

AETE

Association Européenne des Technologies de l'Embryon

Association of Embryo Technology in Europe

July 2021 AETE Newsletter Issue 55 Editor: Roger Sturmey

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PRESIDENTS LETTER

Dear Friends, dear Colleagues,

Summertime and holidays are arriving after a tough period of changes, adaptations to online meetings, limited social contacts etc. It is incredible how a very small virus can dominate the world. Nevertheless, the Board of the AETE has done its utmost to stay present and provide our members with new and attractive content. I hope you understand that the decision to cancel our physical meeting in Dublin again was very hard to make. I would like to take the opportunity here to thank Patrick Lonergan and

the Local Organising Committee for all the work they did to prepare this meeting. I would like to express my appreciation for their flexibility and understanding.

However, we moved forward as a team and the Board rapidly decided to provide an attractive alternative for our members. Instead of organizing a full digital 2-day conference, we opted for an attractive digital alternative: our webinar series. Five webinars are now planned during the second half of 2021. The first one, co-hosted by the Association of Embryo Technologies of the German speaking countries (AET-d) was a real success. More than 250 people from 42 different countries registered, clearly showing that the topic and the format were well chosen. The webinar was chaired by Christine Wrenzycki and a series of very good speakers covered topics related to the new European "Animal Health Law", the consequences for animal breeding and for the import and export of semen and embryos.

The next webinar will be on 6th October, 18h, followed by our General Assembly meeting. Here again Zoom will be used as our digital platform, all nicely mastered by Roger Sturmey. This next webinar will cover a very important topic both for practitioners and scientists: "When good things go bad: failures and errors in the IVF lab"! We have Rita Vassena (Spain) already confirmed as our invited speaker. In the same webinar, other practitioners will provide examples of good practice when it comes to failing blastocyst formation, infections and working under Covid conditions. On 27th October, 18h, the Italian Society of Embryo Technolgies (SIET) will co-host the next webinar covering an attractive subject: "Embryo transfer applied in dairy cow fertility management". Here we have Daniela Demetrio as our confirmed speaker. She is the President of the AETA. We thank the SIET for this new and promising collaboration and we look forward to this very appealing webinar.

But what about our students? As you all know, students and young scientist are the cornerstone of our society. Approximately 50 scientific abstracts have been submitted this year. The best 10 abstracts were selected for oral presentation during our two "student webinars" on *September 6th and 13th, at 15h*. Each webinar will contain 5 presentations, with sufficient time for questions and discussion. Please be there and support our abstract presenters! A real time voting will make it possible to select the best oral presenter of each day. They will win a free registration for our meeting in Utrecht (2022) and a €250 prize.

Our next meeting ... what shall we say about it! Well, it has to be, and will be, a physical meeting. We are all looking forward to seeing each other again and to be able talk without the aid of a computer. We will meet in Utrecht, The Netherlands. The Local Organizing Committee is preparing the best venue ever ... So, please block your agenda on **September 15 and 16**, **2022**!

Of course, I would like to sincerely thank our Sponsors who have all decided to stay on board during these challenging times. They are all looking forward to seeing you again in person next year in Utrecht.

Finally, I thank all members of the Board of our Society. Again, they have shown their commitment and loyalty to our society. We went through a difficult and challenging period demanding exceptional efforts from all of them. I thank my team for their continuous support and their hard work.

Enjoy your summer time! Happy holidays,

Jo Leroy, President of the AETE

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REPORT OF THE FIRST AETE-AETD WEBINAR

The first webinar of the AETE co-hosted by the Embryo Transfer Association of German-speaking countries (AETd) took place at 17th June 2021 from 6.00 to 7.30 p.m. via Zoom. It was entitled "EU regulation for livestock breeding in Europe and third countries". More than 250 people from 42 countries registered, clearly showing that the content is of great importance in this time.

The first speaker, Dr. Bernhard Polten who is the Minister Counsellor at the Federal Ministry for Food and Agriculture in Germany, gave an overview how a regulation for livestock breeding is developed and implemented in Europe. His talk was followed by three shorter presentations given by Drs. Hanna Grothmann (Masterrind GmbH, Germany), Eric Mullaart (CRV, the Netherlands) and Helene Quinton (Evolution, France). They informed the participants how the European regulations are translated into national law and how they handle it in their daily work. The webinar ended with a lively discussion regarding the concequences of the EU regulations especially for the trading of semen and embryos.

Christine Wrenzycki

IN MEMORIAM – WILHEM KANITZ



The community of the AETE wants was saddened to report the death of Prof. Dr. Wilhelm Kanitz, former Board member and President of the AETE

from 2003 until 2006. He passed away on 13th of March 2021. Wilhelm was the head of the Department for Reproductive Biology at the Leibniz Institute for Farm Animals in Dummerstorf / Germany from 1992 until 2012.

It is challenging to overlook his great creative and driven role in Biotechnology and Physiology in farm animals and horses in these and former times. The Humboldt University of Berlin graduated him in Veterinarian medicine in 1979. Soon afterward Wilhelm played an important role and gave the full fresh energy to establishment, standardisation and research of the bovine ET in the Eastern part of Germany as well as in East European countries. After Unification of Germany, he became an active member of the AETE and later a founding Member of ECAR and continued his research work in the of reproductive physiology, technology and production. The idea of bringing together practitioners and researchers from all parts of Europe had become a great interest of him. Wilhelm had always focused on linking basic research with an effective management of reproduction in farm animal horses. Therefore, he was always in durable contact to many representatives of breeding organizations, research institutes and other stakeholders. In cooperation with his scientific group and many other national and international colleagues, he contributed to more than 500 papers, book chapters, abstracts and scientific talks. He guided many doctoral students and post-docs in their first scientific steps. During his own scientific career, Wilhelm received much national and international respect for commitment, scientific contributions and achievements. He became only 67 years old.

We express sorrow for a friend and colleague who strongly influenced our scientific way and who reminds us the imponderability of human life.

Frank Becker; Klaus-Peter Brüssow -Dummerstorf

IN MEMORIAM – WILLIAM "TWINK" ALLEN



It was with profound sadness that we announced the passing of Professor Twink (WR) Allen, who died in Dubai on 6 June 2021 after a very short illness. Twink will be forever remembered as a preeminent pioneering scientist in reproduction who has also significantly influenced how breeding mares are clinically managed. These scientific achievements were matched by his enthusiastic, determined and hard-working approach consistently applied in his endeavour to search for new knowledge.

As a consequence of these qualities, combined with his openness to welcome a constant stream of visitors to his laboratory, he has inspired and influenced students and scientists from across the globe, many of which have gone on to play major roles in science and clinical practice. Having regularly attended SRF conferences and held membership for over 50 years, as well as being the recipient of the Marshall Medal in 2009, Twink was well known to many in the SRF community. His friendship, mentorship, charismatic seminars and unwavering support for reproductive biology will certainly be missed. Our thoughts go out to his partner, Sandra, his three children and grandchildren and wider family. Twink, you may have departed our earth but the substantial impact you had on our field and those that work in it will live on.

In Memoriam – Ian

GORDON

It is with sadness that we write to inform the Society of the passing of Professor Ian Gordon on July 5th 2021 at the age of 93.



Professor Gordon, or 'Prof' as he was affectionately known by all of his students, was a pioneer in the field of livestock reproduction. particularly in the area of oestrous synchronisation, superovulation and non-surgical embryo transfer and, latterly, in the area of in vitro embryo production in cattle. In recognition of his contributions, he received the prestigious Pioneer Awards from both the Association of Embryo Technology in Europe (AETE), in 1995, and the International Embryo Technology Society (IETS), in

Professor Gordon, initially left school at the age of 14 and worked for 6 years before gaining Matriculation from London University by private study in 1948. This enabled him to attend Nottingham University, from where he graduated with a B.Sc. in Agriculture (Class 1) in 1951. He subsequently embarked on his prolific scientific career at Cambridge, under the guidance of Sir John Hammond, widely regarded as the father of modern animal physiology. He earned a Diploma in Agriculture from Cambridge University in 1952 and obtained an M.A in 1955 and a PhD in 1957. His first appointment was as a Research Assistant in the School of Agriculture in Cambridge, where he acted as an adviser on sheep breeding to Lord Rothschild, who was Chairman of the Agricultural Research Council at that time.

It was always Professor Gordon's philosophy that his research should have commercial application. Much of his early work was carried out in association with farmers, in various parts of England and Wales, and was primarily concerned with the control and manipulation of reproduction in sheep to increase the efficiency of lamb production. He was also involved in early embryo transfer work in sheep in association with Dr. Tim Rowson and colleagues. As a result of extensive farm trials, he developed a progesterone - PMSG procedure which was to become the basis of a kit which was subsequently marketed by Burroughs Wellcome.

Having established a technique for controlled breeding in sheep, he next turned his attention

to gonadotrophin-induced twinning in cattle as a means of increasing reproductive efficiency. Again, much of this research was carried out in association with cattle farmers in England and Wales and was supported, in part, by the UK Milk Marketing Board. He moved to North America in 1961, where he spent two years at Washington State University working on embryo transfer and twinning with E.S.E Hafez and E. Rajakoski. In 1963, he was appointed Senior Lecturer at University College Dublin (UCD), Ireland, and was quickly promoted to Professor of Animal Husbandry. Here, he worked on several aspects of controlled reproduction in sheep, cattle, pigs, and horses. While his early studies at UCD were procedures refining concerned with synchronization of oestrus in sheep, he later devoted all of his energies to developing embryo transfer procedures for cattle. During the late sixties he turned his attention to in vitro maturation of oocytes and to the hormonal induction of superovulation. He was also instrumental in demonstrating that the rabbit oviduct could be used for the short-term culture of cow embryos before it was possible to achieve this in vitro. One of Professor Gordon's major breakthroughs was the establishment of a simple non-surgical procedure for transferring embryos in the cow with relatively high levels of success. This procedure was adopted almost universally in the embryo transfer industry as it demonstrated that normal pregnancy and high twinning rates could be established using simple transcervical procedures. In the mid-eighties the main focus of his research became the development of procedures for the large-scale in vitro production of bovine embryos as an alternative to superovulation. This was prior to the development of transvaginal ovum-pick up procedures from the live cow and relied on the collection of immature oocytes from the ovaries of slaughtered cattle - to generate 'embryos from offal'. This work paved the way for the establishment of Ovamass Ltd in 1987, the first company to commercialize the production of cattle embryos in vitro.

Professor Gordon was a prolific writer, publishing many scientific articles with some 280 to his credit, but in his later years at UCD, from where he retired in 1993, and in his retirement, he published 6 books. His first book, Controlled Breeding in Farm Animals, was published in 1983. This later evolved into a four-volume series entitled Controlled Reproduction in Farm Animals separately dealing with Cattle and Buffalos (1996), Sheep and Goats (1997), Horse, Deer and Camelids (1997) and Pigs (1999).The second edition book Reproductive Technologies in Farm Animals, first published in 2004, was published as recently as 2017. In addition, his masterpiece, Laboratory Production of Cattle Embryos was first published in 1994 with a second edition published in 2003. This tome was a true 'one-stop-shop' covering everything from the historical developments in IVF technology in cattle, through detailed chapters on oocyte recovery, oocyte maturation, sperm capacitation, IVF, embryo culture, cryopreservation to embryo transfer and embryos in research and commercial practice. Although, a little dated given the rapid progress over the past 20 years, this book is still a 'must have' for anyone working in the area.

Professor Gordon was an excellent teacher; one of his greatest characteristics was his encyclopaedic knowledge of the literature. As undergraduate students we were riveted by his fascinating lectures, as he regaled us with anecdotes and stories from his own experience and from the literature. He supervised approximately 80 fulltime postgraduate research students (Masters and PhD) at UCD's Lyons Research Farm. We were very fortunate to be among his last cohort of students.

Professor Gordon was a deeply private and modest individual. Few, if any, photos exist of him on the web. Indeed, some years ago when preparing a talk, we had to ask him to put his modesty aside and provide a photo. That photo appears here.

Pat Lonergan & Trudee Fair School of Agriculture and Food Science University College Dublin

Note: This note has drawn heavily on the text written by another of Professor Gordon's students, Maurice Boland, at the time of the AETE and IETS Pioneer Awards and published in the respective proceedings.

2022 - UTRECHT!



Back in March 2020, none of us could have imagined that COVID would have had such a

profound impact on the way that we have worked. The disease has had catastrophic personal consequences and many of our members will have felt the effects directly. But now, thanks to amazing progress from a great many of our peers, we can begin to plan to move forward with more certainty than at any time since the eruption of COVID19.

With this in mind, the AETE are sure that everyone is now ready to meet up again *in person*. With even more excitement than usual, we can announce that our next annual meeting will be held in the fabulous city of *Utrecht, The Netherlands* on Sept 15-16.

We will be announcing details of venue and programme over the coming weeks, but the Local

Organising Committee are working hard to finalise the details.

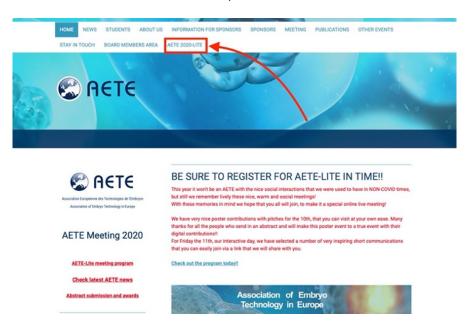
So, save the date and we really look forward to seeing you in three dimensions in The Netherlands.

JOINING DETAILS - AETE-POSTER SESSIONS

After our decision to 'go virtual' we have had an amazing response from you, the AETE community. To showcase the latest research, we have prepared a week-long virtual poster session, which you can access from midnight (CET) on September 6 through to midnight September 15th.

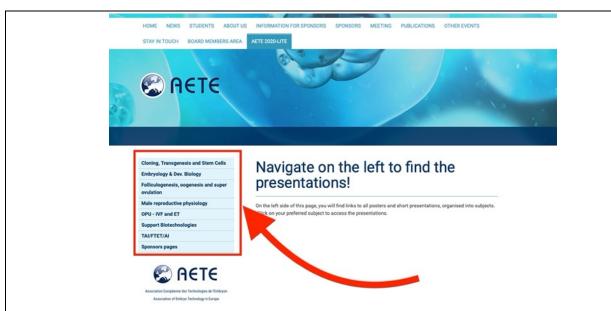
To see the latest research, you will need to head to aete.eu - on any internet-enabled device.

Once there, click on AETE 2021 Poster Area at the top of the screen:



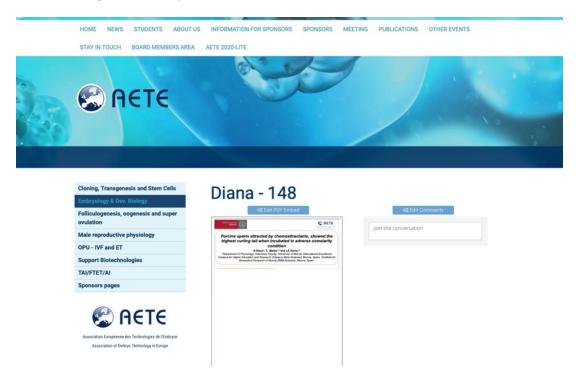
You will be prompted to enter the password. You will receive the password to enter this section of the website on September 5.

When you have entered the password, you will be able to navigate to the presentations. These are organised in the same broad subjects as in the proceedings/abstract booklet. Click on the menu on the left of the screen to enter your subject of interest:



After a short wait, pdf files of posters will download. Please be patient with your internet service provider and our website – which was not originally designed for such activities. Presentations are listed alphabetically, with the abstract number next to them

You can click to enlarge/download posters to view in full screen.



You can see next to the poster a comment box. Please use this to ask questions or make comments about the work. All presenters will be asked to keep checking on comments and replying where they can.



We hope that you enjoy this way of interacting with the latest research. However, this is new to us all and there may well be technical issues. If you have problems, please email the special email address aete20@gmail.com

JOINING INSTRUCTIONS - AETE WEBINARS - 7 AND 13

SEPTEMBER

Our two webinars will 1 will be hosted through the AETE Zoom account. Registration is free, but only registered delegates can attend these live sessions.

To book webinar attendance, please visit https://www.aete.eu/meeting/webinar-registration/

You will receive a link by email on Friday September 3.

1) Click on the link sent email

To interact and to ask questions you can use the chat box. Your question will only appear in the public chat box if it is chosen for "publication" by the directors of the live event. Behind the screens we will keep an eye on it and a selection of the questions will be asked by the chair to the presenter of the moment.

Please help to choose the question(s) of your choice by liking those of others! The most liked question will be asked first to the speaker.

2) During the session you can enter and leave via the same link (although we like you to stay!



In case of technical issues, the live event can be disrupted or ended prematurely. If this happens, please check your email inbox as you will receive a new link so you can join again.



In case you experience difficulties, feel free to send an email to <u>aete20@gmail.com</u> we will try to help you as soon as possible.

UPCOMING EVENTS

WILL BE UPDATED ON AETE.EU AS THEY ARE ANNOUNCED.

PROGRAMME - AETE WEBINARS:

Monday, 6 September (15.00-16.30) (REGISTER HERE)

Introduction/Welcome (AETE president: Jo Leroy and section chairs Hilde Aardema and Marja Mikkola

- **1.- Claire Vignault** (INRAe, France) Bisphenol S impaired oestradiol secretion during ovine basal folliculogenesis in vitro.
- **2.- Abdellatif Rahim** (Institut National de la Recherche Agronomique de Settat, Morocco)- Effects of c-phycocyanin purified from Spirulina platensis on preserved ram semen quality and fertility rate
- **3.- Daniel Angel-Velez** (Ghent University, Belgium) Comparison of sugars as non-permeating cryoprotectant for immature equine oocyte vitrification.
- **4.- Giselle Gamarra Lazo (**AURIVA, France) High bovine embryo production in OPU-IVP commercial programs using heifer and cow donor oocytes and X-sorted and unsorted sperms
- **5.- Kerlijne Moorkens** (University of Antwerp, Belgium) Temporal changes in the oviduct following the introduction of an obesogenic diet in outbred mice: a focus on transcriptomic changes.

Monday, 13 September (15.00-16.30) (REGISTER HERE)

Introduction /Welcome: AETE president: Jo Leroy and section chairs Hilde Aardema and Marja Mikkola

- **1.- Víctor Yus Girón** (Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria, Spain) Impaired post-blastocyst ovine development in vitro by TGFβ inhibition can be partially rescued by ROCK inhibitor
- **2.- Romysa Samy Gadelkareem (**Cairo University, Egypt) Transcriptional, mitochondrial activity and viability of Egyptian buffalo's granulosa cells in vitro cultured under heat elevation

3 Waleed F.A. Marei (University of Antwerp, Belgium) - Early postpartum metabolic and anti-oxidant
profile in dairy cows is associated with changes in the granulosa cell transcriptomic profile in the
dominant follicle at the time of breeding
4 Tania García-Martínez (Autonomous University of Barcelona, Spain) - Impact of equilibration
duration combined with temperature on bovine oocyte vitrification procedures
5 Alba Pérez-Gómez (Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria, Spain) - Kinetics of bovine embryonic lineages development during post-hatching embryo culture
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PLEASE NOTE - ALL TIMES ARE CET.