

**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 trophoctoderm 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 trophoctoderm 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, Sydney, 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*