



# FRONTIERS in REPRODUCTION and STEM CELLS

November 11-17, 2018  
KOÇ UNIVERSITY MEDICAL SCHOOL  
ISTANBUL, TURKEY

Immediately Following the:  
8<sup>th</sup> Biannual Meeting of the  
Turkish Society of Reproductive Medicine

November 8-11, 2018  
ANTALYA, TURKEY

[frontiersistanbul.org](http://frontiersistanbul.org)

There will be limited financial support for registration and accommodation.

For more information and registration, please contact the organization secretariat at: [frontiers@ku.edu.tr](mailto:frontiers@ku.edu.tr)

## Frontiers in Reproduction and Stem Cells

November 11-17, 2018

Koç University School of Medicine Istanbul, Turkey

### Course Directors

Barış Ata, M.D., M.Sc.  
Denny Sakkas, Ph.D.  
Emre Seli, M.D.  
Gerald Schatten, Ph.D.

### Faculty

Ahmet Zeki Işık, M.D.  
Professor of Obstetrics and Gynecology,  
Medical Park Hospital, Izmir, Turkey

Barış Ata, M.D., M.Sc.  
Professor of Obstetrics & Gynecology,  
Koç University School of Medicine, Turkey

Bülent Urman M.D.  
Professor of Obstetrics and Gynecology,  
Koç University School of Medicine, Turkey

Calvin R. Simerly, Ph.D.  
Associate Professor of Obstetrics, Gynecology and  
Reproductive Sciences, University of Pittsburgh,  
Faculty Member, Pittsburgh Development Center, USA

Denny Sakkas, Ph.D.  
Scientific Director, Boston IVF, USA

Ecem Esencan, M.D.  
Research Associate, Yale University School of Medicine, USA

Elif Nur Fırat-Karalar, Ph.D.  
Assistant Professor, Dept. of Molecular Biology and Genetics,  
Koç University Faculty of Science, Turkey

Emre Seli, M.D.  
Professor of Obstetrics, Gynecology & Reproductive Sciences,  
Yale University School of Medicine, USA

Gerald Schatten, Ph.D.  
Professor & Vice Chair of Obstetrics, Gynecology and  
Reproductive Sciences, and Cell Biology and Physiology,  
and Director, Division of Developmental and Regenerative Med.,  
University of Pittsburgh School of Medicine, USA

Gürkan Uncu, M.D.  
Professor of Obstetrics and Gynecology,  
Uludağ University School of Medicine, Turkey

Lubna Tahtamouni, Ph.D.  
Chair, Dept. of Biology and Biotechnology,  
Hashemite University, Zarqa, Jordan

Maria Lalioti, Ph.D.  
Principal Scientist, Pharmacogenomics at Biogen  
Assistant Professor, Yale University School of Medicine, USA

Özgül Öktem, M.D.  
Associate Professor of Obstetrics and Gynecology,  
Koç University School of Medicine, Turkey

Serçin Karahüseyinoğlu, M.D.  
Assistant Professor, Dept. of Histology and Embryology,  
Koç University School of Medicine, Turkey

#### November 11, Sunday

##### Arrive in Istanbul

18:30 Registration  
19:15 Welcome and Opening Remarks: Barış Ata, Emre Seli  
20:00 Faculty and Trainee Introductions

#### November 12, Monday

08:30-09:15 Lecture: Maria Lalioti, Ph.D., Genetics of reproductive disorders  
09:15-10:00 Lecture: Barış Ata, M.D., M.Sc., Preimplantation genetic screening from a clinical perspective

##### 10:00-10:30 Break

10:30-11:15 Lecture: Maria Lalioti, Ph.D., Next generation sequencing  
11:15-12:00 Trainee Presentations

##### 12:00-13:00 Lunch

13:00-13:30 Lab Introduction: Maria Lalioti, Ph.D.  
13:30-18:00 Lab Session: Maria Lalioti, Ph.D., Real-time (quantitative) singleplex and multiplex RT-PCR

#### November 13, Tuesday

08:30-09:15 Lecture: Denny Sakkas, Ph.D., IVF-ICSI-PGS  
09:15-10:00 Lecture: Uses and benefits of advanced imaging techniques

##### 10:00-10:30 Break

10:30-11:15 Lecture: Denny Sakkas, Ph.D., The role of the sperm in achieving the best embryos in vitro  
11:15-12:00 Trainee Presentations  
13:00-13:30 Lab Introduction: IVF Lab Intro Denny Sakkas, Ph.D.  
13:30-18:00 Lab Session: Serçin Karahüseyinoğlu, M.D.; Denny Sakkas, Ph.D.  
•Advanced imaging of gonads, gametes, embryos and stem cells  
•Selecting sperm handling sperm and oocytes: tips for the IVF lab  
•Visit to the Koç University IVF lab

#### November 14, Wednesday

08:30-09:15 Lecture: Gerald Schatten, Ph.D., The Brave New World of ART  
09:15-10:00 Lecture: Lubna Tahtamouni, Ph.D., Spermatogenesis and Maturation Arrest

##### 10:00-10:30 Break

10:30-11:15 Lecture: Cal Simerly, Ph.D., Imaging Fertilization and Cell Division  
11:15-12:00 Career Mentoring #1

##### 12:00-13:00 Lunch

13:00-13:30 Lab Introduction: Gametogenesis, Fertilization, Embryogenesis and  
ART Mechanisms – Cal Simerly Ph.D. and Lubna Tahtamouni Ph.D.  
Lab Session: Cal Simerly Ph.D. and Lubna Tahtamouni Ph.D., Fertilization and Cell Division

#### November 15, Thursday

08:30-09:15 Lecture: Gerald Schatten, Ph.D., Ethics in Research  
09:15-10:00 Lecture: Özgül Öktem, M.D., The molecular mechanisms of chemotherapy-induced oocyte damage and  
follicle loss and the strategies to prevent it

##### 10:00-10:30 Break

10:30-11:15 Lecture: Barış Ata, M.D., M.Sc.: Introduction to Biostatistics  
11:15-12:00 Lecture: Elif Nur Fırat-Karalar, Ph.D., The Cell Cycle and Centrosome Biology

##### 12:00-13:00 Lunch

13:00-13:30 Lab Introduction: Elif Nur Fırat-Karalar, Ph.D., Live imaging of the mitosis in HeLa cells  
stained for microtubules and DNA  
13:30-18:00 Lab Session: Elif Nur Fırat-Karalar, Ph.D., Live imaging confocal microscope; Synchronize  
HeLa cells stained for microtubules and DNA and watch them undergo cell division  
Image cells with extra centrioles or no centrioles to demonstrate how these processes  
go awry in these conditions

#### November 16, Friday

08:30-09:15 Lecture: Emre Seli M.D., Reproductive Aging – the potential role of mitochondria  
09:15-10:00 Lecture: Bülent Urman, M.D., Stimulating the aging ovary

##### 10:00-10:30 Break

10:30-11:15 Lecture: Gürkan Uncu, M.D., Impact of endometriomas and their removal on ovarian reserve  
11:15-12:00 Career Mentoring #2

##### 12:00-13:00 Lunch

13:00-13:45 Lab Introduction: Ecem Esencan, M.D.  
13:45-16:30 Lab session: Emre Seli M.D., Ecem Esencan M.D., mtDNA quantification  
17:00-18:00 Lecture: Ahmet Zeki Işık, M.D.; TBD

#### November 17, Saturday

##### ISTANBUL TOUR - GROUP

##### Closing Banquet

19:00 Dinner  
19:30 Presentation of Participant Certificates  
20:00 Pioneer Award  
20:30 Social Gathering  
Closing Lectures and Career Mentoring #3

#### November 18, Sunday

Check out