

Scientific Committee

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UNIVERSITÀ
DEGLI STUDI
DI TERAMO



European
Commission

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WORKSHOP

PRE-IMPLANTATION EMBRYOS DEVELOPMENT IN LARGE ANIMALS: OOCYTES MATURATION, FERTILIZATION, EMBRYO CULTURE AND CRYOPRESERVATION

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

11-22 April 2016
University of Teramo
Campus Aurelio Saliceti
Experimental Embryology Laboratory



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MONDAY, 11 APRIL

THEORETICAL LESSONS

Pasqualino Loi - Marta Czernik *University of Teramo*

- Pre-implantation development in large animals: general considerations
- In vitro maturation (IVM) of ovine oocytes: introduction

PRACTICAL LESSONS

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

- Preparation of media for in vitro maturation (IVM)
- Collection* by different approaches of oocytes from ovaries
- Selection of recovered oocytes and in vitro maturation (IVM) in ovine model

TUESDAY, 12 APRIL

THEORETICAL LESSONS

Barbara Merlo *University of Bologna*

- Pre-implantation development in pig
- In vitro maturation (IVM) of pig oocytes: introduction

PRACTICAL LESSONS

Barbara Merlo *University of Bologna* (pig)

- Preparation of media for pig in vitro maturation (IVM).
- Collection* by different approaches of oocytes from ovaries.
- Selection of recovered oocytes and in vitro maturation (IVM) in pig model

Debora Anzalone *University of Teramo* (sheep)

- Preparation of media for sheep in vitro fertilization (IVF)
- Quality evaluation of oocytes following IVM
- In vitro fertilization: preparation of dishes, oocytes and semen for IVF in sheep

WEDNESDAY, 13 APRIL

THEORETICAL LESSONS

Barbara Merlo *University of Bologna*

- Pre-implantation development in bovine
- In vitro maturation (IVM) of bovine oocytes: introduction
- In vitro fertilization (IVF) and embryo culture in pig

PRACTICAL LESSONS

Barbara Merlo *University of Bologna* (bovine)

- Preparation of media for bovine in vitro maturation (IVM)
- Collection* by different approaches of oocytes from ovaries
- Selection of recovered oocytes and in vitro maturation (IVM) in bovine model

Marta Czernik *University of Teramo* (sheep)

- In vitro culture of sheep IVF embryos
- Evaluation of cleavage rate (2-cells embryos)

THURSDAY, 14 APRIL

THEORETICAL LESSONS

Barbara Merlo *University of Bologna*

- In vitro fertilization (IVF) and embryo culture in bovine and pig: an overview of current knowledge
- Early passages of embryo development: oocyte activation and pronuclear formation
- Evaluation of the embryo quality

PRACTICAL LESSONS

Barbara Merlo *University of Bologna*

- In vitro fertilization (IVF) and embryo culture in bovine and pig
- Luca Palazzese** *University of Teramo* (sheep)
- Sheep embryo culture (day 2)
 - Evaluation of 4-cells stage embryo quality

FRIDAY, 15 APRIL

THEORETICAL LESSONS

Pasqualino Loi - Marta Czernik

Debora Anzalone - Luca Palazzese *University of Teramo*

- Open discussion

PRACTICAL LESSONS

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

- Preparation of culture medium for day 3 sheep embryos
- Preparation of culture medium for day 1 for pig and bovine
- Evaluation of cleavage rate (2-cells embryos) in pig and bovine

**Daily program could vary depends on the availability of the material or 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

MONDAY, 18 APRIL

THEORETICAL LESSONS

Paola Toschi *University of Teramo*

- Different molecular analysis on oocytes and embryos: an overview

PRACTICAL LESSONS

Marta Czernik - Debora Anzalone *University of Teramo* (sheep, bovine, pig)

- Sheep embryo culture (day 6): evaluation of early blastocyst
- Pig and bovine embryo culture (day 4):
evaluation morula/compact morula stage

TUESDAY, 19 APRIL

THEORETICAL LESSONS

Amir Arav *Israel*

- Cryopreservation of oocytes: state of the art

PRACTICAL LESSONS

Amir Arav *Israel* - **Luca Palazzese** *University of Teramo*

- Cryopreservation of sheep/bovine/pig oocytes
- Marta Czernik - Debora Anzalone** *University of Teramo* (sheep, bovine, pig)
- Sheep embryo culture (day 7): evaluation of blastocysts
- Pig and bovine embryo culture (day 5):
evaluation morula/compact morula stage

WEDNESDAY, 20 APRIL

THEORETICAL LESSONS

Amir Arav *Israel*

- Cryopreservation of pre-implantation embryos: state of the art

PRACTICAL LESSONS

Amir Arav *Israel* - **Luca Palazzese** *University of Teramo*

- Cryopreservation of sheep, bovine and pig pre-implantation embryos
- Marta Czernik - Debora Anzalone (bovine, pig) *University of Teramo*
- Pig and bovine embryo culture (day 6): evaluation of early blastocysts

THURSDAY, 21 APRIL

THEORETICAL LESSONS

Amir Arav *Israel*

- Vitrification of oocytes and pre-implantation embryos:
state of the art
- Vitrification vs Slow Freezing method
for the cryopreservation of oocytes
and pre-implantation embryos

PRACTICAL LESSONS

Amir Arav *Israel* - **Luca Palazzese** *University of Teramo*

- Vitrification of sheep/bovine/pig
of oocytes/pre-implantation embryos/blastocyst
- Thawing of oocyte/embryos previously cryopreserved
- Marta Czernik - Debora Anzalone** *University of Teramo* (bovine, pig)
- Pig and bovine embryo culture (day 7): evaluation of blastocysts

FRIDAY, 22 APRIL

THEORETICAL AND PRACTICAL LESSONS:

Pasqualino Loi - Marta Czernik - Paola Toschi

Debora Anzalone - Luca Palazzese *University of Teramo*

- Open discussion and conclusion

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