



# AETE

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

July 2018

AETE Newsletter Issue 49

Editor: [Roger Sturmey](#)

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## ***PRESIDENTS LETTER***

Dear colleagues and friends,

Hope you all had a very productive winter and spring and I am certain that you are all looking forward to well-earned summer-holidays for a “relax” and spend time with family, friends or to yourselves. I am pleased to announce the 34<sup>th</sup> Annual Scientific Meeting, which will be held in the Nantes, a city on the Loire River in the Upper Brittany region of western France, from the 7<sup>th</sup> to 8<sup>th</sup> of September 2018. The LOC chaired by Daniel Le Bourhis, has chosen the beautiful congress center « la cite » located downtown of Nantes for the conference and an excellent social program.

The scientific program put together by the board of AETE is very inspiring covering most interests of our members. Starting with Dr. Marcelo M. Seneda, University of Lodrina, Brazil who will talk about “*Ovarian antral follicle populations and embryo production in cattle*”, while Dr. Helen Picton, University of Leeds, U.K, will give an overview on “*Preservation of female fertility in humans and animal*

*species*”. Dr. Pablo Bermejo-Alvarez, INIA, Spain, will provide an outline on the “*Directions and applications of CRISPR technology in livestock research*” followed by Dr. Fabienne Nuttinck, University of Paris Saclay, France on “*Oocyte related factors impacting on embryo quality: relevance for “in vitro” embryo production*”. We will have 17 short oral communications including the student competition and two workshops. Workshop I will be managed by Dr. Francis Fieni, Ecole Nationale Veterinaire, Nantes, France on “*Sanitary and regulations on embryo transfer*”, while Workshop II will be led by Dr. Teresa Mogas, University Autonoma of Barcelona, Spain on “*Preservation of in vitro produced embryos*”. This year we have over 80 accepted abstracts to be presented as posters.

It is a great honor for all board members and for me personally to present Prof. Patrice Humblot, Swedish University of Agricultural Sciences, Sweden as the 2018 AETE Medallist. Prof. Humblot has been working in applied research in UNCEIA (National Union of French Breeding companies) in the field of ruminant reproduction from 1978 to 2010. His main scientific topics of interest were on: female reproductive function, embryo mortality, in vitro embryo production, embryo genotyping, ..... In 2010 he joined the Division of Reproduction, Department of Clinical Sciences, Faculty of Veterinary Medicine and Animal sciences, SLU, Uppsala (Sweden) as professor in Reproductive Physiology. Currently his research focus on the use of phenotypic characterization and of various molecular approaches with the aim to identify markers of reproductive robustness in animals exposed to metabolic imbalance or to infection. His scientific contributions are recognized internationally. Prof. Humblot has been a member of the AETE family since the early days.

Prizes for the “best poster” and the “best oral presentation”, in addition to the student competition will be continued this year. All abstracts and invited papers were reviewed thoroughly thanks to the great collaboration of authors, section chairs and reviewers and will be published in July-September 2018 issue of Animal Reproduction (the official journal of the

Brazilian College of Animal Reproduction) together with the 32<sup>nd</sup> SBTE's annual meeting which will be held August 16-18, 2018 in Florianopolis, Brazil.

I'm really looking forward to welcoming you all on Thursday evening 6<sup>th</sup> of September at the welcome reception at "La Cité Nantes Event Centre", while Friday night, after a full day of science and several interesting scientific talks and discussions, we will enjoy the Gala Dinner at "les salons du Nantilus", floating restaurant on La Loire river. We will continue enjoying the fruitful scientific talks and discussions on Saturday headed to the farewell party in "Les Salons des Floralties" where you can taste the regional specialty "les crepes" in its salty and sweet forms! Do not forget to make your hotel reservation as soon as possible for our 2018 AETE Meeting in Nantes, very attractive city for tourists. More information about traveling to Nantes and hotel reservation you will find in our web page, [www.aete.eu](http://www.aete.eu)

Every annual meeting of our society depends also on the support of our sponsors (until 19<sup>th</sup> of July 2018): Main: [*Vetoquino*]; General: [*Ceva*] [*imv TECHNOLOGIES*] [*Nantes Metropole*]; Exhibitors: [*APIS-GENE*] [*Bodinco*] [*COOK MEDICAL*] [*DRAMINSKI*] [*EGG TECH*] [*HuVe Search*] [*INRA*] [*icp REPRODUCTION*] [*ivf BIOSCIENCE*] [*IVF tech*] [*minitube*] [*Nikon*] [*PETS*] [*STIMUFOL*] [*Zoetis*]; Supporters: [*Allice*] [*AURIVA*] [*dominique Dutscher*] [*EmbryoCloud*] [*EVOLUTION*] to whom we are deeply grateful.

Finally, after three years being honored to serve AETE as a president, after the meeting in Nantes my term is over, I am taking this opportunity to express my sincere gratitude to you all (members, board, LOCs) for your considerations/encouragement/guidance / support / thoughtfulness / time / ..... during this term. AETE today is one of the leading societies on Embryo Technologies not only in Europe but worldwide for scientists, practitioners, pre and post-graduate students and early career researchers. Together with current and past board members I tried to keep up the "scientific" and "family spirit" of the society and hope that I have met your expectations! I am proud to have been a part of this successful process and looking forward to great future of AETE.

Wishing you all a great summer and looking forward to seeing you in September in Nantes.

Dimitrios Rizos

AETE President

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## AETE BOARD MEMBERS

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# *IVF-ET AND THE GREAT WHITE HOPE..*

Last year's AETE Medallist, Prof Cesare Galli and colleagues have recently put their extensive expert knowledge of IVF-ET to conservation and the possibility of restoring a species that is all but extinct.



*Northern White Rhinoceros (Image from Wikimedia commons – copyright free)*

Northern white rhino is a sub-species of the white rhinoceros, and the last surviving male, Sudan, was euthanised in March. With his death, there remained only two ageing females; a crash in numbers from almost 2500 in the 1960s. As a consequence, the Northern White Rhino is functionally extinct.

In recent work published in Nature Communications, a team led by Prof Galli, were able to adapt existing techniques for Assisted Reproduction to generate, for the first time, hybrid rhino embryos, using oocytes from Southern Whites and sperm from the Northern White Rhino. Success was measured in terms of blastocysts being formed, and the quality of these blastocysts was assured by generated ES cell lines – rhino embryonic stem cells.

The details of this elegant work are described in the open access article, which can be found by clicking [here](#). However, merely being able to perform OPU in a female rhino is a hugely impressive feat – careful ovarian stimulation was needed. In addition, sperm retrieval was used based on protocols developed for elephants before ICSI was carried out. Fascinatingly, we see the appearance of 'old standards; in terms of culture medium – well familiar to anyone who has ever made bovine embryos. Sperm preparation was carried out in TALP and embryo culture carried out in modified SOF.

This fabulous research is an inspiring example of how ART can be used to have real, global impact. While bringing back the Northern White Rhino form

extinction may seem a step too far, given that the only females are infertile and there remain no living males, this work is of crucial importance for the retention of important genes within the Northern White, with potential importance for the maintenance of genetic diversity. Congratulations to all involved in this super work!

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## *IN MEMORIAM*

### **Ray Newcomb**

The AETE was saddened to learn of the death of Ray Newcomb, former AETE UK Board member and vice president. Ray was the recipient of the AETE Medal in 2006 for his pioneering work on superovulation, fertilisation, embryo transfer, the use of PGF2a and embryo manipulation and culture amongst many other studies in cattle and sheep. Further details of Ray's significant contributions are detailed in the Proceedings of the AETE meeting from 2006 which may be found [here](#):

### **John Biggers**

The field of reproductive biology lost one of its original pioneers earlier this year, with the death of Prof John Biggers. Prof Biggers trained as a veterinary surgeon at the RVC London, before completing his PhD in Sydney, which was focused on the measurement of oestrogens. Prof Biggers range of scientific accomplishments in our field is almost unparalleled, having performed instrumental studies relating to the composition of embryo culture medium (notably the development of KSOM), however his most remarkable work was in collaboration with Anne McLaren, who together published the first report of in vitro derived of embryos that yielded live offspring – published in 1958 [in Nature](#). He moreover mentored a number of students, notably Prof Ralph Brinster, who produced the first transgenic mice, and Prof David Whittingham who was the first to freeze mammalian embryos. More details of Prof Biggers' work can be found [here](#)

Both Ray Newcomb and John Biggers are significant losses to our community, but their memories and impact will live on through their interactions and significant contributions.

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## *ET DATA COLLECTION:*

### *UPDATE*

Marja Mikkola has been working actively with all national data collectors to obtain and analyse the latest data on ET activity in Europe. This will be presented at the AETE Annual conference in Nantes, before being published in the December issue of the newsletter.

# INVITATION TO THE 34<sup>TH</sup> ANNUAL MEETING OF THE AETE – SEPT 7-8, 2018

On behalf of the Association of Embryo Technology in Europe, the local organizing committee, chaired by M. Daniel Le Bourhis, is pleased to invite you to the 34<sup>th</sup> annual scientific meeting in the city of Nantes, West France, from the 7<sup>th</sup> to 8<sup>th</sup> of September 2018.



The French map with Nantes's localisation

## Some reasons to come to Nantes

Nantes, ranked 6<sup>th</sup> of the largest cities from France, is located at the mouth of the longest river in France, La Loire, which is the last wild river in Europe.



Panoramic view of Nantes and its island.

For more details on Nantes city, click here:

<https://en.nantes.fr/home.html>

Nantes strikes a remarkable balance between its historical heritage, innovation, economy and culture. Nantes is, by nature, a welcoming, creative and forward-looking city.

## Historical heritage

Nantes was a port city, near the Atlantic Ocean, which has developed thanks to its river La Loire. In the 15<sup>th</sup> century, Nantes became the capital of the Bretagne, a crucial place for political power and the life of the Court. This period was marked by the construction of the Castle of the Dukes of Brittany, the cathedral Saint-Pierre et Saint-Paul, that you can visit during your free time.



View of the Castle of the Dukes of Brittany downtown of Nantes.

Thanks to its waterways and maritime routes, Nantes has developed its commerce (essentially salt, fishes and wines) to Portugal, Holland and Spain until the 17<sup>th</sup> century. In the 18<sup>th</sup> century, a traumatic period of the Nantes history has unfolded, because the city has become the first French slave port. This part of history, for a long time denied, is now presented in the memorial for the abolition of slavery, unique in France.

In 1843 under the last king Louis-Philippe's reign, "le passage Pommeraye" was inaugurated. The name of this commercial passage (with 66 shops) derives from a young notary called Louis Pommeraye, who wanted to transform an unsafe and bad neighbourhood to a passage with luxurious shops as in Paris. Classified as historic monument since 1976, this commercial passage is an amazing place to stroll with an exuberant decoration from a mix between neo-classicism and Louis Philippe's eclecticism.



View of the "passage Pommeraye".

## "Green and Blue city"

In 2013, Nantes was labelled Green Capital of Europe, to reward its avant-garde environmental

politics for sustainable development, which allowed a high quality of life in the metropolis. With more than 100 parks and gardens, 13,000 hectares of protected spaces and 3,000 hectares of accessible green spaces in greater Nantes, there is no lack of breathing space!



View of botanic garden (left) and the banks of Erdre (right)

### ***Culture, gastronomy, art and creativity***

There is so much to discover in Nantes... Culture abounds in the city with 34 theatres and auditoriums, 15 museums, historic areas (as “le Quartier Bouffay” from the old Nantes) and numerous events demonstrating the Nantes’ creativity “Les Machines de l’île de Nantes”, “Estuaire”, “la Folle journée”... For more details, click on <https://en.nantes.fr/home/exploring-nantes.html>

In Nantes, you can taste local specialities: seafood, Loire valley wines (Muscadet...), Nantes cakes, boiled sweets and the famous Petit Beurre Lu biscuits!

### **The conference location**

In 2018, the meeting will take place in “La Cité, Nantes events Center”, located in the heart of Nantes on the banks of the canal Saint-Felix, facing the train station (south exit) and at 20 min from airport. This conference centre, bathed in natural daylight thanks to its glass and wood structures, is a suitable warm place to exchanges. It is situated very close to several historical monuments, as the Castle of the Dukes of Brittany, the cathedral Saint-Pierre et Saint-Paul...



View of La Cité, Nantes events Center.



View of the auditorium, La Cité Nantes events Centre

### **Very easy to travel to Nantes**

#### ***By Plane***

Nantes Atlantique Airport (LFRS-NTE) serves 65 national and international destinations by direct flight Madrid, London, Amsterdam are at only one hour and a half flight from Nantes! Many cities are directly connected to Nantes Atlantique Airport: from European countries (Alicante, Amsterdam, Barcelona, Berlin, Brussels, Dublin, Dusseldorf, Edinburg, Gatwick, Geneva, Hamburg, Lisbon, Liverpool, London, Luton, Madrid, Munich, Porto, Varna, Vienna, Southampton...) and from France (Lille, Lyon, Marseille, Nice, Paris Charles de Gaulle/Roissy, Paris Orly...).



View of Nantes Atlantic Airport.

Please click here for more details on flights

<http://www.nantes.aeroport.fr>

At arrival in Nantes Atlantic Airport, you will be welcome by a **special desk with all information you will need** to join the La Cité congress centre and also your hotel.

Anyway, you can easily join the conference center by:

- Shuttle airport to city centre: station “Lieu Unique” about 20 minutes –of travel / every 30 minutes ([www.tan.fr](http://www.tan.fr))  
For more details on price, schedules and stations click on:

[Airport shuttle-schemalines-2017-2018.pdf](#)

[Airport-shuttle-timetables--from-08-28-17-to-08-26-18.pdf](#)

### **By train (TGV)**

The TGV train station is located in front of the City (south exit). Nantes is only 2 hours from Paris (Monparnasse station with 21 trains a day) and at 3 hours from Paris-Roissy CDG airport (4TGV a day). TGV Lines connect big cities in France (Lyon, Lille, Strasbourg, and Marseille)



View of Nantes TGV station.  
Please click here for more details on travels (<http://www.voyages-sncf.com>).

### **By car**

Nantes is the point of convergence of numerous highways (N165 / E60 towards Brest and Quimper, N137 towards Rennes) and expressways (A11 towards Angers, Le Mans and Paris and A83 towards Niort, Bordeaux and Toulouse).

You can easily park the car at the parking “Cité Internationale des Congrès” with 450 parking spaces and more than 2000 places available in the surrounding parking lots ([www.parkings-nantes.fr](http://www.parkings-nantes.fr)).

### **By public transports**

In Nantes city, you can travel by:

- Tramway: line1 – station “Duchesse Anne – Château des Ducs de Bretagne”([www.tan.fr](http://www.tan.fr))
- Busway: Line 4- station “cité internationale des congrès” ([www.tan.fr](http://www.tan.fr))

- Self-service bikes “Bicloo” and “Marguerite” cars: the station is at the foot of La Cité (<http://www.bicloo.nantesmetropole.fr>; <http://www.imarguerite.com>)

### **Various opportunities for accommodation in Nantes**

For the AETE meeting, several hotels located near La Cité, Nantes events center have been selected as privileged partners. With the “AETE2018” code, you will have attractive prices by reserving by email or by phone for the following hotels:

- **Novotel Cité des congrès**  
4\*, Phone: 02 51 82 00 00  
[h1571@accor.com](mailto:h1571@accor.com)

- **Residence Resihome Berges de la Loire**  
4\*, Phone: 02 40 99 07 07  
[nantes-bergesdelaloire@residhome.com](mailto:nantes-bergesdelaloire@residhome.com)

- **Appartcity des congrès**  
3\*, Phone 02 51 89 76 10  
[nantes-congres@appartcity.com](mailto:nantes-congres@appartcity.com)

- **Ibis gare**  
3\*, Phone: 02 40 20 21 20,  
[h0892@accor.com](mailto:h0892@accor.com)

- **Hôtel Belfort**  
3\*, Phone: 02 40 47 05 57,  
[contact@hotelbelfortnantes.fr](mailto:contact@hotelbelfortnantes.fr)

For more details on price, location, click on:

[Partner-hotels-Congres-AETE-sept-2018.pdf](#)



Localisation of hotel partners of the AETE congress.

### Evenings of AETE congress in Nantes

#### Thursday 6<sup>th</sup> September 2018: Welcome Reception

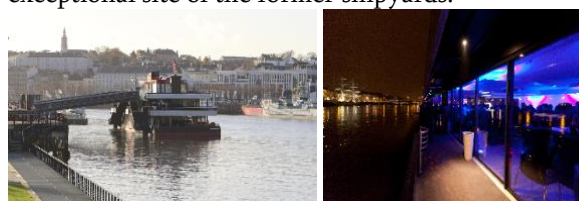
For those of you who will be arriving on Thursday the 6<sup>th</sup>, a welcome reception will take place at the Mezzanine level at La Cité Congress Centre, where registration and the AETE scientific congress will be held.



View of La Mezzanine, La Cité

#### Friday 7<sup>th</sup> September 2018: Gala Diner

Before the Gala Dinner at “les salons du Nantilus” (floating restaurant on La Loire) and the traditional dancing party up to 2am, you can discover the Great Elephant from “les Machines de l’île”, born from the François Delarozière and Pierre Orefice’s imagination. You will be immersed in the worlds of Jules Verne, of Leonardo da Vinci, and of Nantes’ industrial history, on the exceptional site of the former shipyards.



Views of “les salons du Nantilus”



The Great Elephant from “les Machines de l’île”.

#### Saturday 8<sup>th</sup> September 2018: Farewell party

The farewell party will take place at “Les Salons des Floralies”, where you can taste the regional speciality “les crêpes” in its salty and sweet forms accompanied by local cider! You’ll get a warm welcome from a traditional music band and a dancing group from Nantes will show us traditional folklore dances from Brittany!



Les Salons des Floralies



The typical « crêpes »

**Therefore, we look forward to welcome you in Nantes in 2018 for the 34<sup>th</sup> AETE meeting. We hope that you will have a successful meeting and will enjoy your stay in the beautiful city of Nantes.**

#### The local organizing committee

LOC representatives (in alphabetic order):

L. Amirat-Briand, J-F. Bruyas, O. Desnoé, S. Elis, F. Fieni, D. Le Bourhis (chair), V. Maillard, P. Mermillod, M. Saint-Dizier, P. Salvetti and H. Quinton.

For any assistance from the LOC, please email: [daniel.lebourhis@alice.fr](mailto:daniel.lebourhis@alice.fr)

IT'S NOT TOO LATE TO REGISTER:

<http://aete.eu/index.php/registrations-for-meetings>



## *UPCOMING EVENTS*

### **32<sup>nd</sup> Annual Meeting of the SBTE**

Florianopolis, Santa Catarina, Brazil

August 16-19, 2018

<http://sbte2018.com.br/index/en>

### **27<sup>th</sup> Annual Congress of SIET**

September 14-15, 2018

Deschiera Del Garda, Italia

<http://www.sietitalia.it/convegnoannuale.html>

### **10<sup>th</sup> International Ruminant Reproduction Symposium**

Foz do Iguaçu, Brazil

September 16-20, 2018

<http://www.sbte.org.br/IRRS2018/>

### **22<sup>nd</sup> Annual ESDAR Conference**

University of Cordoba, Spain

Sept 27-29, 2018

<http://www.esdar.org/esdar-conference-2018/announcement-2018-gb-1.html>

### **2018 AETA & CETA/ACTE Joint Annual Convention**

Montreal, Quebec, Canada

September 27-29, 2018

<https://www.aeta.org/2018/default.asp?autotry=true&ULnotkn=true>

### **26<sup>th</sup> World Congress on Controversies in Obstetrics, Gynecology and Infertility (COGI)**

London, UK

November 23-25, 2018

<http://cogi-congress.org/>

### **Fertility 2019 – The 12<sup>th</sup> Joint Conference of the UK Fertility Societies**

January 3-5, 2019

Birmingham, UK

<https://fertilityconference.org>

### **45<sup>th</sup> Annual Conference of the IETS**

New Orleans, Louisiana

January 20-23, 2019

<https://www.iets.org/2019/>

### **52<sup>nd</sup> Annual Meeting of the Society for the Study of Reproduction (SSR)**

San Jose, California

July 18-21 2019

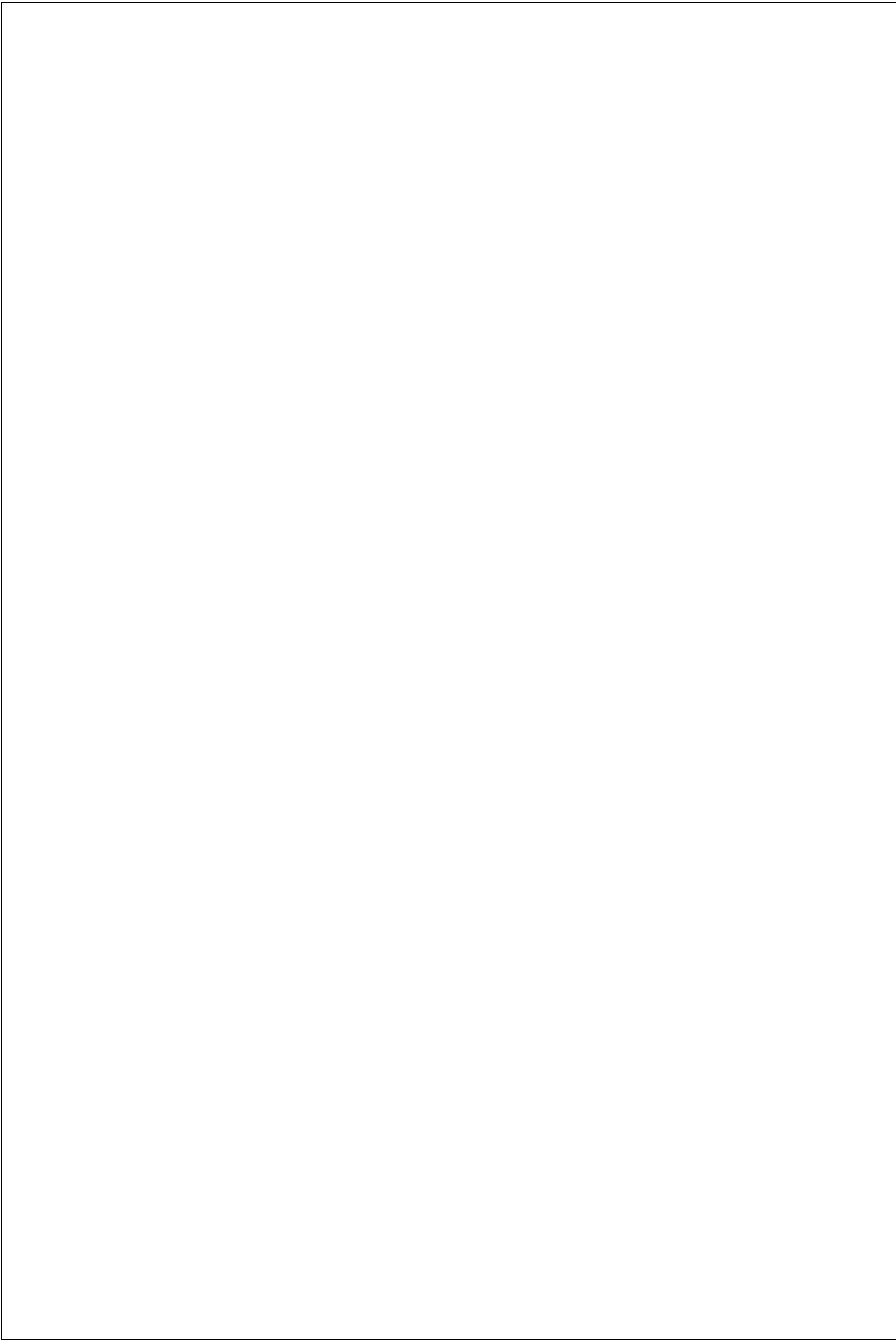
<http://www.ssr.org/event/2017/aug/ssr-2019-annual-meeting>

### **International Symposium on Ruminant Physiology**

Leipzig, Germany

September 3-6, 2019

<http://www.isrp2019.com>



# *AETE MEETING PROGRAMME 2018*



# AETE

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

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

“La Cité Nantes Events Centre”

Nantes, France

PROGRAMME

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7<sup>th</sup> and 8<sup>th</sup> September, 2018  
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**THURSDAY, September 6<sup>th</sup> 2018**

- 18.30-20.00: Registration  
20.00-22.00: Welcome Reception at La Cité Nantes Events Centre

**FRIDAY, September 7<sup>th</sup> 2018**

- 08.00-17.00: Registration  
08.45-09.00: Opening meeting: AETE President Dimitrios Rizos and Chair of the LOC Daniel Le Bourhis

**SESSION 1: Chairpersons: MARJA MIKKOLA & ROGER STURMEY**

- 09.00-09.45: First invited lecture:  
**Marcelo M. Seneda**, Department of Veterinary Clinics, State University of Londrina, Brazil:  
*Ovarian antral follicle populations and embryo production in cattle*
- 09.45-10.30: Second invited lecture:  
**Helen Picton**, Faculty of Medicine and Health, University of Leeds, UK:  
*Preservation of female fertility in humans and animal species*
- 10.30-11.30: POSTER SESSION 1 and coffee break

**Student Competition SESSION: Chairperson: JO LEROY**

- 11.30-12.45: Short oral communications  
**T Hailay et al.**; *Detection of cell-free DNA in embryo culture medium: its potential application as a noninvasive method for sex determination in cattle*  
**C Banliat et al.**; *Physiological concentrations of steroid hormones during in vitro culture changed lipid composition and improved cryosurvival of bovine embryos*  
**B Rodríguez-Alonso et al.**; *Local embryo effect on the transcriptomic response of the oviductal epithelial cells results from in vivo and in vitro approaches*  
**PK Fontes et al.**; *Detection of adult stem cell marker leucine-rich repeat-containing G-protein-coupled receptor 5 (LGR5) transcripts in bovine oviduct epithelial cells*  
**JG Hamze et al.**; *Design of pJuno-beads to study the molecular mechanisms of sperm-oocyte interaction*
- 12.45-14.00: Lunch

**SESSION 2: Chairpersons: HILDE AARDEMA & DANIEL LE BOURHIS**

- 14.00-14.45: Third invited lecture:  
**Pablo Bermejo-Alvarez**, Department of Animal Reproduction, INIA, Madrid, Spain:  
*Directions and applications of CRISPR technology in livestock research*
- 14.45-15.45: Short oral communications  
**M Ramal Sanchez et al.**; *Progesterone induces sperm release from bovine oviductal epithelial cells by modification of the sperm protein and lipid compositions*  
**PJ McKeegan et al.**; *The use of a novel microfluidic culture device and predictive metabolic profiling as a means to improve murine embryo developmental competence in vitro*  
**GM Bragança et al.**; *The use of different progestin devices in ovarian stimulation protocol affects gene expression in sheep cumulus-oocyte complexes (COC)*  
**B Planells et al.**; *Role of RNA isoform expression in sex determination in mice*
- 15:45-16.15: POSTER SESSION 2 and coffee break
- 16.15-17.45: Workshop I: Sanitary and regulations on embryo transfer managed by Francis Fieni, Ecole Nationale Veterinaire, Nantes, France  
**Pascale Chavatte-Palmer**, UMR BDR, INRA, ENVA, France: *IETS and HASAC: the genesis of the World Organization for Animal Health (OIE) recommendations for safe trade of embryos*  
**Stephan Zientara**, ANSES, France. *Viral emergences and consequences for the risk of disease transmission via in vivo derived embryos*  
**Hélène Quinton**, Evolution, France: *The constrains for a registered Embryos Transfer Team concerning bovine embryos importation and exportation*  
**Olivier Gerard**, ALLICE, France: *Consequences of sanitary issues (diseases outbreaks) on bovine semen exportations from Europe to third countries: history and current situation*
- 19:00-02:00: Gala Dinner: The Elephant's show and Gala Dinner at Le Nantilus (floating restaurant on the Loire river)

**SATURDAY, September 8<sup>th</sup> 2018**

08:00-17.00: Registration

**SESSION 3: Chairpersons: JANE MORRELL & HELENE QUINTON**

09.00-09.45: Fourth invited lecture:

**Fabienne Nuttinck**, UMR BDR, INRA, ENVA, Université Paris Saclay, Jouy en Josas, France:

*Oocyte related factors impacting on embryo quality: relevance for “in vitro” embryo production*

09.45-10.45: Short oral communications

**KK Roussi and RG Sturme**y; *Investigating the impact of hyperglycaemia on bovine oviduct epithelial cell physiology and secretions in vitro*

**H Aardema et al.**; *Oviductal cells express Stearoyl-CoA desaturase that can protect the embryo against saturated fatty acids*

**KLJ Desmet et al.**; *Elevated non-esterified fatty acid concentrations during in vitro maturation affect the transcriptome profile of day 14 bovine embryos 7 days after transfer*

**I Hyder et al.**; *Analyzing the effects of bovine Interferon tau and female sex steroids on neutrophil pro and anti inflammatory triggers to understand implantation*

10.45-11.45: POSTER SESSION 3 and coffee break

11.45-12.00: Sponsor presentation

12.00-12.30: General Assembly

12.30-13.30: Lunch/Student Lunch

**SESSION 4: Chairpersons: TERESA MOGAS & JAN DETTERER**

13.30-14.15: Fifth invited lecture

**Patrice Humblot**, Department of Clinical Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden:

*From clinics to (cow)mics; a reproductive journey*

14.15-14.30: Pioneer award 2018 - Patrice Humblot AETE Medallist Presentation introduced by Hilary Dobson (UK)

14.30-15.30: Short oral communications

**E Mullaart et al.**; *Good pregnancy rate of bovine biopsied and vitrified IVP embryos*

**JS Lopes et al.**; *Reproductive fluids added to embryo culture vs. standard culture in cow: first results on pregnancy rates*

**AP Reis et al.**; *Identification and mathematical prediction of different morphokinetic profiles of in vitro developed bovine embryos.*

**AV Murillo et al.**; *Peri-natal basic blood biochemistry and health of calves born from frozen and vitrified IVP cattle embryos*

15:30-16.00: POSTER SESSION 4 and coffee break

16.00-17.30: Workshop II: Preservation of *in vitro* produced embryos

managed by Teresa Mogas, School of Veterinary, Autonomous University of Barcelona, Spain

**Bruno V. Sanches**, Cogent IVF, Oregon, USA. *Cryopreservation of IVP bovine embryos*

**Cristina Cuello**, University of Murcia, Spain. *The challenge of vitrifying in vitro-produced porcine embryos*

**Christine Wrenzycki**, Justus-Liebig-University Giessen, Germany: *Effects of (cryo)preservation on the quality of in vitro produced embryos*

17.30-17.45: Closing session: Student Competition results and invitation to the AETE Conference 2019

20.00-24:00: Farewell party: Regional specialty “les crêpes” and traditional music band at Les Salons des Floralies

