AETE
Association Européenne de Transfert Embryonnaire
European Embryo Transfer Association

December 2014 **A.E.T.E. NEWSLETTER N°42** **Editor: Dimitrios Rizos**

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President's letter

Dear Colleagues, dear Friends,

The year 2014 is running out, it is once again Advent time – and one of the oldest and most famous Christmas markets in Europe, the Dresden "STRIETZELMARKT", has opened for the 580th time its doors. So this event is a little bit older than the AETE. However we had our 30th anniversary of the AETE and the venue of our Anniversary Scientific Meeting was only in a stone throw distance to this place. Under the cross of the world famous Church of our Holy women we had a very productive and nice anniversary meeting.

In total, 168 participants came to Dresden to make with us this meeting. The anniversary lecture was opened by the "grandfather" of AETE - Michel Thibier.

Unfortunately, because of an accident he could not come to our meeting and so he has sent his message and some illustrations via video to Dresden. This was a very touching and emotional moment. Serge Lacaze started a second professional career as an AETE-reporter and interviewed Michel about his thoughts regarding "European embryo transfer industry – a challenge in 1984 and a success in 2014" and produced a perfect video clip. Finally Claire Ponsart completed this lecture with some diagrams and results and concluded as stated by Michel: "The constant research of innovation, the excellent expertise following well designed training of the practitioners, their sense of responsibility in taking the most seriously the recommendations and rules regarding the health safety

and precautions taken by the officially approved embryo transfer or production teams all explain the resulting level of excellence of this industry. Clearly, the conditions are currently met to foresee that this success story will continue as such in our European continent in the future."

Further invited lectures were given by Teresa Mogas from Spain, Sander de Roos from the Netherlands and Zvi Roth from Israel.

Zvi gave a broad overview about the multifactorial effects of heat stress in follicles and embryos and showed in particular some strategies to bypass reduced oocyte and embryonic developmental competence caused by thermal stress.

Teresa presented some new insights on cryopreservation of oocytes and embryos.

Sander introduced the CRV breeding program under the view of genotyping and genomic selection.

The presentation of the AETE Medal of the 2014 Pioneer Award to Prof. Dr. Klaus Peter Brüssow (FBN Dummerstorf, Germany) was, of course, a special event during the conference. Klaus Peter received the award of the AETE due to his excellent and wide-ranging contributions in the field of reproductive physiology in swine and for his broad contributions to porcine ET and its associated techniques.

The medalist gave a comprehensive overview about his whole academic life and illustrated his most important scientific results. He is one of the most enthusiastic people in the field of pig reproduction who I know. And it was a great honor and pleasure for me to overhand him this prize at the end of his scientific carrier. Many thanks also to Prof. Josef Ratky, Hungary, the laudatory orator, a close friend, scientific companion and former Vice president of the AETE.

Traditionally four students were selected to join the Student Competition. This year we had a special situation. Because of special reasons and unforeseen circumstances, we had to invite very shortly a replacement student - an additional student from Jo Leroy's group. We had to thank Sara Valckx and Jo that they could make it to come and to present the paper. And without any bonus Sara made the race with her results about "Long term effects of elevated NEFA concentration on oocyte development and embryo metabolism." Many thanks to her again. At this junction I like to stimulate also for the coming years all students and their supervisors to participate and to submit papers for our AETE student competition. It is a good possibility to train their skills and to discuss the results of their own work with an excellent audience. The next AETE meeting in 2015 will be the first meeting where the PhD students take center stage! Prices will be awarded to the best poster presentation, to the best oral presentation and to the student competition finalist. A special breakfast is served only for the students, where they have the chance to speak and discuss with one of the more established senior scientists.

The two workshops about "Feeding strategies to optimize oocyte and embryo development" and "Genotyping of embryos" organized by our board members Jo and Serge rounded out the complete frame of our scientific program and demonstrated that there are always two sides of a coin. A short summary of the two successful workshops is included in this newsletter.
Furthermore I have to announce a change in the board in this newsletter.

Hiemke Knijn left the board. She stepped into the board in 2010 and has overtaken Sybrand Merton's task to collect and to analyze all European ET–data.

This was a very fortunate constellation and it helped a lot to generate the data very effectively. She made a wonderful and great job. Her character, her attitude and her perception, how we should manage the AETE, helped the board also in difficult situations. I like to take again the opportunity to thank her for four years of close cooperation, for the climate of confidence and for her great commitment to AETE. I could always rely on her.

At this juncture I like to introduce Marja Mikkola from Finland. Marja won the vote for the new board membership. I like to congratulate and to welcome her in the board.

I am sure, she will realize a very positive role within our organization and she has already started to overtake the tasks from Hiemke. Good luck and perseverance in this new and responsible position to Marja.

From my point of view we had also some good possibilities to activate the special social atmosphere of the AETE and especially the cultural end and fare well party of our meeting was very nice and unpredictably. The young and fresh Dixieland-Band "Blue Dragons"- a short and cost-effective stopgap-solution rocked the AETE.

The next ET–event casts its shadow before. I am sure many of us will travel to Paris to attend the next IETS meeting. Therefore I look forward to meet many of you at this special place.

The preparation of our next AETE meeting in Ghent, Belgium on the 10th and 11th of September 2015 is in good hands and on a good way. The Local Organizing Committee, as chaired by Jo Leroy and Ann Van Soom and the AETE board are already working hard and I am sure that we will have once again an interesting and enjoyable meeting. More information will be placed on the AETE web-site soon.

At the end of my letter - however it comes from the heart: I wish you all a peaceful and nice Christmas time and a Happy New Year and of course, I hope to see you soon again in 2015.

Sincerely

Frank Becker
President A.E.T.E

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A "visual" update of the last A.E.T.E. Scientific Meeting

Dear Colleagues, I am taking this opportunity by putting some photos together to remind you the success (scientifically and socially) of the previous meeting of the Association that was held in beautiful Dresden, Germany at 12th and 13th of September 2014. It was a pleasure to visit Dresden, a wonderful historical city. I would like to thank **Dr. Frank Becker**, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany and **Dr. Frank Richter**, MASTERRIND GmbH, Hohenfichte, Leubsdorf, Germany as a Local Organising Committee, and their colleagues for the organization of the fantastic meeting. I am confident that it will be another productive year for the Society and its members. The president and the board members of the society wishing you a Merry Christmas and a Happy New Year 2015.

Dimitrios Rizos, AETE Board Member
Editor of the Newsletter


Welcome Reception


Lecture Hall


Coffee Brakes

Student Competition

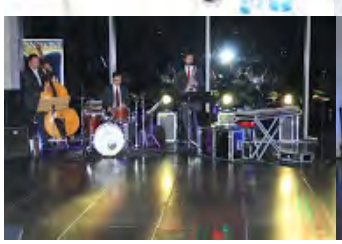

L. Jordaens, Belgium G. Gamarra, France


K. Desmet, Belgium S.D.M. Valckx, Belgium

Gala Dinner








Selected Abstracts for Oral Presentation


Dr. M. Reichenbach, Germany


Dr. F. Guignot, France


Dr. Jaskowski, Poland


Dr. A. Vernunft, Germany

Selected Abstracts for Oral Presentation


S.M. Bernal, Germany


M. Hamdi, Spain


Dr. E. Mullaart,
The Netherlands


Dr. D. Ctvrtlikova-knitlova,
Czech Republic

Farewell Party


N. Ortiz-Estibano, Belgi

Winner of the STUDENT COMPETITION

Sara Valckx, Belgium

Long term elevated NEFA concentrations during *in vitro* murine follicle growth reduce oocyte developmental competence and alter subsequent embryo metabolism

Valckx SDM[a], Simintiras C[b], Mckeegan P[b], Sturmey R[b], Cortvrindt R[c], Bols PEr, Leroy JLMR[a]

[a]*Gamete Research Center, University of Antwerp, Belgium;* [b]*Center for Cardiovascular and Metabolic Research, Hull York Medical School, UK;* [c]*EggCentris bvba, Belgium*

Metabolic disorders, such as a negative energy balance in dairy cows or obesity and type 2 diabetes in human, are characterized by elevated serum and follicular fluid non-esterified fatty acid (NEFA) concentrations, due to an increased lipolysis. Such high NEFA concentrations during the final phase of oocyte maturation *in vitro* (24h) impair bovine oocyte developmental competence and subsequent embryo quality and metabolism. We recently showed that long-term elevated NEFA concentrations during murine whole follicle growth, more closely mimicking the *in vivo* situation, only moderately affect antrum formation, but substantially alter granulosa cell gene expression patterns and steroidogenesis. How this may affect the oocyte and subsequent embryo is unknown. Therefore, we hypothesized that long-term elevated NEFA concentrations may hamper oocyte developmental competence and subsequent embryo quality through an altered follicular physiology (indirect) or via direct effects at the oocyte level. The specific aim was to study the effect of elevated NEFA concentrations during murine *in vitro* follicle growth, on oocyte developmental competence and embryo metabolism, as a marker for embryo quality.

Murine early secondary follicles were cultured individually until the antral stage (12days), under the following conditions: BASAL NEFA [72µM palmitic acid (PA), stearic acid (SA) and oleic acid (OA) mix], HIGH SA (280µM SA) and HIGH NEFA (720µM NEFA mix). After a Day 12 ovulatory stimulus (hCG, EGF), oocytes from all antral follicles were isolated, fertilized and presumptive zygotes were cultured following standard laboratory procedures. Cleavage rate (Day 1 p.i.) and blastocyst formation (Day 5 p.i.) were quantified (4 replicates). Furthermore, on Day 2 p.i., 4- to 8-cell stage embryos were selected and cultured in groups of 10 in 5µl homemade ASSAY medium drops (specific supplementation of glucose and amino acids) under a mineral oil overlay. Embryos were allowed to grow for exactly 24h, after which the (mostly) morula stage embryos were removed from the culture drops. ASSAY medium droplets were then analyzed for glucose (ultrafluorometry) and amino acid composition (HPLC) (4 replicates). Data were analyzed with binary logistic regression (embryo development) or non-parametric Kruskal-Wallis tests (amino acids, glucose).

Cleavage rate was reduced for HIGH NEFA embryos (53%), compared to BASAL embryos (69%, $P<0.01$). Blastocyst formation was impaired in HIGH SA, HIGH OA and HIGH NEFA embryos (32%, 33% and 42% respectively), compared to the BASAL treatment (63%, $P<0.01$). Furthermore, HIGH SA embryos consumed significantly less glucose compared to BASAL and HIGH NEFA embryos ($P<0.01$). Amino acid analyses only showed a trend ($P=0.097$) for an increased overall amino acid production in HIGH NEFA embryos.

In conclusion, our results indicate that long-term elevated NEFA concentrations during

follicular growth, alter follicular physiology, ultimately leading to an impaired oocytedevelopmental competence and embryos with an altered ('glucose intolerant') metabolism.

Our most recent research also pointed out that such a long-term NEFA exposure during murine follicular growth more severely affects oocyte developmental competence, compared to a short-term NEFA exposure, only during the final phase of oocyte maturation, after the ovulatory stimulus.

These data are part of a PhD thesis that will be defended the 2nd of February 2015 (please visit https://www.uantwerpen.be/en/rg/vpb/ at that time for the full PDF version)

WORKSHOP I

Feeding strategies to optimize oocyte and embryo development

Organiser: Dr. Jo Leroy, Belgium

Participants: Dr. Isabelle Hue, France
Dr. Dimitrios Rizos, Spain

In this workshop, during the afternoon of the first full conference day, we aimed to bring state of the art science and practice together. Expectations were high as it remains a true challenge to come up with concrete advises based on rather fundamental research.

The workshop consisted of three short scientific stories to cover the tale of the oocyte. The first speaker, Dr Jo Leroy (UAntwerpen, Antwerp, Belgium) expanded on the importance of the follicular environment in determining the oocyte's developmental capacity. Data were shown about how maternal diet or a deviating maternal metabolism (like obesity or an episode of negative energy balance) may alter the composition of the pre-ovulatory follicular environment and how this can hamper oocyte development. More precise data even showed that this deviating oocyte environment may alter the quality of a Day 7 embryo in terms of epigenomic, transcriptomic and metabolic function. The value of the in vitro models were discussed and questioned. Furthermore, new data were presented illustrating that a long term exposure to adverse metabolic conditions during the process of folliculogenesis may further potentiate potential negative effects. Apparently, in vitro mouse follicle cultures revealed that, while the follicular development is only slightly affected, the oocyte quality could be heavily diminished. It is very clear from these data that feeding for good oocyte quality is important to guarantee good fertility in general and optimal oocyte quality more specifically.

As a second speaker, Dr. Dimitrios Rizos (INIA, Madrid, Spain) expanded about the Oviduct: the physiological embryo environment
The oviduct is the organ where final maturation of gametes, fertilization and early embryo development occurs in vivo. It is obvious that better understanding of the oviductal environment would help our knowledge on early embryonic events that can be applied in vitro. The first stages of embryo development in bovine occur in the oviduct, where the embryo spends around 4 days. At the molecular level, Embryonic Genome Activation is the most important and occurs at the 8-16 cell stage. At this time the embryo starts to synthetize and use its own mRNA. This is important to ensure normal preimplantation and early fetal development.
The fact that embryos can be obtained in vitro undermines the role of the oviduct. However, it has been demonstrated that when the embryos are cultured in the oviduct of sheep, cattle or mice the embryo quality is better compared to the embryos produced in vitro, in terms of morphology, gene expression, cryotolerance and pregnancy rate after transfer. Moreover, changing the culture conditions from *in vivo* to *in vitro,* or the reverse, just before or after embryonic genome activation, critically influences the gene expression patterns of the resulting blastocysts. Therefore, all this proves that

the oviduct is not a mere organ that transports the embryo through the uterus but also that a communication with the embryo exists.
The epithelium of the oviduct is made up of ciliary and secretory cells secreting proteins and other factors that contribute to the formation of the oviductal fluid (OF). The OF is a complex mixture of constituents derived from plasma and proteins formed by the oviduct epithelium and it is responsible for nurturing the embryo during the early stages of development. A better understanding of this communication would improve the efficiency of IVP, which will benefit the society on healthy and economical issues.

The third speaker of the workshop was Dr. Isabelle Hue (INRA, Jouy en Josas, France) who expanded on the late pre-implanting consequences of insults occurring in earlier stages. Indeed, fertility loss has rarely been considered in its post blastocyst phenotype. So far it remained unclear whether low fertility at implantation resulted in normal numbers of bad looking, wrongly developed embryos or in less embryos being of good quality. Exploring that on lactating cows and growing heifers, it has been showed that i) more cows than heifers were needed to provide 10 embryos at 18 days post AI, ii) most of the recovered embryos were well developed and elongated but iii) gene expression differences appeared within extra-embryonic tissues depending on the physiological statuses of the dams, iv) some of which correlated to changes/evolutions in circulating metabolites of the dams. Whether the results would have been similar at earliest elongation stages (before day 18) is unknown, however what was observed at D18 likely results from a long lasting scenario. The specific description of the contribution of the uterine environment in fertility loss would therefore require other experimental designs such as embryo transfers, uterine fluid analyses, in vitro studies to decipher the effects of uterine fluids components on cell cultures, as currently investigated for amino acids, or paired uterus-conceptus in vivo analyses to further mine the sensor/driver functions of the endometrium.

After 1 hour of pure data, it was time for discussion and the audience was asked to criticize the research models presented so far: “what new research is urgently needed to fulfill the needs in the field of applied assisted reproduction”? However, it was difficult to elicit critical notes from the public. Some people shared their experience with feeding issues in relation to oocyte and embryo quality. It was generally concluded that formulating general advises that are widely applicable in the field, is not an easy task and perhaps not possible. Again, it was clear from this workshop that there is a distance between the research topics in the laboratory and the real needs in the field. The AETE remains the best platform to nourish a critical discussion about this and to maintain a close interrelation between science and practice.

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WORKSHOP II

Genotyping of embryos

Organisers: Dr. Serge Lacaze, Midatest, France
Dr. Daniel Le Bourhis, UNCEIA, France

Participants: Dr. Eric Mullaart, CRV, The Netherlands
Dr. Knut Roschlau, Masterring, Germany
Dr. Alexandre Morel, Evolution, France

After the presentation in Saint Malo (2012) of " Embryo genotyping: from DNA amplification to field implementation" by Claire Ponsart , the aim of the workshop 2 was to know the using of this technique by the ET teams.

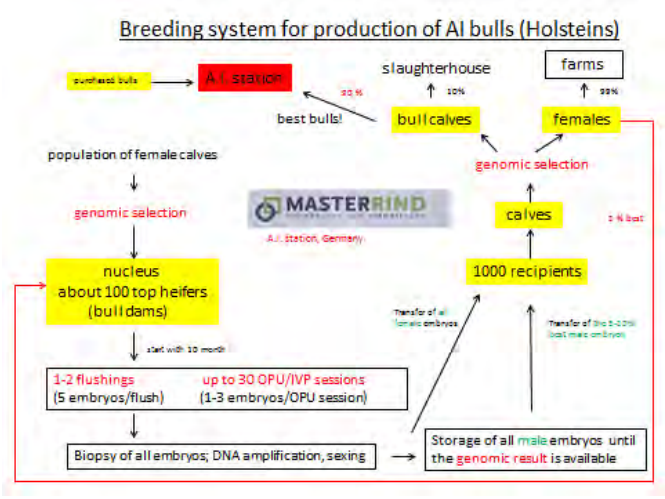
In Europe four teams use the Embryo genotyping (CRV, Masterring, Midatest, and Evolution).

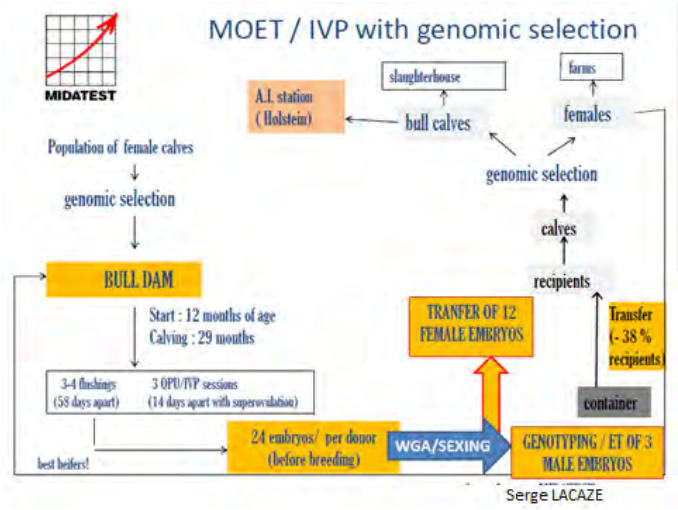
We thank these teams for their participation of the workshop and for their answers of the questionnaire (CRV Erik Mullaart, Masterring Knut Roschlau, Midatest Serge Lacaze, Evolution Alexandre Morel).
We present in the newsletter the principal data and strategy of ET teams.
The Interests of EG are:

- Management of recipients: number of recipients is more and more limited with a competition with sexed semen
- Embryo selection before transfer
- Commercial and genetic interest (To know early genetic value ,best management of genetic program particularly with no interested males)

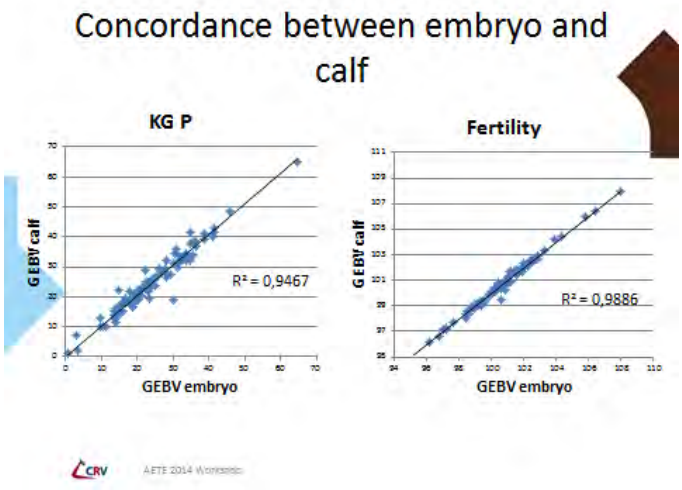
CRV, Masterring Midatest do between 500 and 750 biopsied embryos per year, Evolution 200 (experimental data)

The strategy of select firms are similar: example with Masterring group and Midatest.





The concordance between embryo and calf genetic values is very good with high correlation: example with CRV Data.



CRV, MIDATEST, Evolution use the blade for the biopsy and Masterring the aspiration .
The mean number of biopsy cells is between 5 and 10. This number is necessary to have good amplification without affecting the pregnancy rate.

Four teams use the same technique and kit DNA amplification (Qiagen REPLI g mini kit), 54k microchip is used except CRV using also 10k microchip.

A genetic value is calculated only when the call rate is more than 80 (Masterring, Midatest,Evolution) or 85%.
The call rate is the percentage of SNPs (DNA markers) which give good results; in the case of embryo the limit is 80 or 85 % after using imputation technique in comparison with life animal which is 95% to have a genetic value result.

Organization is different between teams:
CRV , Evolution , MIDATEST have Genetic Value in average after 1-1.5 month after flushing, Masterring only 1 week (lab witch does genomic analyzes is very close).

Evolution and Midatest also use amplification DNA for determination of specific genes like hornless and sex.

Four factors in relation with pregnancy rate of biopsied embryos were presented by Serge LACAZE:

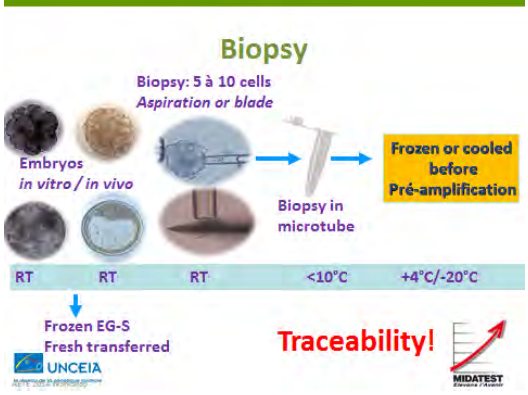
- Fresh (good results between 55 and 65%)– Frozen between 40 and 55%).
- In vivo – In vitro (Midatest has presented first results in vitro with frozen biopsied embryos: 30% (40 transfers) in comparison at 51% in vivo (871 transfers).
- Quality of embryos in vivo, results between excellent (51%) and good embryos (46%).
- Type of recipients (Heifers or Cows) 20% less with cow recipients.

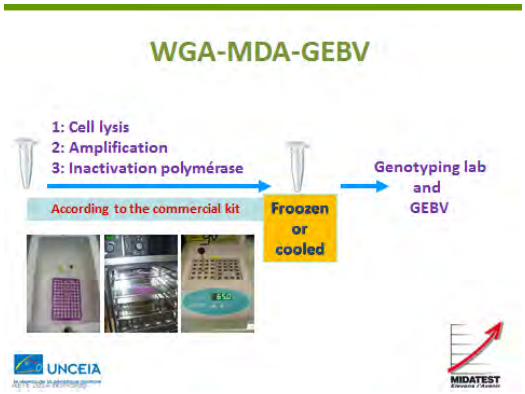
In conclusion: Each team presented future perspectives**:**

Pregnancy

- Improvement of pregnancy rates after transfer of biopsied frozen/stored IVF embryos.
- Reduce the delay between biopsy and GEBV restitution.

Principal steps of the EG is resumed in the following graphs:





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European Statistical data of bovine embryo transfer activity 2013

Marja Mikkola, Finland
Hiemke Knijn, The Netherlands

The embryo transfer activities in Europe, as presented during the 30th AETE meeting in September 2014 in Dresden, Germany, are summarised in this report. The presented data are based on embryo transfer activities for breeding and commercial embryo production reported by 26 European countries (countries that have at least part of their country in Europe). The data presented here are slightly different compared to the data presented in the proceedings of the meeting due to the fact that information from some countries was received after the deadline of the publication of the proceedings. The presented data include numbers on embryo production (MOET and OPU-IVP) and transfers (fresh and frozen) for bovine and other species (sheep, swine, goat and horse). These data are included in the report of the International Embryo Transfer Association (IETS Data Retrieval Committee) on embryo transfer activities worldwide.

Embryo production

The total number of flushed donors was 22,847, which was a slight increase in activity compared to the previous year. This resulted in collection of 137,285 transferable embryos, an increase compared to last year. The mean number of transferable embryos per flush was 6.0. The results of embryo flushing from 2013 and previous years are shown in Figure 1.

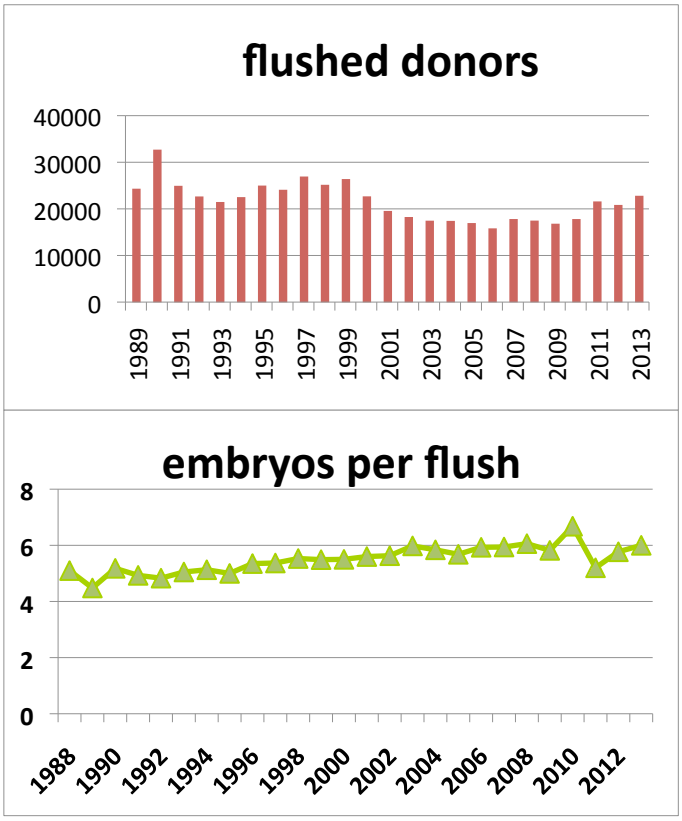

Fig. 1: In vivo embryo production in Europe (number of flushes and number of embryos per flush).

In 2013, seven countries applied OPU for commercial reasons. Two countries that reported OPU activities in 2012 did not report activities in 2013 but instead two new countries reported activities in 2013, so the total number of countries active with OPU in 2013 is the same as in 2012. The total number of OPU sessions was 7,505, a huge increase compared to last year. This resulted in a production of 13,712 transferable embryos. The mean embryo production was 1.8 embryos per session. The OPU activities are increasing for the fifth year in a row. All countries that report OPU activities had an increase in the number of OPU sessions so the increase was not caused by one new entrance country. OPU IVP results from 2013 and previous years are shown in Figure 2.

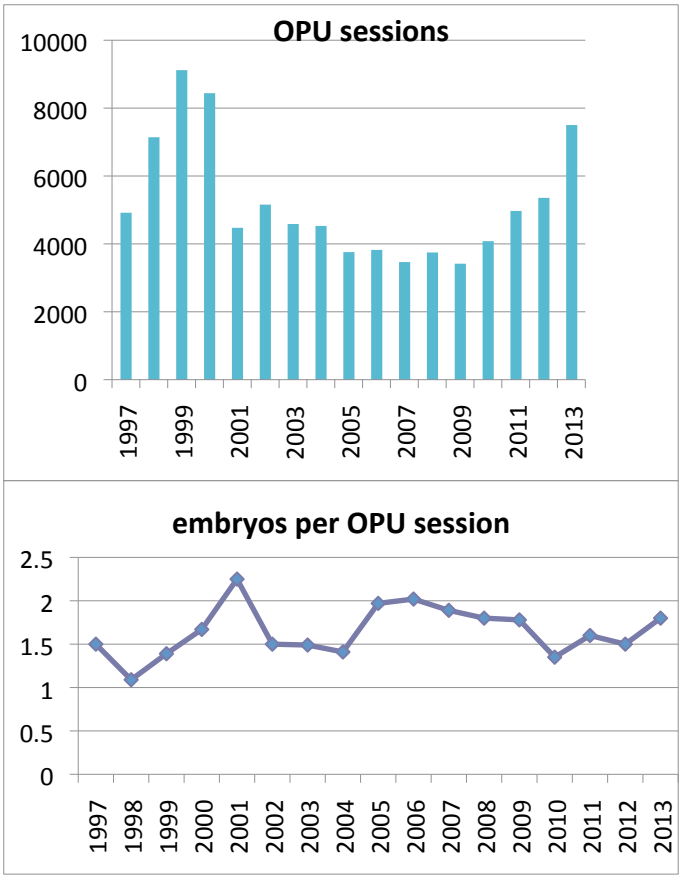

Fig. 2: In vitro embryo production in Europe (number of OPU sessions and number of embryos per session).

Embryo transfers

The number of embryos transferred amounts to 133,279, an increase compared to last year (Figure 3). The proportion of IVP embryos was 9.1%. The proportion of frozen embryos was 61% and 23% for the in vivo and in vitro embryos, respectively. The proportion of frozen embryos stays similar over the years.

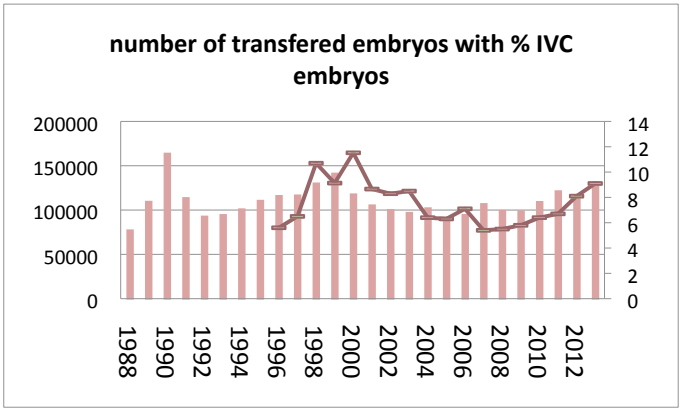

Fig.3: Total number of embryos transferred in Europe with the percentage of IVC embryos.

The European countries that transferred more than 1000 embryos in 2013 are listed in Table 1 together with the number of transfers that were done in 2012.

Table 1: The European countries with more than 1000 embryos transferred in 2013 and the countries with number of transfers more than 1000 in 2012.

Countries	Transfers in 2013	Transfers in 2012
Netherlands	**36,964**	25,553
France	**35,205**	30,830
Germany	**21,502**	19,915
UK	**9,427**	14,959
Italy	**5,996**	
Belgium	**4,876**	4,698
Denmark	**3,581**	2,939
Spain	**3,209**	1,922
Finland	**2,973**	3,654
Switzerland	**2,210**	2,897
Russian Federation	**2,148**	
Czech Republic	**1,401**	
Ireland	**no data reported**	3,306

Other data

In the yearly survey questions concerning the use of sexed semen in embryo production, as well as the number of genotyped embryos are included. Due to the lack of information in many country reports it is not useful to report on these data in this article. We would like to encourage all countries to collect also the data on these subjects so we can get an overview of the adoption of these new techniques in Europe.

Other species

Data for embryo transfer activities in sheep, swine, goat and equine are shown in Figure 4. This year only 7 countries reported embryo activities in species other than bovine. Embryo activities were reported in sheep and horses. No activities were reported in goats and swine. There are large fluctuations in activities over the years possibly caused by incomplete data collection.

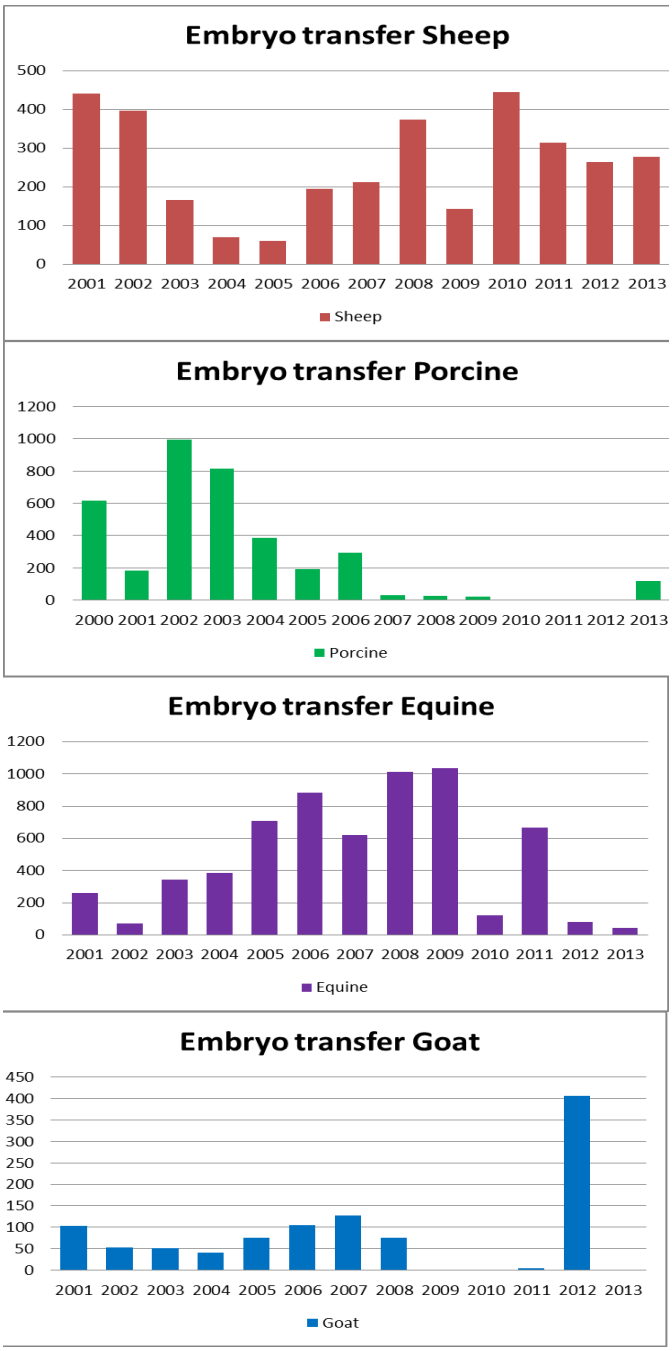

Fig. 4: Number of embryos transferred in Europe; other species

Summary

- This year the data were collected in 26 countries, one country less compared to 2012.
- The number of embryos collected and transferred in Europe is increasing the last years both for in vivo as in vitro embryos.
- More countries are applying OPU possibly due to upcoming technologies like genotyping of embryos.
- The activities in other species than bovine that are reported to AETE fluctuate a lot. It is very hard to collect the data of other species. One of the reasons could be that most collectors in the different countries are involved in embryo activities in bovine and do not have connections with embryo transfer activities in other species.

Acknowledgements:

I would like to thank all participants who collected the embryo transfer statistics for their country and helped us to make an overview of the activities in Europe.

Hiemke Knijn
C RV, The Netherlands

From now on Marja Mikkola from Finland will take over the task to collect the European data. She will contact all participants in 2015. If you have any suggestions or questions please contact Marja: Marja.Mikkola@faba.fi

Marja Mikkola,
Faba, Finland

Upcoming Events

IETS 2015 Pre-Symposium:
Equine Reproduction
January 9-10, 2015
Organized by the French Academy of Agriculture
At: Academie d'Agriculture, 18 rue de Bellechasse, Paris
For more information, please visit the IETS web site at: http://www.iets.org/2015/

IETS 2015 – Pre-Symposium:
Safe International Trade in Embryos
At: World Organisation for Animal Health (OIE), Headquarters, 12 rue de Prony, Paris
Chair: Claire Ponsart
January 10, 2015
See program below
For more information, please visit the IETS web site at: http://www.iets.org/2015/

41st Annual Conference of the International Embryo Transfer Society (IETS)
January 10-13, 2015
Versailles, France
For more information, please visit the IETS web site at: http://www.iets.org/2015/

EPICONCEPT-Epigenetics and Periconceptional Environment – Cost Action FA1201
Workshop 2015
Periconception Environment
26-28 April 2015,
Dubrovnik, Croatia
For more information, please visit the COST-EPICONCEPT web site at:
http://cost-epiconcept.eu/ or
http://cost-epiconcept.eu/workshop_2015.html

EPICONCEPT-Epigenetics and Periconceptional Environment – Cost Action FA1201
Conference 2015
Epigenetics and Periconception Environment
6-7 October 2015,
Hersonissos, Crete, Greece
For more information, please visit the COST-EPICONCEPT web site at:
http://cost-epiconcept.eu/ or
http://cost-epiconcept.eu/conference_2015.html

American Embryo Transfer Association (AETA) & Canadian Embryo Transfer Association (CETA/ACTE)
Joint Scientific Convention
October 15-17, 2015
Sheraton on the Falls
Niagara Falls, Ontario, Canada
For more information, please visit the CETA/ACTE web site at: http://www.ceta.ca/
or the AETA web site at: http://www.aeta.org

HASAC Committee

PRE-SYMPOSIUM: Safe international trade in embryos

2015, January 10th

World Organisation for Animal Health (OIE) Headquarters,

12 rue de Prony, PARIS

Chair: Claire Ponsart

Program co-chairs: Michel Thibier

and Stéphan Zientara

Organised with the participation of

anses

Experts & Staff

Objectives: to present to veterinary services, animal health professionals, and embryo transfer stakeholders (1) an update of recent developments in embryo transfer around the world (2) the animal health challenges for international trade in embryos; and (3) current knowledge on pathogen embryo interactions for current and emerging diseases.

Two sessions followed by a panel discussion.

9h00 – 10h30 - Session 1: Activities related to embryo transfer in the world *Chairpersons : Michel Thibier, Alex Thiermann*
9h-9h15 Introduction by Dr Vallat, Director General OIE
9h15-9h45 **Developments of embryo transfer around the world**: Franck Becker (Europe), Patrick Blondin (North America), John Hepburn (Oceania), Joao Henrique Viana (South America) (5 min each)
9h45-10h15 **OIE Standards for trade in embryos.** Derek Belton, Head of the International Trade Department (OIE)
10h15-10h45 **Sanitary aspects of embryo production : from a practitioner's perspective** Louis Picard (ET practitioner, Canada)

Break – coffee, tea

Session 2 - Session 2 : Challenges for trade in (semen and) embryos *Chairpersons : Derek Belton, Stéphan Zientara*
11h15-11h30 Introduction
11h30-12h00 Research challenges to understand and manage pathogen embryo interactions (Julie Gard, Auburn University)
12h00-12h30 Specific scientific challenges related to *in vitro* embryo production : update from the SBTE sanitary working group (Joao Henrique Viana, EMBRAPA)
12h30-13h00 Animal health management tools available to Veterinary Services (Benoit Sauveroche, FVO)

13-14h Lunch

Panel discussion: How to manage the animal health risks associated with international trade in embryos, while avoiding unjustified barriers to trade.

14-16h Panel discussion *Coordinator: Claire Ponsart, Chair of HASAC, ANSES*
Introduction : major questions raised by the emergence of a new pathogen (S Zientara, ANSES)
Major challenges encountered by exporters of embryos with animal health requirements for international trade ; (Frank Becker, AETE ; Patrick Blondin, IETS ; Joao Viana, SBTE)
The CVO perspective (forecast) of future animal health requirements for safe international embryo trade ; CVO Canada (Dr Harpreet S. Kochhar), CVO Germany (Dr Karin Schwabenbauer)
The OIE perspective (forecast) of future animal health requirements for safe international embryo trade. Alejandro Thiermann, Chair of the OIE Terrestrial Animal Health Standards Commission

16h – 16h30 Closing break – coffee, tea

Thanks to our SPONSORS !

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CETA/ACTE

The 31st Scientific Meeting of the A.E.T.E

Will be held in

Ghent, Belgium

11TH-12TH SEPTEMBER 2015

Invitation

On behalf of the European Embryo Transfer Association, the local organizing committee cordially invites you to the 31st scientific meeting in Ghent, Belgium, from the 11th to the 12th of September 2015.

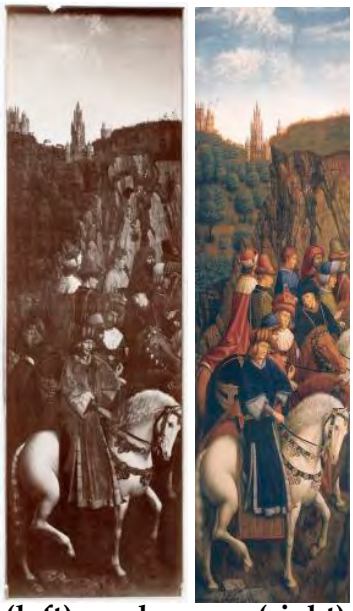
The Local Organizing Committee will be chaired by Dr. Ann van Soom, University of Ghent and Dr. Jo Leroy, University of Antwerp, Belgium.

Welcome to Ghent….a wonderful city

Ghent is a beautiful medieval city in the heart of Europe. In 2011, Ghent was called by Lonely Planet "Europe's best kept secret" and listed 7th in the top-ten of hottest cities worldwide: http://www.lonelyplanet.com/usa/new-york-city/travel-tips-and-articles/76165

View of the Graslei from the Korenlei.

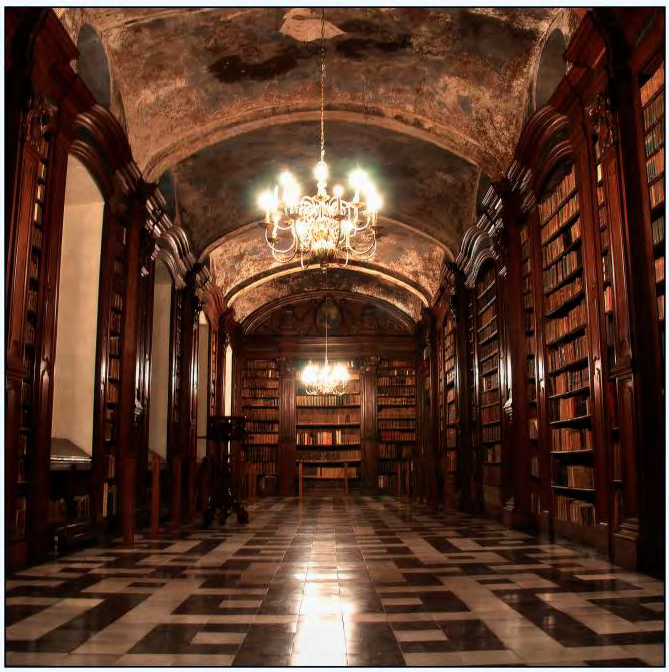
For those interested in medieval architecture, the well preserved center of Ghent offers a lot to visit, such as the old Castle of the Counts (Gravensteen), and the Three Towers of Ghent, including the Saint Bavo's cathedral which holds the infamous painting of the Mystic Lamb by the brothers Van Eyck, of which the panel of the Just Judges was stolen in 1934 and has not been retrieved ever since http://www.arrivalguides.com/en/Travelguides/Europe/Belgium/Gent/thecity



Original (left) and copy (right) of the Just judges

Water is prominently present in Ghent. On Saturday 12th of September 2015, there will be a cultural manifestation called ODEGAND, which is phonetic French for "Water of Ghent" http://www.odegand.be/en/about-odegand
During that festival which is held throughout the city, people can enjoy different styles of music, from jazz to world music and can travel from one gig to the other on the channels by means of little boats.
That is also a reason to book your trip to Ghent early: it is a popular tourist destination and hotels may be fully occupied already a few months before the meeting.

Both science and pleasure will be combined at this AETE-meeting.
For those of you arriving early, a workshop on horse ART ("A week in the life of a horse embryo") will be organized at the Faculty of Veterinary medicine, only a 15 minute drive from the city centre of Ghent (transport from the congress venue and back will be organized). We will be back in time to taste some lovely abbey beers at the Welcome reception in at the medieval and beautiful conference venue: the Augustijner abbey, where the registration will take place as well as the rest of the scientific programme. For those interested, a part of the abbey can be visited that evening in a guided tour, including the impressive library and the chapel.



Library of the Augustijner Abbey

The AETE meeting in Ghent will be the first meeting where the PhD students take center stage! Prices will be awarded to the best poster presentation, to the best oral presentation and to the student competition finalist. A special breakfast is served only for the students, where they have the chance to talk and discuss with one of the more established senior scientists.
The programme of the AETE meeting will soon be available on the website (http://www.aete.eu/), and after a first day of science on Friday, we invite you to have dinner in the Sint-Pieters Abbey, which is located at the other side of Ghent, but still within walking distance, since the old part of Ghent is fairly small. If the weather allows it, we can have the reception in the herb garden of the Abbey, followed by a diner in the crypts, and a dancing party.

Sint Pieters Abbey, near the Sint Pieters Square

Saturday is the final day of the conference, and for those of you who wish to stay another night, we are preparing a cosy get-together, or you can decide to visit ODEGAND.
We truly hope you will come to visit Ghent and meet some old friends again, and make some new ones.
It is definitely worth the trip!

The LOC (in alphabetical order)
- **Peter Bols (UA) - peter.bols@uantwerpen.be**
- **Stefan Deleuze (Ulg) - s.deleuze@ulg.ac.be**
- **Jan Govaere (Ugent) - jan.govaere@ugent.be**
- **Jo Leroy (UA) - jo.leroy@uantwerpen.be**
- **Geert Opsomer (Ugent) - geert.opsomer@ugent.be**
- **Katrien Smits (Ugent) - katrien.smits@ugent.be**
- **Ann Van Soom (Ugent) - ann.vansoom@ugent.be**
- **Peter Vercauteren (CRV) peter.vercauteren@crv4all.com**
- **Sandra Willaert (Ugent) - sandra.willaert@ugent.be**

How to travel to Ghent?

By plane:
International airport of Brussels (Zaventem) or Brussels Charleroi with direct train connections to Ghent (Gent Sint-Pieters station).

By train:
Ghent is well served by all important train connections. High speed trains from France, The Netherlands, Germany and the UK (Eurostar) all call at Brussels South (Brussel Midi) train station. From there, they are direct fast train connections to Ghent.

All important cities in Belgium are reachable through easy and fast train connections from Ghent.

We look forward to seeing you in 2015 in Ghent.

Local Organizing Committee

Language
The official language of the conference is English.

Scientific Secretariat
AETE board

REGISTRATION FEES

Ghent, Belgium 2015	Euros
Full/Associate Member **Before** *15th July 2015*	**290 €**
Full/Associate Member **After** *15th July 2015*	**340 €**
Student Member **Before** *15th July 2015*	**140 €**
Student Member **After** *15th July 2015*	**155 €**
2015 Membership Fee ***Members who pay their annual fee but do not attend the Meeting will receive a copy of the proceedings***	**90 €**
2015 Accompanied Person	**120 €**

This price includes:
- membership fee
- participation at the Meeting (two full days)
- two workshops
- published proceedings
- lunch and coffee breaks
- social events

Fees for Sponsoring AETE Meeting

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Full color back page	**800 Euros**
Full inside color page	**600 Euros**
Half inside color page	**400 Euros**

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Status end of August 2014