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

July 2017 AETE Newsletter Issue 47 Editor: Roger Sturmey

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PRESIDENTS LETTER

Dear colleagues and friends,

Summer is here and I presume you are all looking forward to holidays, if you have not already had them, to spend time with family and friends and recharge the batteries for starting back full of energy and new ideas. Summer holidays signify that the next AETE meeting is close at hand. This year's celebration will be our 33rd scientific meeting in the World Heritage City of Bath, southwest England, from the 8th to the 9th of September 2017. The LOC chaired by Brian Graham (EGG TECH) has chosen the beautiful "Assembly Rooms" to host our meeting, and an excellent social program. The Assembly Rooms were designed by John Wood the Younger in 1769 for a particular eighteenth century form of entertainment: the assembly. When they were completed in 1771, they were described as "the most noble and elegant of any in the kingdom". Built of Bath Stone the building has rooms arranged in a U shape. There are four main function rooms in the complex: the 100-foot-long (30 m) ballroom; the tea room; the card room; and the octagon.

The scientific program put together by the board of AETE is very inspiring and covers most interests of our members. **Dr. Jose Buratini Jn**, Universidade Estadual Paulista (UNESP), representative from our sister Brazilian society SBTE will talk about "Follicular Environment and Oocyte Maturation", while Dr. Ann Van Soom from University of Gent, Belgium as a leader of the Cost Action-Epiconcept, in which many of us we were participating, will give an update on "Cost-Epiconcept: What we have learned and application for the future". **Dr. Martin Sheldon**, from Swansea University Medical School, United Kingdom will give an overview on "Uterine infection and immunity" followed by **Dr. Heiner Bollwein** from University of Zurich, Switzerland on "Effects of nutritional programming on sexual development in bulls".

In addition, we will have 14 short oral communications including the student competition and two workshops. The first workshop will be managed by Jan Detterer, AI- and ET-Center Georgsheil, Germany and Pasqualino Loi, University of Teramo, Italy on "Micromanipulation", while the second will be leaded by Erik Mullaart, CRV, The Netherlands on "Selection and treatment of animals for embryo production". On total, we have over 80 accepted abstracts to be presented as posters at the meeting.

It is a great honor for all board members, and for me personally, to present **Prof. Cesare Galli as the 2017 AETE Medallist**. Prof. Cesare Galli is founder and Managing Director of Avantea srl, Cremona, Italy. He is also an Associate Professor of Animal Reproduction at the University of Bologna. He has developed numerous scientific interests in reproductive biotechnologies from *in vitro* embryo production to embryo manipulation and animal cloning by somatic cell nuclear transfer, in a range of different species including cattle, horse and pig. In 1999 he obtained "the world-first bull clone" and in 2003 the "world-first equine clone". His scientific contributions are recognized internationally. He is author of over 180 publications. Prof. Galli was President of the AETE from 1997 to 2000. We all look forwards to this event.

Students are important for us; thus, apart of the student competition prizes we will continue this year awarding the best poster and the best oral presentation. For a second successive year, the electronic Abstract submission and reviewing process via FASS worked very well and I would like to thank all authors, section chairs and reviewers for excellent collaboration. All invited papers and abstracts from our 33rd Annual Meeting will be published in July-September 2017 issue of Animal Reproduction (the official journal of the Brazilian College of Animal Reproduction) together with the 31st SBTE's annual meeting which will be held August 17-19, 2017 at the Sheraton Paiva Hotel & Convention Center in Cabo de Santo Agostinho, PE, Brazil.

As part of this year's AETE meeting in Bath, the LOC have organised a Pre-conference "Practitioner Repro Day" on Thursday 7th of September. The day will consist of a series of workshops in the morning, Flushing, OPU, Embryology and Embryo freezing followed by IVF and lectures by Dr. John Hasler in reproductive technologies and genomics in the afternoon. The day has been achieved through financial support, equipment and expertise, provided by: Activf ET, BCF, Celltech Embryo Transfer, Cryologic, EGG Tech, Embryonics, IVF Bioscience, National Bovine Data Centre, Paragon and Vetoquinol.

We are certainly looking forward to welcoming you all on the evening of Thursday 7th of September for the welcome reception, while Friday night, after several interesting scientific talks and discussions, we will enjoy the Gala Dinner with a local band, so bring your dancing shoes! We will continue enjoying the fruitful scientific talks and discussions on Saturday before heading to the farewell party with an English barbeque – which means outside, but undercover; just in case it rains... Hurry and do not miss our early bird registration (**15th July**) and make your hotel reservation as soon as possible for our 2017 AETE Meeting in Bath, still high season and very attractive city for tourists. There are also at least two other major scientific meetings happening in Bath at the same time as ours, so get in early! More information about traveling to bath and hotel reservation you will find in our web page, www.aete.eu

Every annual meeting of our society depends deeply on the support of our sponsors: Main: VETOQUINOL; General: EGG TECH; Exhibitors: BCF Technology Ltd, ECM ICP, Reproduction/Bodinco, BV IMV Technologies, IVF Technologies, Professional Embryo Transfer; Supporters: Calier & CryoLogic Ltd to whom we are deeply grateful.

Wishing you all a great summer and looking forward to see you in September in Bath.

Kind regards

Dimitrios

Dimitrios Rizos, President, AETE

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WELCOME VICSI!

On the 12th of May, a healthy foal was born from a frozen immature equine oocyte that was warmed, matured, fertilized and cultured *in vitro* up to an embryo that could be transferred to a recipient mare. The successful combination of all of these steps has not been reported yet in the horse.

A combination of techniques

On the 12th of May 2017, a stallion named VICSI was born at the Faculty of Veterinary Medicine of Ghent University, Belgium. The foal was named after two crucial techniques that have been used to achieve this: vitrification and ICSI. Vitrification is a cryopreservation method during which oocytes are cooled very rapidly, resulting in the formation of a glass-like structure and avoiding the formation of ice crystals which can damage the oocyte. For ICSI or intracytoplasmic sperm injection, micromanipulation is used to inject a sperm cell into an oocyte. Oocytes are much more sensitive to low temperatures than embryos. Therefore, this report on oocyte vitrification means an important breakthrough in the field of assisted reproduction in the horse.

VICSI is the result of research at the department of Reproduction, Obstetrics and Herd Health, under supervision of professor Ann Van Soom. Nerea Ortiz Escribano, who makes a PhD on vitrification, collaborated with Katrien Smits, who works as a postdoctoral researcher of the FWO and who is specialized in ICSI.

The procedure from frozen oocyte to foal

The oocytes for this research were aspirated from equine ovaries collected at the slaughterhouse. These immature oocytes were vitrified and stored in liquid nitrogen for one week. After rapid warming, maturation of the oocytes was performed in the incubator. Mature oocytes were fertilized by ICSI and cultured in the incubator for 9 days. The resulting embryo was transferred to the uterus of a recipient mare on the 20th of June 2016 at the Animal Embryo Centre Diergaerderhof in the Netherlands. On the 29th of June 2016, examination by ultrasound confirmed that the mare was indeed pregnant.

Just like embryos, oocytes can now be stored too

Cryopreservation of oocytes offers several possibilities in veterinary medicine. Oocytes can be stored and transported for research or for clinical purposes. In the future it will be possible to store oocytes from a valuable mare, instead of embryos only. This provides more flexibility to the owner with respect to the choice of the stallion. Up to now, the owner had to decide immediately which stallion was going to be used for fertilization as the oocytes could not be stored.

A lot of potential, a bit of patience

Also for the conservation of genetics of rare or endangered horse breeds or equids like zebras, the freezing of immature oocytes provides a lot of opportunities. However, it requires some time to optimize a technique, which has been developed in a scientific research context, to a level allowing practical applications. In the study which resulted in the birth of VICSI, only 34% of the vitrified oocytes matured and only 5% of the injected oocytes developed to a good embryo. Using fresh oocytes, the maturation rate is 60% and 20% of the fertilized oocytes develops into an embryo that can be transferred to a mare.

The birth of VICSI is an important step towards these practical applications. In 2009, SMICSI, the first Belgian test tube foal, was born at the faculty of Veterinary Medicine, Ghent University. At that time, ICSI was only used for research, but meanwhile the technique has also been used for clinical purposes. Oocytes of genetically valuable mares are collected at the clinic by means of ultrasound guided puncture of the ovaries (ovum pick up, OPU). As the oocytes are fertilized by ICSI, sperm with a poor quality or limited supply can be used. Subsequently, the embryos are cultured in the laboratory and transferred to a recipient mare. Several foals were born this year resulting from the combination of OPU and ICSI at the faculty of veterinary medicine.

VICSI = teamwork

The birth of VICSI is the consequence of the fruitful collaboration between veterinarians, Belgian and foreign researchers, technicians and animal caretakers within the department as well as veterinarians from embryo transfer centers in Belgium and abroad. This world scoop is the result of the long-lasting dedication of many talented individuals!

Info

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OOCYTE PROTEOMICS – A NEW MOLECULAR WINDOW

Svetlana Uzbekova, Ana-Paula Teixeira and Valérie Labas

The assessment of oocyte quality is important for reproductive biotechnologies to conceive embryos with full development ability. Oocytes grow, mature and acquire their quality inside of ovarian follicle and share molecular factors with surrounding cumulus (CC) and granulosa cells (GC). During maturation, oocytes are transcriptionally silent however their proteomes change significantly due to protein neosynthesis, degradation and post-translational modifications. Analysis of proteomic changes, that occur during maturation and define oocyte developmental competence, may help in evaluating/monitoring, at single oocyte level, how different biotechnological protocols affect oocyte quality. Implementing of classic comparative proteomic analyses to the oocytes of farm animals like cattle, is difficult due to low protein content per oocyte (around 100 ng). In contrast, intact cell MALDI-TOF mass spectrometry (ICM-MS) allows obtaining of specific protein/peptide fingerprints in the range of 2-25 kDA from few biological materials, without extraction (**Figure 1**).

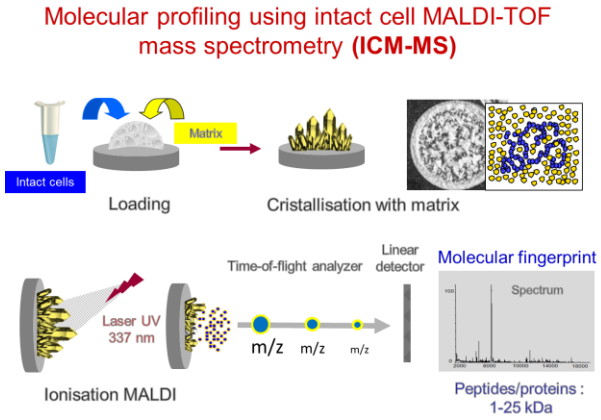

Figure 1; Intact Cell MALDI-TOF mass spectrometry approach to analyse peptide/protein profiling of whole cells

We adapted ICM-MS technology to bovine single oocytes and surrounding CC and GC biopsies from individual ovarian follicles. Specific profiles, gathering more than 250 molecular species per cell type, are reproducible with coefficient of variation < 30%. By comparing the ICM-MS profiles of the oocytes or their CC during IVM, 71 peaks, which varied their abundance depending on the stage of oocyte meiotic maturation, were determined ($p<0.01$, fold change >2). To identify these endogenous biomolecules, top-down proteomic approach (TD) was applied to oocytes and follicular cells protein extracts. In TD proteomics intact proteins are directly fragmented by high-resolution mass spectrometry (HR-MS) which allows for the direct identification and structural characterization of peptide/proteoforms. Using TD including nano-liquid-chromatography separation coupled to HR-MS, 386 different molecular species were identified in a mass range between 1 and 17 kDa (**Figure 2)**.

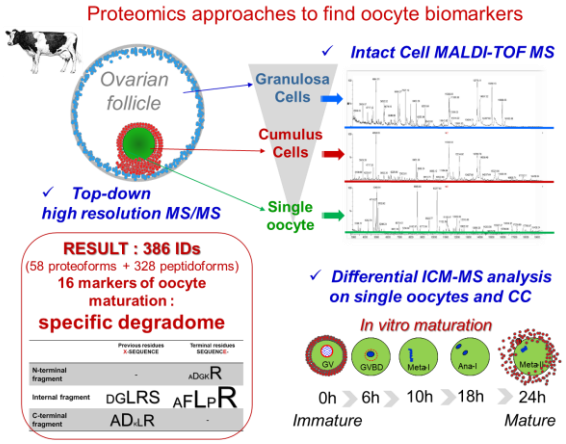

Figure 2; *Analytic workflow to identify biomarkers of oocyte maturation by combination of ICM-MS and TD HR-MS proteomic approaches.*

Only 15% of them corresponded to whole proteins, whereas N-terminal, C-terminal or internal fragments of original proteins represented 20%, 23% and 42% of identified proteoforms. Analyses of the residues engaged in the cleavage sites revealed they are products of degradation by specific proteases like trypsin-like enzymes, kallikreins or caspases.

In total, 136 out of 439 peaks, observed in the ICM-MS profiles, were annotated using TD proteomics. 16 markers of oocyte maturation were identified, including IGF2 binding protein 3, cysteine hydrolase CMBL and hemoglobin B in the oocyte, and mitochondrial ribosomal protein MRPL52, thymosins beta-4 and beta-10, histone H2B and ubiquitin in CC.

ICM-MS in combination with TD proteomics is a suitable strategy to analyse proteome in single oocyte and identify non-invasive biomarkers of oocyte quality in follicular cells.

More information on this work:

1. Labas V, Teixeira-Gomes AP, Bouguereau L, Gargaros A, Spina L, Marestaing A,
Uzbekova S. Intact cell MALDI-TOF mass spectrometry on single bovine oocyte and
follicular cells combined with top-down proteomics: A novel approach to
characterise markers of oocyte maturation. J Proteomics. 2017 Apr 3. pii:
S1874-3919(17)30118-5. doi: 10.1016/j.jprot.2017.03.027. [Epub ahead of print]
PubMed PMID: 28385661.
2. Labas V, Teixeira-Gomes AP, Bouguereau L, Gargaros A, Spina L, Marestaing A,
Uzbekova S. Data on endogenous bovine ovarian follicular cells peptides and small
proteins obtained through Top-down High Resolution Mass Spectrometry. Data Brief.
2017 May 26;13:175-179. doi: 10.1016/j.dib.2017.05.042. eCollection 2017 Aug.
PubMed PMID: 28603764; PubMed Central PMCID: PMC5454127

ET DATA COLLECTION: UPDATE

Marja Mikkola has been working actively with all national data collectors to obtain and analyse the 2016 data on ET activity in Europe. We are confident that this will be a more comprehensive data set than ever before and this will be presented at the AETE Annual conference in Bath, before being published in the December issue of the newsletter.

LAB WARE AFFECTS IVP

Lotte Stroebech and colleagues recently presented data on the impact of plasticware on embryo development. Her data revealed some fascinating results:

Bovine embryo development rates are affected when oocytes are matured in different vials containing HEPES/bicarbonate buffered medium

N. Hashem[1], J. Secher[2], J.H. Pryor[3], C.R. Long[4], C.R. Looney[3], B. Avery[1], P. Hyttel[2] and L. Stroebech[1]

[1]EmbryoTrans Biotech, Copenhagen, Denmark, [2] University of Copenhagen, Department of Veterinary Clinical and Animal Sciences, Denmark,[3]Ovagenix, Bryan, TX, USA, [4]Texas A&M University, Department of Veterinary Physiology and Pharmacology, College Station, TX, USA

Lab ware for the *in vitro* production of embryos is generally made from embryo tested plastic instead of glass. The quality of the plastic is crucial for the outcome, as plastic is often toxic to the gametes (Nijs et al. 2009, Fertil Steril 92(2), 527-535). In addition, gas molecules permeate through the plastic at a rate that depends on a variety of factors, such as diffusion coefficient and thickness of the plastic. In an incubator with appropriate concentration of CO_2 and vented culture vessels, the gas permeability of the plastic is not important. When oocytes are transported outside a controlled atmosphere, gas permeability, toxicity and oocyte cumulus cell CO_2 metabolism could perturb the outcome. Medium containing bicarbonate buffer increases pH outside of a controlled atmosphere within minutes, whereas medium buffered with HEPES, maintains suitable pH for hours. Previously, we tested that gas permeability differs among plastic vials and glass vials with no cumulus oocyte complexes (COC´s) by measuring pH after 2, 5, and 24 h at the same temperature. The objective of this study was to compare pH post-maturation, blastocyst development rates on d8 post-IVF (day 0 = IVF) between two different 1.2 ml polypropylene cryovials (A: VWR DK, 479-1219; B: Sigma-Aldrich, CLS430289), glass vial (VWR DK, NSCAC4015-96) and 4-well plate (4WP) as control (Thermo Fisher Scientific, 144444).

A total of 1135 abattoir derived COC's in Exp. 1 and 133 in Exp.2 were divided equally between the treatments (20-25 COC per vessel). Vials/4WP contained 0.8/0.5 ml of BO-IVM HEPES, a HEPES/bicarbonate medium (IVF Bioscience; BO-HEPES-IVM, UK). Maturation lasted 22-24 hr at 38.8ºC in an incubator with either a humidified atmosphere of 5.5% CO_2 in air (Exp.1) or with no CO_2 contact (Exp.2). In Exp. 1, oocyte vials were matured without a vial lid while in Exp. 2 vial lids were closed. Statistical analysis was performed with Chi-Square and mean ± SD.

In Exp. 1, d8 blastocyst rates were evaluated as percentage of inseminated oocytes, with 4WP and glass vials significantly higher than cryovials A or B (38 ±8.9%, 35 ±7.5% vs. 26 ±3.2%, 26 ±3.5%; respectively, $p<0.05$). In Exp 2, pH was measured for the 3 vials immediately post-maturation. D8 blastocyst rates were significantly higher in the glass vials as compared to cryovials A and B (pH 7.26, 31 %; pH 7.60, 20 % and pH 7.72, 22 %, respectively; $p<0.05$).

In conclusion, blastocyst rates are affected by type of vial, as well as different gas permeability among other factors influencing pH. Further studies are necessary to optimize the maturation of the oocytes in HEPES buffered media.

INVITATION TO THE 33RD ANNUAL MEETING OF THE AETE –SEPT 8-9, 2017

On behalf of the European Embryo Transfer Society, the local organizing committee chaired by Mr **Brian Graham**, would like to extend a warm invitation to join us at the 33rd annual AETE meeting, scheduled for the 8th and 9th September 2017, in the historical city of **Bath, UK**.

Welcome Reception
For those of you who will be arriving on the 7th a welcome reception will take place at the Assembly Rooms, where registration and the AETE scientific program will be held. Completed in 1771 they were described as "the most noble and elegant" of any in the kingdom.

The Assembly Rooms, Bath

Gala Dinner
After a first day of science on Friday, you'll enjoy a walk through the world heritage city of Bath before meeting at the Roman Baths. Hear you will enjoy a couple of reception drinks while you soak-up millennia of history. The Gala Dinner will then be held at the Baths Pump Rooms, after which there will be further opportunities to socialise and enjoy live music on the pump rooms terrace overlooking the baths.

The Roman Baths

Farewell Party
On the 9th we will be meeting at the Green Park Brassery for an English BBQ and Party. Previously the cities railway station, the area has been converted into the brasserie and the covered outside space utilised for markets, festivals and events.
https://www.greenparkbrasserie.com/blog/green-park-station-in-bath-historical-images

Green Park Brasserie

The Local Organizing Committee encourages you to join us in this meeting. It will be worth your time both scientifically and recreationally. The organized social events will allow us to interact together and enjoy all that Bath has to offer. Please be assured we will do everything possible to ensure your stay in Bath is as pleasant and enjoyable as we possibly can.

We look forward to seeing you in September in Bath

LOC representatives (in alphabetical order):

Brian Graham
Jake Oliver
Dr. John Dawson
Mr. Mark Nutsford
Dr. Peter May
Dr. Roger Sturmey
Sharon Graham

Should you require any assistance from the LOC please email
0ffice@eggtech.co.uk
Local Organizing Committee

Welcome to Bath:
Some reasons to come to Bath.

500 BC (some say much earlier), legend has it that Bladud, father of Shakespeare's King Lear, discovered the thermal springs and the locally living Celts began to worship here, dedicating the springs to their God, Sul.

River Avon, Bath

From **AD 43** the Romans started the development of Bath as a city of recreation, rather than a garrison, and built around the hot springs a sophisticated series of baths used for bathing and curative purposes. A temple, dedicated to the goddess Minerva, was built alongside the baths and this area formed the centre of Aquae Sulis.

Roman Baths

18th century Architecture
During the 18th century, three ambitious local entrepreneurs set out to make Bath one of the most beautiful cities in Europe. A former mayor of Bath, Ralph Allen, created the beautiful and intimate Prior Park Landscape Garden, Richard 'Beau' Nash played a leading role in making Bath the most fashionable resort in 18th century England and John Wood the Elder designed many streets and iconic buildings, such as the Circus and Queen Square. His son, John Wood the Younger, followed in his footsteps and created the Assembly Rooms and The Royal Crescent.

Bath is the only destination in the UK to have the whole city designated a World Heritage site by UNESCO. Since 1987 Bath has been listed as a 'cultural site' with outstanding universal value and cultural significance.

Today Bath has around 5,000 listed buildings. The most famous is the Royal Crescent, comprising of 30 houses laid out in a crescent shape. Built between 1767 and 1774, it is among the greatest examples of Georgian architecture in the world.

To experience Royal Crescent life in its original style, No. 1 Royal Crescent, the first house to be built on the crescent, is open to the public as a museum maintained by the Bath Preservation Trust. The house illustrates how wealthy property owners of the 18th century might have furnished such a wonderful home. Prepare to encounter many surprises as friendly, knowledgeable guides positioned in each room of the house reveal the secret history of the house and its former residents and guests.

You can also find out how the city was transformed in the 18th century and how Georgian Bath was built by visiting the Museum of Bath Architecture.

At the same time as the AETE Bath will also be hosting the Jane Austen festival.
http://www.janeaustenfestivalbath.co.uk/

If you find additional time during your trip why not consider visiting some other attractions not too far from bath.

Stonehenge
Cheddar Gorge
Bristol Zoo
Longleat Estate and safari park
Salisbury Cathedral

Or take a trip to London.

How to travel to Bath?

By Air

Bristol Airport

Bristol Airport:
Bristol international Airport is the closest and easiest airport for travelling to bath with over 60 European cities able to access the airport. The airport is approximately 19 miles from bath and around 8 miles from the centre of Bristol. Please use the link to view a list of cities connected to Bristol Airport.

Bristol Airport to Bath by train & bus:
Board the A1 Bristol flyer bus from the west airport terminal heading for Bristol Temple meads. Two busses depart every hour. It is a two minute walk from the bus stop to Bristol temple meads train station. Bath is a 11-14 minute train journey from Bristol temple meads with trains departing every 15-20 minutes please use link below to view train times.

Taxi:
There are over 400 taxi companies serving Bristol airport and the surrounding areas. Bath is approximately 45 minutes from Bristol Airport via taxi, but can be considerably longer when congestion is high.

Pre-book airport taxis by checking out Bristol airport Taxi Listings.

London Heathrow Airport

Heathrow Airport:
Heathrow airport has good connections to Bath via the M4 and the railway system. Heathrow is accessible from many airports around the world and is approximately 100 miles from bath.

Train:
The train station at Heathrow airport is based at Terminals 1-3. Board the Heathrow express to Paddington station from platform 2. This is a nonstop service that will take around 16 minutes. Once at Paddington station you will need to board the train heading for Taunton. Please use the link for train time from Paddington:
The journey from Paddington to Bath should take around 2 hours.

Bus:
The National express coach service runs between Heathrow and Bristol. Once in Bristol there are trains, buses and taxis available for Bath. The journey time is approximately 3 hours and 15 minutes.
Please use the link to view National express time tables and fares:

Taxi/Car
Both taxis and hire cars will be available from Heathrow airport. The journey to Bath is fairly direct using the M4.

Other UK Airports in the south of England:
Gatwick, London City Airport, Southampton and Cardiff (wales).

By Sea
If you wish to drive to bath and take in some of the sights that the south of England has to offer, there are multiple sea ports along the south coast. Please see some examples of travels times to bath from some of the ports:

Portsmouth – Bath:	2 hours 10 minutes
Southampton – Bath:	2 hours
Poole – Bath:	1 hour 55 minutes
Dover – Bath:	4 hours

By Eurostar
Having the option of either driving or being a foot passenger, the Eurostar offers easy access to London from the continent. On arrival in St Pancras you will need to make your way to Paddington station using either a taxi or the underground service. Please use the link to view a tube map of London:

Please refer to the link for more Eurostar travel information including stations and time tables.

UPCOMING EVENTS

50th Annual meeting of SSR
Marriott Wardman Park, Washington D.C., USA
July 13-16, 2017
http://www.ssr.org/17Meeting

31st Annual meeting of SBTE
Sheraton Paiva Hotel & Convention Center
Cabo de Santo Agostinho, Brazil
August 17-19, 2017
http://www.sbte.org.br/reuniao2017/

21st Annual Meeting of ESDAR
VetSuisse, University of Bern, Switzerland
Augist 24-26
http://www.esdar.org/esdar-conference-2017/orga-2017/gb.html

4th World Congress of Reproductive Biology
Okinawa Convention Centre, Okinawa, Japan
September 27-29, 2017
http://www.wcrb2017.jp

26th Annual Meeting of the SIET (Italian Society for Embryo Transfer)
Peschiera del Garda, Verona, Italy
October 12-14, 2017
http://www.sietitalia.it

AETA-CETA/ACTE Joint Annual Convention
Caribe Royale Orlando, Florida, USA
October 26-28, 2017
http://www.aeta.org/2017/
http://www.ceta.ca/convention.html

Fertility 2018 – Joint meeting if the SRF, BFS and UK ACE
The ACC Liverpool, UK
January4-6, 2018
http://www.fertilityconference.org

44th IETS Annual Conference
Shangri-La Hotel Bangkok, Thailand
January 13-16, 2018
www.iets.org

45th Annual Meeting of the AET-d (Association Embryotransfer in German speaking countries)
FLI Mariensee Höltystr. 10 31535 Neustadt-Germany
June 14. and 15., 2018
www.aet-d.de

51st Annual Meeting of SSR
Hilton New Orleans Riverside, New Orleans, Louisiana, US
July 10-13, 2018
http://www.ssr.org/18meeting

10th International Ruminant Reproduction Symposium
Foz do Iguaçu, Brazil
September 16-20, 2018
http://www.sbte.org.br/IRRS2018/

…Pssst – you, hey there…

Yes, you…

Hello!

Whilst you're online, why not click here to register for the **AETE meeting in Bath?**

And if you're fast, you can make the early bird registration data of **July 15**

AETE

Association Européenne des Technologies de l' Embryon

Association of Embryo Technology in Europe

33rd SCIENTIFIC MEETING

"The Assembly Rooms"

Bath, UK

Tentative P R O G R A M M E

8th and 9th September 2017

THURSDAY, September 7th 2017

18.30-20.00: **Registration**

20.00-22.00: **Welcome Reception**

FRIDAY, September 8th 2017

08.00-17.00: **Registration**

08.45-09.00: **Opening meeting** by the AETE President **Dimitrios Rizos**
by the Chair of the LOC **Brian Graham**

SESSION 1 - Chairpersons: HILDE AARDEMA & RAINER SANER

09.00-09.45: **First invited lecture:**
IJ Buratini, ACS Soares, RG Barros (Brazil):
Follicular environment and oocyte maturation: roles of local peptides and steroids

09.45-10.30: **Second invited lecture:**
H Bollwein, F Janett, M Kaske (Switzerland):
Effects of nutritional programming on sexual development in bulls

10.30-11.15: **POSTER SESSION 1** and coffee break

Student Competition SESSION: JO LEROY

11.15-12.30: **Short oral communications**

(1) KLJ Desmet et al.: Effect of non-esterified fatty acids during in vitro oocyte maturation on the development of bovine embryos after transfer
(2) M Hamdi et al.: Transcriptomic response of bovine oviduct epithelial cells to the early embryo
(3) N Bernabò et al.: Cyclin/Cdk complexes are involved in control of actin dynamics during boar sperm capacitation
(4) JG Hamze et al.: In vitro assessment of acrosomal status of boar sperm bound to beads conjugated to ZP proteins
(5) T Nongbua et al.: Effect of seminal plasma on cytokine production from bovine endometrial epithelial cells in culture

12.30-14.00: **Lunch**

SESSION 2 – Chairpersons: MARJA MIKKOLA & URBAN BESENFELDER

14.00-14.45: **Third invited lecture:**
M Sheldon & SE Owens (UK): Postpartum uterine infection and endometritis in dairy cattle

14.45-15.30: **Short oral communications (Uterine health)**

(1) V Van Hoeck et al.: Maternal metabolic disorders and early embryonic loss: Pathways to bridge the gap between bovine embryo quality and endometrial receptivity.
(2) JM Sánchez et al.: Effect of conceptus size on embryo-maternal communication during early pregnancy in cattle
(3) E Gomez et al.: Bovine endometrial cells are responsive to embryonic sex in vitro

15:30-16.00: **POSTER SESSION 2** and coffee break

16.00-17.30: **Workshop I:** Micromanipulation
managed by **Jan Detterer (Germany)** and **Pasqualino Loi (Italy)**

19:00–24:00: Visit of the Roman Baths and
Gala Dinner at the Pump Rooms

SATURDAY, September 9th 2017

08:00-17.00: **Registration**

SESSION 3 – Chairpersons: TERESA MOGAS & JAN DETTERER

09.00-09.45: **Fourth invited lecture:**
A Van Soom, A Fazeli (UK): COST-Action GEMINI and EPICONCEPT: What we learned after 8 years?

09.45-10.30: **Short oral communications** (**Embryo-Environmental (inter) activity**)

(1) **E París-Oller et al.:** Haematological and blood biochemical parameters in piglets derived from embryo transfer
(2) **B Muller and R Sturmey:** Novel approach for the measuring mitochondrial function in bovine oocytes and embryos
(3) **A Komsky-Elbaz and Z Roth:** Effect of foodborne contaminants on sperm fertilization competence and embryonic development

10.30-11.00: **POSTER SESSION 3** and coffee break

11.00-11.15: **AETE/Vetoquinol survey**
Challenges and opportunities for the development of the ET market in Europe

11.15-11.30: **Sponsor presentation**

11.30-12.00: **General Assembly**

12.00-13.30: **Lunch / Student Lunch (only after subscription, only open for master, PhD or post doc students co-authoring a presented abstract)**

SESSION 4 – Chairpersons: DIMITRIOS RIZOS & ROGER STURMEY

13.30-14.15: **Fifth invited lecture**
C Galli (Italy): Achievements and unmet promises of assisted reproduction technologies in large animals: a personal perspective

14.15-14.30: **Pioneer award 2017 – Cesare Galli AETE Medallist Presentation**
introduced by **Lino Loi (Italy)**

14.30-15.30: **Short oral communications (Sexual maturity in bulls and semen)**

(1) **T Fichtner et al.:** Analysis of sperm-induced neutrophil extracellular traps (NETS) formation in the bovine system
(2) **B Planells et al.:** Expression profile of genes involved in sex determination in cattle
(3) **C Stelletta et al.:** Simplifying the oviductal cell adhesion test for bovine sperm quality assessment
(4) **L Martínez-Fresneda et al.:** Mouflon *(ovis musimon)* sperm cryosurvival is better at the end of the rutting season coinciding with low plasma testosterone concentrations

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

16.00-17.30: **Workshop II:** Selection and treatment of animals for embryo production
managed by **Erik Mullaart (The Netherlands)**

17.30-17.45: **Closing session:** Student Competition results and invitation to the AETE Conference 2018

20.00: Farewell party with a British BBQ at the Green Park Brasserie

AETE Pre Congress 2017

DATE:
7th September 2017

LOCATION:
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Bennett St, Bath,
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