

# PROGRAM BOOK

## 39<sup>th</sup> Scientific Meeting

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Heraklion, Crete, Greece, 7<sup>th</sup> – 8<sup>th</sup> September 2023



# AETE

Association Européenne des Technologies de l' Embryon

Association of Embryo Technology in Europe

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# AETE

Association Européenne des Technologies de l' Embryon  
Association of Embryo Technology in Europe

## 39<sup>ème</sup> COLLOQUE SCIENTIFIQUE

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### 39<sup>th</sup> SCIENTIFIC MEETING

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**Dr. Sabine Meinecke-Tillmann**

**and**

**Dr. Burkhard Meinecke**

**Special Celebration**

\* \*

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**Heraklion, Crete, Greece, 7<sup>th</sup> – 8<sup>th</sup> September 2023**

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# Preface

Dear colleagues and friends,

We are excited to welcome you all to the 39<sup>th</sup> AETE Meeting in the stunning city of Heraklion – Crete, surrounded by the refreshing atmosphere of the Aegean Sea winds. Heraklion is a vibrant city, attracting annually over 3.5 million tourists, while it is the host city for approximately 20.000 university students. The five-star Galaxy Hotel is going to be our home for the three days of the meeting, where we will also enjoy a delightful Welcome Reception by the poolside.

The Meeting offers an excellent scientific program, featuring presentations from five distinguished invited speakers, as well as short oral presentations and, for the first time, four sessions of electronic poster presentations. Additionally, there will be a student competition and the always interesting practitioner's forum.

As social events are of great interest in any scientific meeting, the Local Organizing Committee decided instead of a gala dinner to introduce delegates to the traditional Cretan lifestyle, with a visit to Arolithos, a recreated traditional Cretan village. At Arolithos, we will taste a variety of Cretan cuisine plates, local wines and spirits, accompanied by the sounds of Cretan music. Rest assured, the farewell party will be westernized, and we will enjoy the nightlife at a city club with drinks, music and dancing until the early morning hours.

This year, the LOC collaborated with ARTION Conferences & Events, a renowned Greek Professional Congress Organiser (PCO). Their team, including Despina, Valentini and Efi, through their professionalism, provided valuable services to the organization of this meeting.

We would like to thank all sponsors of this event, especially the Greek companies, whose generous contributions are highly appreciated, even though their business interests may not directly align with the topics and aims of our association.

Dear friends, colleagues, and industry partners, we sincerely hope that this meeting will exceed your expectations and leave you with unforgettable experiences.

Looking forward to a successful Meeting!

Sincerely,  
the Board of Governors

the Local Organizing Committee

## LOC

Georgios S Amiridis – Chair of the LOC  
Constantinos Dafopoulos  
Eleni Dovolou  
Ioannis Tsakmakidis  
Ioannis Nanas  
Constantinos Zacharakis  
Christos Tzelepis



## ARTION

Despina Amarantidou  
Valentini Amarantidou  
Efi Papathanasiou



# General Information

## Conference Venue

Galaxy Hotel  
75 Dimokratias Av.  
71306, Heraklion, Crete – Greece  
Tel: +30 2810 238812, Fax: +30 2810 211211  
E-mail: galaxy@economouhotels.com  
www.economouhotels.com



## Opening hours registration desk

Wednesday September 6 <sup>th</sup>	18:00-20:00 h
Thursday September 7 <sup>th</sup>	08:00-18:00 h
Friday September 8 <sup>th</sup>	08:00-18:00 h

## Board of Governors AETE

Marja Mikkola, Finland	President
Hilde Aardema, The Netherlands	Vice President and Student Affairs
Jan Detterer, Germany	Treasurer
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Roger Sturmey, United Kingdom	Newsletter and Communications
Jane Morrell, Sweden	Scientific Committee
Pascal Salvetti, France	Representative of ET Industry & French Foundation
James Quinn, Ireland	ET Practitioner Affairs

## LOC members AETE 2023 Heraklion, Crete, Greece

Georgios S Amiridis – Chair of the LOC  
Constantinos Dafopoulos  
Eleni Dovolou  
Ioannis Tsakmakidis  
Ioannis Nanas  
Constantinos Zacharakis  
Christos Tzelepis

**The AETE Board acknowledge and thank the following people acting for the various juries:**

**Short Oral:**

Carina Blaschka  
Beatriz Macías García  
Maria-Teresa Paramio  
Monika Nömm

**Poster:**

Rosane Mazzarella  
Marie Saint-Dizier  
Ilga Sematovica  
Sonia Heras  
Naima Hamidallah

**Student Competition:**

Karolien Desmet  
Jo Leroy  
Cristina A Martinez-Serrano  
Ali Fouladi-Nashta  
Manuel Álvarez-Rodríguez

**AETE Manuscript and Abstract Reviewers**

Hilde Aardema  
Essraa Mohsen El-Assawe  
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Frank Becker  
Pablo Bermejo-Álvarez  
Aurélie Bonnet  
Amelie Bonnet-Garnier  
Pierre Bruyère  
Jose Buratini  
Michael Carroll  
Jaime Catalán  
Gilles Charpigny  
Sylvie Chastant  
Pascale Chavatte-Palmer  
Aleksandar Cojkic  
Pierre Comizzoli  
Rozenn Dalbies-Tran  
Alline de Paula Reis  
Isabelle Donnay  
Marta Dordas Perpinyà  
Francis Fieni  
Niamh Forde

Bart M. Gadella  
Cesare Galli  
Giselle Gamarra Lazo  
Bénédicte Grimard  
Benoit Guyonnet  
Michael Hoelker  
William Holt  
Isabelle Hue  
Maria Jimenez Movilla  
Anders Johannisson  
Abdolrahman Khezri  
Denise Laskowski  
Daniel Le Bourhis  
Bart Leemans  
Henry John Leese  
Jo Leroy  
Isabel Lima Verde  
Marc Llavanera  
Pol Llonch  
Waleed Marei  
Felipe Martínez Pastor  
Gabriela Mastromonaco  
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Pascal Mermillod  
Birgitte Narud

Theodoros Ntallaris  
Fabienne Nuttinck  
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Ylva Sjunnesson  
Cristina Soriano-Úbeda  
Nataša Šterbenc  
Juhani Taponen  
Ioannis A. Tsakmakidis  
Svetlana Uzbekova  
Ann Van Soom  
Miguel Velazquez  
Christine Wrenzycki  
Marc Yeste

## **Conference Language**

The official language of the conference is English. Simultaneous translation is not provided.

## **WIFI connection in the building**

Super high-speed internet is free in all hotel areas for all attendees during the conference days.

## **Cloakroom**

The cloakroom are not guarded and for use on personal responsibility only.

## **Badges**

For security reasons, we ask all participants of the conference to wear their name badges to all sessions and social events.

## **Messages**

Messages received for conference delegates will be posted on the message board near the registration desk.

## **Wheather**

It is still summer in the month of September in Heraklion, with an average temperature of 23°C and almost no rain.

## **Conference lectures: Zoom meeting**

During the meeting, a hybrid Zoom meeting of the lectures is not available.

## **Scientific sessions (see Maps of the Venue)**

The plenary sessions, Practitioners forum and workshop will take place in the Plenary Hall Plaza (Pool level, see Maps of the Venue).

## **Certificates of Attendance**

A certificate of attendance will be included in your congress bag.

## **Coffee and Lunches**

Coffee and lunches are included and offered to all attending delegates. Coffee and lunches will be served in the in the Exhibition Area (Lower level, see Maps of the Venue).

## **Transport in the city of Heraklion**

Hotel and social event location for the Farewell Party are in walking distance in the city centre of Heraklion; bus transportation starting at the Galaxy hotel will be provided for the Gala Diner.

## Poster sessions

To decrease our POSTER (FOOT)PRINT AETE goes digital this year!

There will be 4 TV screens with 5 min per poster incl. discussion (11 posters per screen), so be quick to pick a coffee and join to watch the posters & presenters in front of the screens.

Posters scheduled for the day will run during the morning and afternoon poster session of the day, so be sure to plan your poster sessions right to support the presenters!

The poster sessions will take place in the Park Area (Pool level, see Maps of the Venue).

**Day 1      Poster session I and II:**              Thursday 15<sup>th</sup>, 10.00-11.00 h and 16.00-17.00 h

**Day 2      Poster session III and IV:**              Friday 16<sup>th</sup>; 10.15-11.15 h and 16.00-17.00 h

SCREEN	DAY	Section	Abstract numbers
1	1 Session I/II	Short orals	11, 21, 23, 50, 51, 52, 55, 60, 68, 80, 82
2	1 Session I/II	OPU - IVF and ET	7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 19
3	1 Session I/II	Physiology and Reproduction in male semen technology	26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
4	1 Session I/II	Embryology, developmental biology, and physiology of reproduction	48, 49, 53, 54, 56, 57, 58, 59, 61, 62, 63
1	2 Session III/IV	Student competition Short orals	1, 2, 3, 4, 5 14, 25, 38, 40, 46, 47
2	2 Session III/IV	OPU - IVF and ET Cloning, transgenesis, and stem cells Support biotechnologies	20 76, 77, 78 79, 81, 83, 84, 85, 86, 87
3	2 Session III/IV	Physiology and Reproduction in male semen technology TAI/FTET/AI Folliculogenesis, oogenesis, and superovulation Practitioners and clinical	37, 39, 41, 42, 43, 44 6 22, 24 88, 89
4	2 Session III/IV	Embryology, developmental biology, and physiology of reproduction	64, 65, 66, 67, 69, 70, 71, 72, 73, 74, 75
5	Day 1 and 2	FREE TO SCROLL THROUGH ALL THE POSTERS	



## Social events

### Welcome Reception on Wednesday 6<sup>th</sup> September 20:00-22:00 h

The Welcome reception will take place at Galaxy Hotel in the Exhibition Area (Lower level, see Maps of the Venue).

### Gala Diner on Thursday 7<sup>th</sup> September 20:00-02:00 h

The gala dinner will take place at Arolithos Traditional Cretan Village

([Arolithos Traditional Cretan Village](#));

Rethymnon, Area Servili Tyliou PC 71500 - Heraklion - Crete - Greece

Tel : +30 2810 821050, Fax: +30 2810 821051

Bus transportation starting at the Galaxy hotel will be provided.

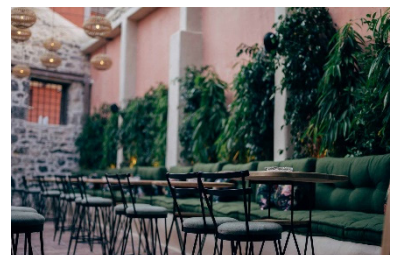
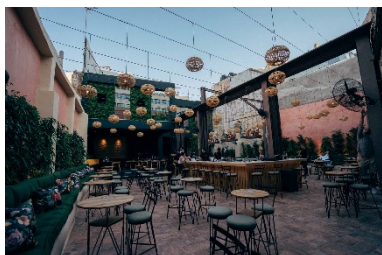


### Farewell party (Sponsored by Vetoquinol)

The Farewell party will take place at the Garden ([The Garden](#));

Agiou Titou 54, Heraklion, Crete

Phone: +30 281 028 8116



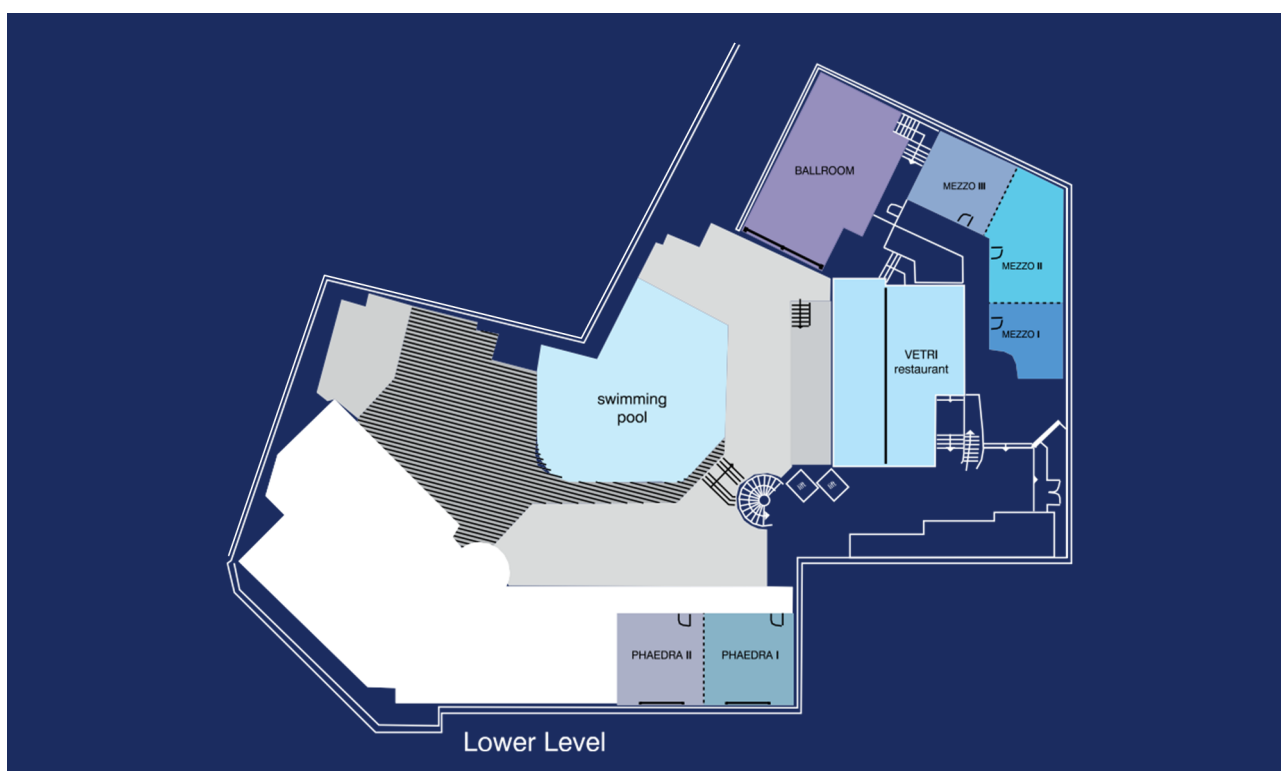
# Maps of the Venue

## GALAXY HOTEL IRAKLIO

75 Dimokratias Av., 71306, Heraklion, Crete – Greece

The AETE 2023 Meeting occupies the lower level and the pool level.

### Lower level



**BALLROOM:** Exhibition

**MEZZO II & III:** Exhibition

## Pool level



PLAZA:

Plenary Hall

PARK:

Posters/Screens

# Program of the Meeting

WEDNESDAY, September 6<sup>th</sup> 2023

18.30-20.00: Registration

20.00-22.00: Welcome Reception at the Galaxy Hotel

**THURSDAY, September 7<sup>th</sup> 2023**

**08.00-17.00:** Registration

**08.15-08.30:** Opening meeting: AETE President Marja Mikkola and LOC Chair Georgios Amoiridis

**SESSION 1: Chairpersons: HILDE AARDEMA & ROSANE MAZZARELLA**

**08.30-09.15:** *First invited lecture*

**Urban Besenfelder**, Institute of Animal Breeding and Genetics, University for Veterinary Medicine Vienna, Vienna, Austria.

*The interaction between the environment and embryo development in assisted reproduction*

**09.15-10.00:** Short oral communications (SO) & Flash talks (FT)

**Thanya Pranomphon et al.** *Oviduct epithelium spheroids support embryo development under oxidative stress conditions in cattle (SO)*

**Mohamed Hedia et al.** *High concentrations of lipopolysaccharides are associated with decreased progesterone concentrations in equine follicular fluid (SO)*

**Santa María Toledo Guardiola et al.** *Derived-proteome of extracellular vesicles from uterine fluid is modified depending on seminal plasma fraction during early pregnancy (FT)*

**Ramses Belda Perez et al.** *Effects of a polycaprolactone and polyethylene glycol diacrylate, 3-D printed scaffolds, on bovine embryo development in vitro (FT)*

**10.00-11.00:** POSTER SESSION I/II, EXHIBITION and coffee break

**SESSION 2: Chairpersons: TERESA MOGAS & ROGER STURMEY**

**11.00-11.45:** *Second invited lecture*

**Hilde Aardema**, Faculty of Veterinary Medicine, Utrecht University, The Netherlands.

*The impact of microplastics on female reproduction and early life*

**11.45-13.00:** Short oral communications: *Student Competition*

**Jessica Patricia Kurzella et al.** *Sex-specific contours of mitochondrial respiration characteristics at the pre-elongation stage in individual bovine embryos*

**Rosane Mazzarella et al.** *Embryo-induced alterations in the protein profile of bovine oviductal extracellular vesicles*

**Ben Meulders et al.** *Mitochondrial dysfunction during oocyte maturation and its impact on embryo epigenetic programming: mechanistic insights*

**Pilar Sòria-Monzó et al.** *ZP2 is essential for embryo development in golden hamster (*Mesocricetus auratus*)*

**Jiayi Yang et al.** *Uptake and effects of nanoplastics in maturing oocytes*

**13.00-14.30:** Lunch/Student Lunch

**SESSION 3: Chairpersons: JAN DETTERER & JIAYI YANG**

**14.30-15.15:** *Third invited lecture*

**Pietro Baruselli**, Departamento de Reprodução Animal, FMVZ-USP, São Paulo, Brazil.

*Applying assisted reproductive technology and reproductive management to reduce CO<sub>2</sub>-equivalent emission in dairy and beef cattle: a review*

**15.15-16.00:** Short oral communications & Flash talks

**Giselle Gamarra et al.** *Laser-Assisted Biopsy is an efficient technique to perform genetic analysis of Bovine Embryos in Selected Breeding Programs (SO)*

**Erik Mullaart et al.** *Birthweight data of IVP calves (SO)*

**Waleed Marei et al.** *Metabolic stress during the postpartum period in dairy cows might influence follicular growth dynamics at the time of breeding. A retrospective analysis (FT)*

**Dessie Salilew-Wondim et al.** *Sex-specific gene expressions of bovine elongated embryos triggered by the physiological conditions of the recipients (FT)*

**16.00-17.00:** POSTER SESSION I/II, EXHIBITION and coffee break

**17.00-18.45:** *Practitioners forum: SOPs for Donors and Recipients*

*Coordinated by Ana Isabel de Prado Taranilla and James Quinn. Sponsored by CALIER*

**20.00-02.00:** Traditional Cretan Dinner at Arolithos Traditional Cretan Village

FRIDAY, September 8<sup>th</sup> 2023

**SESSION 4: Chairpersons: JANE MORRELL, BEN MEULDERS & JESSICA KURZELLA**

**08.30-09.15:** *Fourth invited lecture*

**William Holt**, Department of Oncology and Metabolism, The Medical School, Sheffield, UK.

*Biobanks, offspring fitness and the influence of developmental plasticity in conservation biology*

**09.15-10.15:** Short oral communications & Flash talks

**Alba Pérez-Gómez et al.** *Transforming growth factor beta (TGFB) pathway is required for the proliferation of bovine extra-embryonic membranes following blastocyst hatching (SO)*

**Konstantina Asimaki et al.** *Endocrine disrupting chemicals induce alterations in lipid droplets of bovine cumulus cells (SO)*

**Phakjira Sanguansook et al.** *Decellularization of female domestic cat's reproductive organs: ovary, oviduct and uterine horn (SO)*

**Nuria Martínez de los Reyes et al.** *Optimization of heterologous IVF with Iberian ibex (*Capra pyrenaica*) sperm and domestic goat (*Capra hircus*) oocytes (FT)*

**Alexandra Marie Shattock et al.** *Localization of toll-like receptor 7 (TLR7) in bull, ram and dog spermatozoa and assessment of its use as a sexing target (FT)*

**10.15-11.15:** POSTER SESSION III/IV, EXHIBITION and coffee break, sponsored by ELANCO

**11.15-12.00:** General Assembly

**12.00-12.15:** Sponsor presentation

**12.15-13.45:** Lunch

**SESSION 5: Chairpersons: CHRISTINE WRENZYCKI & PILAR SÒRIA-MONZÓ**

**13.45-14.45:** Short oral communications & Flash talks

**Joaquín Gadea et al.** *Effective generation of double knock-out TPC1 and TPC2 porcine embryos by CRISPR-Cas9 electroporation of oocytes before insemination (SO)*

**Linda Marijke Haug et al.** *Cumulus cell gene expression identifies key mechanisms influencing porcine oocyte developmental competence (SO)*

**Marcos Luís Calero et al.** *Secretome of follicular fluid influences cytokine uptake by equine cumulus-oocyte complexes when added during in vitro maturation (SO)*

**Julieta Hamze et al.** *IZUMO1 is required for gamete fusion in rabbits (FT)*

**Véronique Duranthon et al.** *In vitro production of bovine embryos modified sex-dimorphisms in fetal liver methylome (FT)*

**14.45-15.45:** *Fifth invited lecture*

**Sabine Meinecke-Tillmann and Burkhard Meinecke**, Institute for Reproductive Biology, University of Veterinary Medicine, Hanover, Germany.

Lab partners: *Oocytes, embryos and company: A personal view on aspects of oocyte maturation and the development of monozygotic twins*

**15.45-16.00:** *Pioneer award 2023-Sabine Meinecke-Tillmann and Burkhard Meinecke AETE Medalist Presentation, introduced by Christine Wrenzycki and Martin Gehring*

**16.00-17.00:** POSTER SESSION III/IV, EXHIBITION and coffee break

**17.00-18.30:** *Workshop: Animal welfare in ARTs*

Chaired by **Pascal Salvetti**, Eliance and **Hélène Quinton**, Synetics, France

**Ana Granados Chapatte**, EFFAB, Belgium & **Eva Sossidou**, Hellenic Agricultural Organization-Demeter, Greece & **Alline De Paula Reis**, Ecole Nationale Vétérinaire d'Alfort, France: *Animal welfare context and consequences on embryo technologies business.*

**Pascal Salvetti**, Eliance, France & **Fritz Beyer**, Institute for Reproduction of Farm Animals Schönow, Germany: *How professionals react and take into account these aspects.*

**18.30-19.00:** Closing session:

Results of competitions and elections and invitation to the AETE Conference 2024

**20.00-24.00:** Farewell party: The Garden. Sponsored by VETOQUINOL

## POSTERS

### STUDENT COMPETITION

1. Jiayi Yang, Jorke H. Kamstra, Hilde Aardema: *Uptake and effects of nanoplastics in maturing oocytes.*
2. Ben Meulders, Waleed F.A. Marei, Peter E.J. Bols, Jo L.M.R. Leroy. *Mitochondrial dysfunction during oocyte maturation and its impact on embryo epigenetic programming: mechanistic insights.*
3. Rosane Mazzarella, José María Sánchez, Beatriz Fernandez-Fuertes, Sandra Guisado Egido, Alberto Álvarez-Barrientos, Esperanza González, Juan Manuel Falcón-Pérez, Mikel Azkargorta, Félix Elortza, Encina González, Pat Lonergan, Dimitrios Rizos. *Embryo-induced alterations in the protein profile of bovine oviductal extracellular vesicles.*
4. Pilar Sòria-Monzó, Yanan Liu, Rong Li, Miriam Balastegui-Alarcón, Paula Cots-Rodríguez, José Ballesta, Zhongde Wang, Manuel Avilés, María José Izquierdo-Rico. *ZP2 is essential for embryo development in golden hamster (*Mesocricetus auratus*).*
5. Jessica Patricia Kurzella, Franca Rings, Ernst Tholen, Christine Große-Brinkhaus, Dessie Salilew-Wondim, Eva Held-Hoelker, Michael Hoelker. *Sex-specific contours of mitochondrial respiration characteristics at the pre-elongation stage in individual bovine embryos.*

### TAI/FTET/AI, OPU - IVF and ET

6. Eleni Dovolou, Alexia Fytsilli, Themistoklis Giannoulis, Ioannis Nanas, Aikaterini Ntemka, Ilektra Kateri, Katerina Moutou, Zissis Mamuris, Georgios S Amiridis. *Zinc sulfate attenuates the negative effects of Roundup on in vitro bovine oocyte maturation.*
7. Michal A. Kosior, Maria P. Benitez Mora, Maria T. Alfano, Federica Piscopo, Riccardo Esposito, Valentina Longobardi, Giuseppe Alberio, Salvatore Monti, Giorgio A. Presicce, Bianca Gasparrini. *Single administration of FSH delivered in hyaluronic acid for ovarian Stimulation prior to ovum pick up in Italian Mediterranean buffalo.*
8. Henar Gonzalez-Ramiro, Maria A. Gil, Cristina Cuello, Josep M. Cambra, Alejandro Gonzalez-Plaza, Juan M. Vazquez, Jose L. Vazquez, Heriberto Rodriguez-Martinez, Alejandro Lucas-Sanchez, Inmaculada Parrilla, Cristina A. Martinez, Emilio A. Martinez. *The use of a brief synchronization treatment after weaning, combined with superovulation, affects the gene expression of surviving blastocysts.*
9. Erik Mullaart, Geart Ludema, Helga Flapper, John Hepburn, Björn Oback. *Birthweight data of IVP calves.*
10. Miguel A. Gutierrez-Reinoso, Cesar J. Arreseigor, Melany G. Córdor, Luisa M. Coyago, Arnaldo Mosqueira, Alejandra De los Rios, Silvano Mosqueira, Fernando Arza-Spinzi, Alejandro Pereira, Manuel Garcia-Herrerros. *HCG application at the time of embryo transfer in Brangus cattle recipients: Effects on pregnancy rate under tropical heat-stress conditions.*
11. Cesar J. Arreseigor, Miguel A. Gutierrez-Reinoso, Arnaldo Mosqueira, Alejandra De los Rios, Silvano Mosqueira, Fernando Arza-Spinzi, Alejandro Pereira, Manuel Garcia-Herrerros. *Ovum pick-up (OPU) in Bos indicus dairy cattle breeds: Oocyte recovery rates and in vitro embryo production using unsorted and sex-sorted sperm.*

12. Cesar J. Arreseigor, Miguel A. Gutierrez-Reinoso, Arnaldo Mosqueira, Alejandra De los Rios, Silvano Mosqueira, Fernando Arza-Spinzi, Alejandro Pereira, Manuel Garcia-Herreros. *Embryo transfer in Brangus cattle recipients: Effects of transfer side on pregnancy rate and embryonic/fetal loss under subtropical conditions.*
13. Izabela Woclawek-Potocka, Milena Traut, Ilona Kowalczyk-żieba, Dorota Boruszewska, Joanna Jaworska, Sandra Gasiorska. *Are there any differences between blastocysts derived from prepubertal and pubertal heifers in the aspect of mitochondrial function?*
14. Nuria Martínez de los Reyes, Melissa Carvajal-Serna, Pilar Marigorta, Patricia Peris-Frau, Julián Santiago-Moreno, Pablo Bermejo-Álvarez, Priscila Ramos-Ibeas. *Optimization of heterologous IVF with Iberian ibex (*Capra pyrenaica*) sperm and domestic goat (*Capra hircus*) oocytes.*
15. Maleke Dimpho Sebopela, Masindi Lottus Mphaphathi, Sindisiwe Mbali Sithole, Tlou Caswell Chokoe, Tshimangadzo Lucky Nedambale. *Correlation between sperm traits and in vitro fertilization outcomes in X-sexed and non-sexed sperm.*
16. Selim Alcay, Hakan Sagirkaya. *Effect of embryo transfer application on pregnancy success in repeat breeder cows and heifers.*
17. Eleni Dovolou, Leda Oikonomopoulou, Ioannis Nanas, Georgios S Amiridis. *Acylated ghrelin diminishes the superovulatory response in dairy sheep.*
18. Hemant D. Kadam, Prasad D. Deshpande, Gautami S. Joshi, Vitthal N. Ghadge, Jayant R. Khadse, Ashok B. Pande. *Comparative study of In-vitro embryo production (IVEP) in Gir & Sahiwal (*Bos indicus*) Indian cattle breeds Sahiwal (*Bos indicus*) Indian cattle*
19. Ann-Selina Fries, Lukas Demattio, Christine Wrenzycki. *In vitro maturation of bovine oocytes using a portable CO<sub>2</sub> incubator*
20. Armando Quintero-Moreno, Sebastián Canovas, Sonia Heras, Jon Romero-Aguirregomez-corta, Joaquín Gadea, Rakel Romar. *Preliminary results on glycaemic response after oral glucose tolerance test (OGTT) in sows derived from assisted reproductive technologies.*
21. Giselle Gamarra, Nicole Hagen, Serge Lacaze. *Laser-Assisted Biopsy is an efficient technique to perform genetic analysis of Bovine Embryos in Selected Breeding Programs.*

<b>FOLLICULOGENESIS, OOGENESIS and SUPEROVULATION</b>
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22. Miguel A. Gutierrez-Reinoso, Andres Vera-Cedeño, Melany G. Córdor, Luisa M. Coyago, Ignacio Cabezas, Florence I. Hugues, Natalie C. Parra, Oliberto Sánchez, Jorge R. Toledo, Manuel Garcia-Herreros. *Recombinant FSH (bscrFSH) vs. pituitary FSH (FSH-p): Ovarian response and in vitro embryo production in superovulated Brahman cattle.*
23. Waleed F.A. Marei, Jessie De Bie, Inne Xhonneux, Jo L.M.R. Leroy. *Metabolic stress during the postpartum period in dairy cows might influence follicular growth dynamics at the time of breeding. A retrospective analysis.*
24. Fataneh Ghafari, Richard Piercy, Ali Fouladi-Nashta. *Beneficial effects of melatonin in hypoxic condition on canine oocyte nuclear maturation through reduction of oxidative stress.*
25. Konstantina Asimaki, Richard Wubbolts, Hilde Aardema, Majorie van Duursen, Bart Gadella. *Endocrine disrupting chemicals induce alterations in lipid droplets of bovine cumulus cells.*

## PHYSIOLOGY OF REPRODUCTION in MALE and SEMEN TECHNOLOGY

26. Ilda G. Fernández, Gerardo Duarte, Horacio Hernández, María J. Palomo, Raúl Ulloa-Arvizu, José A. Flores. *Sexually inexperienced photo-stimulated bucks increased plasma testosterone concentrations during first contact with nulliparous and multiparous anestrous goats.*
27. Sylwia Dudkiewicz, Patricia Peris-Frau, Helena Nieto-Cristóbal, Julián Santiago-Moreno, Eduardo de Mercado, Manuel Álvarez-Rodríguez. *Bicarbonate and caffeine trigger capacitation-like changes (acrosome damage) in boar sperm after 2 h in vitro incubation.*
28. Nerea Gala, Eduardo de Mercado, Helena Nieto-Cristóbal, Manuel Álvarez-Rodríguez. *Evaluation of the progesterone inhibitor RU486 in boar sperm cryopreservation.*
29. Patricia Peris-Frau, Ana Sanchez-Rodriguez, Rosario Velázquez, Adolfo Toledano-Díaz, Cristina Castaño, Eduardo R. S. Roldan, Julián Santiago-Moreno. *Bioenergetics changes during in vitro capacitation of ram spermatozoa.*
30. Estíbaliz Lacalle, Estela Fernández-Alegre, Belén Gómez-Giménez, Guillermo Rivas, Andrés Hernández-Barriuso, José Ramiro González-Montaña, Felipe Martínez-Pastor, Cristina Soriano-Úbeda. *Multidimensional characterization of the pig sperm chromatin by flow cytometry*
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#### CLONING, TRANSGENESIS, and STEM CELLS

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#### SUPPORT BIOTECHNOLOGIES, CRYOPRESERVATION and CRYOBIOLOGY, DIAGNOSIS THROUGH IMAGING, MOLECULAR BIOLOGY and “OMICS”

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<b>PRACTITIONERS and CLINICAL REPORTS</b>
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