

Scientific Committee

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UNIVERSITÀ
DEGLI STUDI
DI TERAMO



European
Commission

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WORKSHOP OOCYTE AND EMBRYO MANIPULATION

International workshop organized within the framework
of "H2020-Twinn-2015-GA No 692185" ERAofART
Epigenetic Risk Assessment of Assisted Reproductive Technologies

13-24 June 2016
University of Teramo
Campus Aurelio Saliceti
Experimental Embryology Laboratory



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EXPERIMENTAL EMBRYOLOGY LABORATORY

MONDAY, 13 JUNE

THEORETICAL LESSONS

Mami Oikawa *Gurdon Institute*

- Assisted reproductive technologies (ART):
Current status and different procedures

PRACTICAL LESSONS

Mami Oikawa *Gurdon Institute*

Marta Czernik, Luca Palazzese *University of Teramo*

- Oocyte collection and in vitro maturation (IVM).
- Micromanipulation tools preparation: holding enucleation (piezo or traditional) and injection pipettes for sheep/bovine and pig oocytes)

TUESDAY, 14 JUNE

THEORETICAL LESSONS

Mami Oikawa *Gurdon Institute*

- Lecture about intra cytoplasmic sperm injection (ICSI):
short history, importance, current status, procedures.

PRACTICAL LESSONS

Mami Oikawa *Gurdon Institute*

Debora Anzalone - Marta Czernik *University of Teramo*

- Preparation of ICSI manipulation dishes
- Media, oocyte and sperm preparation for ICSI
- ICSI
- Round Spermatid Injection (ROSI)

WEDNESDAY, 15 JUNE

THEORETICAL LESSONS

Pasqualino Loi *University of Teramo*

- Invasive methods of oocytes and embryos manipulation:
advantages and disadvantages

PRACTICAL LESSONS

Domenico Iuso *University of Teramo/Riken Bioresource Center (Japan)*

Luca Palazzese - Marta Czernik *University of Teramo*

- Preparation of enucleation dishes
- Different methods for MII oocytes enucleation
(UV, demecolcine treatment, post-enucleation cytoplasm control)

THURSDAY, 16 JUNE

THEORETICAL LESSONS

Domenico Iuso *University of Teramo/Riken Bioresource Center (Japan)*

- Mouse and sheep manipulation models:
similarities and differences

PRACTICAL LESSONS

Domenico Iuso *University of Teramo/Riken Bioresource Center (Japan)*

Luca Palazzese - Marta Czernik *University of Teramo*

- Different injection methods (Piezo pulsed system or traditional method)
using different cells (granulosa cell, fetal and adult fibroblast, blood cell)
as donor

FRIDAY, 17 JUNE

THEORETICAL LESSONS

Pasqualino Loi - Marta Czernik *University of Teramo*

- Open discussion

PRACTICAL LESSONS

Debora Anzalone - Luca Palazzese - Marta Czernik *University of Teramo*

- Evaluation of ICSI embryo development
(change media and verify cell embryo stage)
- Tips and Tricks in ICSI, MII oocyte enucleation and reconstruction

Daily program could vary depends on the availability of the material (sheep/bovine/pig ovaries) for practical exercises

The contents of this workshop are the sole responsibility of the University of Teramo and do not necessarily reflect the opinion of the European Union

EXPERIMENTAL EMBRYOLOGY LABORATORY

MONDAY, 20 JUNE

PRACTICAL LESSONS

Marta Czernik - Debora Anzalone *University of Teramo*

- Micro-tools preparation for embryo biopsy
- Embryo biopsy (8-16 cells stage embryos)

TUESDAY, 21 JUNE

PRACTICAL LESSONS

Pasqualino Loi - Marta Czernik *University of Teramo*

- Somatic cell nuclear transfer (SCNT), whole procedure: enucleation, injection of donor cell (steps in SCNT procedure chosen by the operator)

WEDNESDAY, 22 JUNE

THEORETICAL LESSONS

Pasqualino Loi *University of Teramo*

- Inner cell mass exchange as method for restore endangered species.

PRACTICAL LESSONS

Pasqualino Loi - Marta Czernik - Luca Palazzese *University of Teramo*

- Different methods of Inner cell mass isolation (Micro- and Immuno-surgery)

THURSDAY, 23 JUNE

THEORETICAL LESSONS

Pasqualino Loi *University of Teramo*

- Methods to prevent transmission of mitochondrial diseases

PRACTICAL LESSONS

Pasqualino Loi - Luca Palazzese - Marta Czernik *University of Teramo*

- Nuclear swapping between MII stage oocytes

FRIDAY, 24 JUNE

THEORETICAL AND PRACTICAL LESSONS

Pasqualino Loi - Marta Czernik - Paola Toschi *University of Teramo*

Debora Anzalone - Luca Palazzese *University of Teramo*

- Open discussion and conclusion

Daily program could vary depends on the availability of the material (sheep/bovine/pig ovaries) for practical exercises

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