



# Summer Training on Assisted Reproductive Technologies with Germ cells of Animal Models – 2 CRYO



26-30 September 2022

## GENERAL INFORMATION

### LOCATION

University of Bari - Department of Biosciences, Biotechnologies and Biopharmaceutics

- Labo-biotech, via Giuseppe Fanelli n. 204, Bari
- University Pole of Valenzano, Provincial road to Casamassima, km 3 - Valenzano (Bari)

### THEORETICAL AND PRACTICAL SESSIONS

Theory: 09:00 – 13:00

Practice: 14:00-18:00

### CALL

<https://www.uniba.it/didattica/corsi-universitari-di-formazione-finalizzata/summer-winter-school/summer-school/summer-school-a-a-2021-2022>

The course is **FREE**. Deadline for the applications: **30 June 2022**

Maximum number of participants: **20**

**3,5** academic credits (CFU)

### SPONSOR



**MICROPTIC**  
AUTOMATIC DIAGNOSTIC SYSTEMS



### OUR CONTACT

Director of the Course: Prof. Maria Elena Dell'Aquila

Tel: 080 5443888 – email: [mariaelena.dellaquila@uniba.it](mailto:mariaelena.dellaquila@uniba.it)

# Scientific Program

## 26.09 The oocyte



8:00 Registration  
8:30 Opening remarks  
- Rector of University of Bari  
- Head of the Department DBBB  
- Summer School Director

9:00 – 13:00 Lectures  
9:00 **BAJ Roelen** Oocyte growth and maturation  
10:30 **ME Dell'Aquila** The IVM technology  
11:30 **NA Martino** Oocyte quality assessment  
12:30 **A Mastrorocco** 3D oocyte maturation systems

14:00-18:00 Lab training  
**NA Martino, BAJ Roelen, A Mastrorocco, ME Dell'Aquila**  
The ART lab; oocyte collection and selection; IVM (static and perfusion systems)



**ME Dell'Aquila**  
University of Bari



**NA Martino**  
University of Bari



**A Mastrorocco**  
University of Bari



**L Temerario**  
University of Bari

## 27.09 The sperm cell



9:00 – 13:00 Lectures  
9:00 **ME Dell'Aquila** Spermatogenesis and sperm capacitation  
10:30 **NA Martino** Sperm quality assessment  
11:30 **D Ferri** Male Fertility Assessment in human ARTs  
12:00 **P Cirigliano** SCA Evolution sperm quality system

14:00-18:00 Lab training  
**NA Martino, BAJ Roelen, A Mastrorocco, ME Dell'Aquila**  
Sperm preparation procedures (swim-up and density gradient centrifugation)  
Basic methods for sperm quality evaluation (concentration, viability, motility)  
Demonstration activity by the company (MICROPTIC)

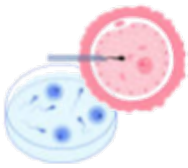


**BAJ Roelen**  
University of Utrecht



**Y S Cho**  
Assisted Procreation Unit Santa Maria Hospital, Bari

## 28.09 Assisted fertilization



9:00 – 13:00 Lectures  
9:00 **BAJ Roelen** Physiology of fertilization in mammals  
10:00 **BAJ Roelen** Assisted microfertilization techniques: evolution and clinical applications  
11:00 **BAJ Roelen** Genetic modifications  
11:30 **ME Dell'Aquila** Assisted fertilization (IVF, ICSI)  
12:00 **S Mrenoshki** Microbiome role in female reproduction  
12:30 **D Baldini** Medically assisted procreation techniques in humans: from the diagnostic setting to the therapeutic cycle

14:00-18:00 Lab training  
14:00 **YS Cho** Human and large animal IVF labs - Differences and similarities  
14:45 **YS Cho, NA Martino, BAJ Roelen, A Mastrorocco, ME Dell'Aquila**  
Oocyte and sperm preparation for IVF and ICSI; Conventional IVF and ICSI procedures



**D Baldini**  
Momò FertiLife, Bisceglie



**D Ferri**  
Momò FertiLife, Bisceglie

## 29.09 The embryo



9:00-13:00 Lectures  
9:00 **BAJ Roelen** Preimplantation embryo development  
10:00 **ME Dell'Aquila** The IVEC technology  
10:30 **NA Martino** Embryo quality assessment  
11:00 **S Cseh** Basic principles of cryopreservation and cryoprotectants  
12:00 **B Somoskoi** Basic principles of vitrification

14:00-18:00 Lab training  
**NA Martino, BAJ Roelen, A Mastrorocco, ME Dell'Aquila**  
Set up of the laboratory for cryopreservation of gametes and embryos  
Slow freezing and rapid thawing techniques of oocytes and embryos  
Polscope-, Piezo- and Laser-assisted ICSI  
Setting-up of in vitro embryo culture  
Assessment of embryo morphology and morphokinetics



**S Mrenoshki**  
University of Skopje

## 30.09 Cryopreservation of gametes and embryos



9:00-13:00 Lectures  
9:00 **S Cseh** Slow freezing techniques of oocytes and embryos  
10:00 **B Somoskoi** Vitrification of oocytes and embryos  
11:00 **BAJ Roelen** Embryo models using stem cells  
11:30 **ME Dell'Aquila** Preimplantation Genetic Testing  
12:30 **L Temerario** Cryopreservation for biodiversity conservation

14:00-17:30 Lab training  
**S Cseh, B Somoskoi, NA Martino, A Mastrorocco, ME Dell'Aquila**  
Vitrification procedures of oocytes and embryos  
Post-thawing and post-vitrification evaluations  
Chromatin staining of oocytes, zygotes and embryos and analysis  
Assessment of embryo bioenergetic/oxidative status



**S Cseh**  
University of Budapest



**B Somoskoi**  
University of Budapest

17:30-18:30 Final test