Center of Hamburg was one of the first centers in Germany and worldwide to introduce certified quality management according to ISO 9001. In 2002 the IVF laboratory was ISO 17025 certified. Prior to this, Robert Fischer was Medical Director of the first outpatient IVF unit in Hamburg. Author of numerous publications in national and international scientific journals and books, as well as a lecturer at conferences worldwide, Dr Fischer is an active member of the American Society of Reproductive Medicine, founding member of the European Society of Human Reproduction and member of its advisory committee. He is also a founding member of the AG Gynäkologische Endokrinologie und Fortpflanzungsmedizin und Berufsverband Reproduktionsmedizinischer Zentren, both in Germany.
Dr. Fisher is a professor in the Department of Obstetrics, Gynecology & Reproductive Sciences at the University of California, San Francisco, School of Medicine. She is jointly appointed in the Department of Anatomy. Dr. Fisher is the director of the UCSF Human Embryonic Stem Cell Program and faculty director of the Sandler-Moore Mass Spectrometry Facility. She is a member of the Eli & Edythe Broad Center for Regeneration Medicine and Stem Cell Research at UCSF and the Center for Reproductive Sciences. Ongoing research projects include human placental development and new methods for propagating and deriving human embryonic stem cell lines, and applying mass spectrometry-based approaches to compile protein catalogues with a focus on biomarker discovery. She has served on several NIH panels. Most recently, she chaired the Reproductive Biology Study Section and was the principal co-organizer of the first Keystone Conference on Reproduction. Amongst honours she has received are the Sadler Award (NIH), 2000; an NIH MERIT Award, 2000; the Anita Payne Lectureship (University of Michigan), 2003; and the Silbar Memorial Lectureship, 2007 (Northwestern University).

David Guzick, M.D., Ph.D., was appointed the senior vice president for health affairs, University of Florida (UF), and president, UF Health on July 1, 2009. Dr. Guzick is responsible for six health science center colleges (medicine, dentistry, nursing, public health, pharmacy and veterinary medicine), several research institutes, and UF Health, which operates teaching hospitals on the main UF campus in Gainesville, Florida and in Jacksonville, Florida.

From 2002-2009, Dr. Guzick was dean of the School of Medicine and Dentistry at the University of Rochester in Rochester, N.Y. From 1995 until 2002, Dr. Guzick served as the Henry A. Thiede professor and chair of the Department of Obstetrics and Gynecology at the University of Rochester. An internationally recognized expert in reproductive endocrinology, Dr. Guzick was inducted into the Society of Scholars at the Johns Hopkins University in 2004. In 2008, Dr. Guzick was elected to the Institute of Medicine, one of the nation’s highest honors in the fields of medicine and health.
S. Ananth Karumanchi, MD received his medical degree in 1992 from Kilpauk Medical College and University of Madras, India. Dr. Karumanchi completed his residency in Internal Medicine at Henry Ford Hospital, Detroit, MI, and a fellowship in Nephrology at the Beth Israel Deaconess Medical Center, Boston, MA. Dr. Karumanchi also underwent training in basic research in the area of tumor suppressor gene products in renal cancer for 4 years at the Beth Israel Deaconess Medical Center and Harvard Medical School, Boston. He joined the faculty at the Beth Israel Deaconess Medical Center in 2001 as Attending Physician in the Nephrology division and is currently an Associate Professor in Medicine at Harvard Medical School. He also holds a second appointment as a Senior Scientist with the Department of Obstetrics and Gynecology at the Beth Israel Deaconess Medical Center. His current research focuses on the role of angiogenic growth factors and inhibitors in the pathogenesis of pregnancy complications such as preeclampsia and gestational hypertension. Dr. Karumanchi was awarded Preeclampsia Foundation – Hope Award in 2006, American Society of Hypertension – Young Scholar Award in 2007, American Federation of Medical Research – Outstanding Investigator Award in 2010 and the Chesley Award from the International Society for the Study of Hypertension in Pregnancy in 2010.

Randy Levinson, as an undergraduate student at Caltech, studied the evolution and the proteolytic regulation of replication of Alphaviruses in the lab of James Strauss. He then went on to graduate school to study the regulation of nuclear hormone receptor signaling using a yeast genetic screen in Keith Yamamoto’s lab at the University of California, San Francisco. After graduation, he carried on postdoctoral work with Eseng Lai at Memorial Sloan-Kettering Cancer Center where he investigated the role of renal stroma in embryonic kidney development. He continued these studies during a second postdoc at Columbia University with Cathy Mendelsohn before joining Nature Medicine in 2005.
Martin M. Matzuk, M.D., Ph.D. is the Director of the Center for Drug Discovery and Stuart A. Wallace Chair at Baylor College of Medicine. Dr. Matzuk earned his M.D. and Ph.D. from Washington University School of Medicine, performed residency training in pathology at the University of Pennsylvania, is a board-certified Clinical Pathologist, and is Director of Clinical Chemistry at Ben Taub General Hospital. His research focuses on deciphering germ cell, TGF-beta superfamily, hormonal, and small RNA signaling pathways in male and female fertility and reproductive cancers, and he has generated over 100 mouse models to study these processes. Dr. Matzuk has co-authored more than 300 papers, including 25 papers in Cell, Nature, and Science journals, and he holds 12 patents for his biomedical research discoveries. His honors also include the Richard E. Weitzman Award from the Endocrine Society, the HypoCCS Award from Eli Lilly, the Society for the Study of Reproduction Research Award, the Pfizer Outstanding Investigator Award from the American Society for Investigative Pathology, the Roy O. Greep Award from The Endocrine Society, a MERIT award from the National Institutes of Health, and the 5th International Fundacion M Award for the Best Basic Research Record in Reproductive Medicine.

Antonio Pellicer, M.D has been Professor in Obstetrics and Gynecology since 1999 and Dean of the University of Valencia School of Medicine, Spain from 2006 until 2012. He is also Chairman of the Department of Obstetrics and Gynecology at ‘La Fe University Hospital’, Valencia, since 2009.

Professor Pellicer founded the ‘Instituto Valenciano de Infertilidad’ (‘IVI’) in 1990, and his work in the field of fertility has led to the creation of many ‘IVI’ clinics both in Spain and internationally. He is also President of the ‘IVI Foundation’ for the Study of Reproduction and Director of ‘Equipo IVI’.

Professor Pellicer has authored over 200 textbook chapters and more than 700 journal articles in national and international journals, and presented over 400 lectures in congresses. He has been Co-Editor in Chief for the journal ‘Fertility and Sterility’ since 2011.

Professor Pellicer has won many awards for his contributions to the field of reproductive health. He was awarded the Annual Meeting Prize Paper for the ‘American Society for Reproductive Medicine’ six times between 1987 and 2005. He is Doctor Honoris Causa by the Politecnich University of Valencia in 2011; Prize to the Innovation during the edition XVII of the Enterprising prize of the Year organized by Ernst and Young of Madrid in 2013.
Renee A. Reijo Pera is the George D Smith Professor of Stem Cell Biology and Regenerative Medicine and directs the Center for Reproductive and Stem Cell Biology in the Department of Obstetrics and Gynecology, as well as the Stanford University Doctoral Program in Stem Cell Biology and Regenerative Medicine and the Center for Human Embryonic Pluripotent Stem Cell Research and Education. She received her PhD from Cornell University and was a Damon Runyon Fellow in Human Genetics, at the Whitehead Institute at the Massachusetts Institute for Technology, before joining the faculty at the University of California in San Francisco in 1997. She was recruited to Stanford University in 2007 where her laboratory is focused on understanding cell fate decisions in the human embryo. She has received numerous awards for her work including the American Stem Cell Research Foundation Award, Outstanding Faculty Mentor Award, American Society for Reproductive Medicine Bruce Stewart Award, and was cited by Newsweek magazine as one of twenty influential women in the USA for her work in understanding human development. In 2010, Time Magazine recognized her research for providing one of the top ten “medical breakthroughs of 2010.”

Richard T. Scott, Jr. is a board certified Reproductive Endocrinologist and founding partner of Reproductive Medicine Associates of New Jersey where he functions as scientific director, clinical director, and embryology lab director. Dr. Scott is Professor and Director, Division of Reproductive Endocrinology, Department of Obstetrics, Gynecology, and Reproductive Science, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey. Additionally Dr. Scott is the Director, Reproductive Endocrine Fellowship, Robert Wood Johnson Medical School and the Clinical and Scientific Director, ART Program, RMA of New Jersey. He received his medical degree from the University of Virginia Medical School and then completed his fellowship in Reproductive Endocrinology at the Jones Institute for Reproductive Medicine in Norfolk, Virginia.

Dr. Scott’s work has been published in over 350 peer reviewed articles, book chapters, and abstracts. He is a popular speaker at scientific meetings having been invited to speak on 5 continents more than 400 times. Dr. Scott’s contribution to the field or reproductive endocrinology has been recognized and honored by both academic institutions and patient advocacy groups. He’s been awarded the ASRM Prize Paper Award three times, SART Prize Paper Award three times, STAR Achievement Award from the American Society of Reproductive Medicine, and Professor of The Year, American College of Obstetricians and Gynecologists.
Carlos Simón is a board-certified full Professor of Obstetrics and Gynaecology at the University of Valencia, Spain, and Scientific Director of both the Fundación M and the Prince Felipe Research Centre, Valencia. Dr Simón’s research has contributed to the advance of reproductive medicine, particularly in human endometrial receptivity, embryo viability, embryonic implantation and endometriosis. Since 2001, his research into stem cells has led to the derivation, characterization and registration in the Spanish National Stem Cell Bank (BNLC) of 10 human embryonic stem cell lines.

As Principal Investigator, Dr Simón’s work has been funded by the Spanish Government, Valencian Government, international organizations, American universities and private companies. His research has produced 11 patent applications, leading to the creation of three Biotechnology companies (iGenomix, Embryomics and Stemlife). Dr Simón has published a total of 264 papers in international peer-review journals and is an Editor of 14 books.

Michael K. Skinner is a professor in the School of Biological Sciences at Washington State University. He did his B.S. in chemistry at Reed College in Portland Oregon, his Ph.D in biochemistry at Washington State University and his Postdoctoral Fellowship at the C.H. Best Institute at the University of Toronto. Recently he did a sabbatical in bioinformatics at Rosetta/Merck. He has been on the faculty of the Pharmacology Department at Vanderbilt University and the Reproductive Sciences and Physiology at the University of California at San Francisco. Dr. Skinner’s research is focused on the area of reproductive biology and environmental epigenetics. Dr. Skinner has over 225 peer reviewed publications and has given over 230 invited symposia, plenary lectures and university seminars.

Dr. Skinner established and was the founding Director of the Washington State University and University of Idaho Center for Reproductive Biology (CRB) since its inception in 1996. The CRB has over 90 faculty and is one of the largest reproductive sciences research Centers in the world. Dr. Skinner also established and was the founding Director of the Center for Integrated Biotechnology (CIB). His research has been highlighted in BBC and PBS documentaries and selected as top 100 discoveries in 2005 and 2007 by Discover. In addition, Dr Skinner has been actively involved with the start-up of several biotechnology companies.
Dr. Tilly obtained his PhD in 1990, completed postdoctoral fellowships at University of California-San Diego and Stanford University, and joined the faculty of Johns Hopkins in 1993. He moved to Massachusetts General Hospital (MGH) in 1995 as Associate Professor of Obstetrics, Gynecology and Reproductive Biology at Harvard Medical School (HMS) to develop and direct the MGH Vincent Center for Reproductive Biology. He was promoted to full Professor at HMS in 2009. Dr. Tilly’s current studies focus on his discovery of female germ line or oogonal stem cells in ovaries of adult mice and women that are capable of generating new oocytes (Nature 2004 428:145-50; Nature Medicine 2012 18:413-20; Nature Protocols 2013 8:966-88). In 2011, he co-founded a new biotechnology company, OvaScience, Inc. (Cambridge, MA; www.ovascience.com; NASDAQ: OVAS), which has exclusive rights to his patented technologies for development of new methods to improve or restore female fertility. Over his career, Dr. Tilly has published 117 manuscripts, 24 invited reviews, 19 book chapters and 15 editorials and perspectives, and has 7 patents either issued or under examination. He is the recipient of multiple grant awards including a 10-year MERIT Award from the NIH. This year Dr. Tilly was selected as the Fertility Authority Doctor of the Month in February and as one of the top 12 innovators in science and biotechnology in Massachusetts for 2012.

Felipe Vilella
Researcher and Lab Manager
Instituto Valenciano de Infertilidad (IVI)
Valencia, Spain

At the beginning of his professional career, during his PhD at the University of Lleida, and throughout his post-doctoral position at the MRC in London, the projects that he was involved in developing used the eukaryotic budding yeast Saccharomyces cerevisiae as a biological model. The major advantage that this training gave him is an excellent base of knowledge and understanding of biological mechanisms at the molecular level. S. cerevisiae is a unicellular and haploid microorganism, and so from this basis it is easy to understand the molecular mechanisms that occur in higher eukaryotes. The molecular biology techniques learned while working with this eukaryotic organism include: preparation of culture media, introducing genetic mutations, spore microdissection techniques, flow cytometry, and DNA and RNA extraction. He joined Professor Majlinda Lako’s laboratory to work with various types of stem cells, both adult and embryonic. As a result of this he is also familiar with cell biology techniques such as stem cell culture, viral transduction, differentiation of stem cells to different cell types, and the generation of induced pluripotent stem cells. Felipe Vilela is based at the Translational Medicine research facility in the IVI Foundation researching crosstalk signaling that may exist between the human embryos and a receptive endometrium, thus permitting embryonic implantation. Investigation in this area will lead to novel findings, which will help to improve medical practice in infertility treatment.