**PGDIS HANDS-ON WORKSHOP ON PGT FOR GENETIC AND**

**CHROMOSOMAL DISORDERS BY TROPHECTODERM BIOPSY**

**Istanbul Memorial Hospital ART and Genetics Center**

**April 29-May 1, 2018**

**April 28 Arrival & Accommodation**

**APRIL 29**

**09:00-10:05 Preimplantation Genetic Testing (PGT) for Monogenic and Chromosomal Disorders by Blastomere and Trophectoderm Biopsy - Theoretical Session 1**

08:30 - 09:00 **Registration**

09:00 - 09:05 Opening of Workshop, Semra KAHRAMAN, Memorial Hospital ART and

Genetics Center, Istanbul, Turkey

09:05 - 09:35 Practical PGT, Anver KULIEV, RGI, Chicago, USA

09:35 -10:05 Advantages and disadvantages of trophectoderm biopsy – Caroline Selma PIRKEVI CETINKAYA, Memorial Hospital ART and Genetics Center, Istanbul, Turkey

# 10:05 -10.35 DISCUSSION & COFFEE BREAK

10:35 -13:10 **Hands-on Applications of Biopsy Procedures under Supervision of Trainers** *Participants will be divided into 3 groups, up to 5 in each for practical sessions.*

* Zona Drilling Methods
* Blastomere Biopsy Techniques
* Trophectoderm Biopsy Techniques

13:10 -14:20 LUNCH & DISCUSSION

**14:20 -18:30 Each group will apply all the demonstrated techniques**

**APRIL 30**

**09:00 - 10:00 PGT for Monogenic and Chromosomal Disorders by Blastomere and Trophectoderm Biopsy- Theoretical Session 2**

09:00 - 09:20 Clinical aspects of successful PGT, Semra KAHRAMAN, Memorial Hospital ART and

Genetics Center, Istanbul, Turkey

09:20 - 09:40 PGT for Aneuploidy (PGT-A) and Structural Rearrangements (PGT-SR)- From FISH to Next Generation Technologies, Anver KULIEV, RGI, Chicago, USA

09:40 - 10:00 Molecular Techniques and Next Generation Technologies in PGT: Testing for Monogenic Disorders (PGT-M), HLA Typing (PGT-HLA), and 24 Chromosome Aneuploidy (PGT-A) by Next Generation Sequencing (NGS), Don LEIGH, Sydney, Australia

10:00 -10:30 DISCUSSION & COFFEE BREAK

**10:30 -13:30 Hands-on applications of trophectoderm biopsy by participants under supervision of trainers** 13:30 -14:30 LUNCH & DISCUSSION

**14:30 -18:30 Hands-on Applications of FISH and PCR techniques under supervision of trainers**

* Preparation, Spreading and Fixation of Blastomere and Trophectoderm Cells
* In Situ Hybridization with Different Chromosome Specific Probes
* Analysis and Scoring of FISH Signals
* 1st and 2nd Round PCR for PGT-M and PGT- HLA
* Testing for 24 Chromosomes by Microarray Technology and NGS

*Participants will be divided into 3 groups, up to 5 in each for practical sessions according to their interests.*

**May 1**

**09:00 -13:00 Interpreting NGS, aCGH, FISH and PCR Results**

09:00 - 12:00 Analysis and Interpreting NGS, arrayCGH and FISH results, Murat CETINKAYA, Memorial Hospital ART and Genetics Center, Istanbul, Turkey

Analysis and Interpretation of NGS and PCR Results, Don LEIGH, Syndey, Australia

# 12:00 -13:00 GENERAL DISCUSSION & CLOSING

**Practical Stations**

**Station 1:** Blastomere Biopsy Techniques;

Zona hatchings by enzymatic, mechanical and laser applications

**Station 2:** Trophectoderm Biopsy Techniques;

**Station 3:** FISH Techniques;

Preparation, spreading and fixation of Blastomere and Trophectoderm Cells

In situ hybridization of chromosomes with different probes

Analysis and Scoring of FISH signals

**Station 4:** array CGH and NGS Techniques;

Extraction and Amplification of blastomere and trophectoderm cells

Labeling Hybridization

**Scanning and analysis of aCGH and NGS results**

**Station 5:** PCR Techniques;

Lysis of blastomere and trophectoderm cells

First and second round PCR for PGT-M and PGT-HLA, Mutation Analysis and Restriction Enzyme Digestion Analysis and interpretation of PCR results

*• These applications will be done simultaneously in 4 stations and each participant will attend to each station and perform all demonstrated techniques*