



**8th INTERNATIONAL SYMPOSIUM ON CANINE AND FELINE REPRODUCTION - ISCFR**  
In a Joint Meeting with

**EVSSAR** (European Veterinary Society for Small Animal Reproduction)

And as a Satellite Meeting to the June 26-30 **ICAR 2016**  
International Congress on Animal Reproduction (Tours, France)

**We look forward to seeing you all in Paris at the ISCFR 2016 - EVSSAR 2016!!**



Note: Attendance may be limited depending on early indications of interest in attending and the resulting contracting of meeting space and facilities. Please indicate your interest as early as possible. To indicate an interest in attending or participating, and for inclusion on the "ISCFR-EVSSAR 2016" mailing list, please use the **ONLINE FORM**.

Committee - History - Sponsorship - Attendance and Delegates - Reimbursement - Social Program - Scientific Program - Registration - Lodging - Abstracts - "ISCFR Proceedings" Book Series - Program Overview



**INTERNATIONAL ORGANIZING COMMITTEE (IOC)**

Pierre Comizzoli (USA), Gary England (UK), Michelle Kutzler (USA) and John Verstegen (USA)

**COMMITTEES**

✦ These include the International Organizing Committee (IOC), the ISCFR-EVSSAR Local Organizing Committee (LOC), and a Scientific Program Committee (SPC).

**HISTORY**

✦ The 8th quadrennial ISCFR follows past meetings in Dublin, Ireland (1988), Liege, Belgium (1992), Veldhoven, Holland (1996), Oslo, Norway (2000), Sao Paulo, Brazil (2004), Vienna, Austria (2008), and Whistler, Canada (2012). It was a joint meeting with EVSSAR in 2000, 2008, and 2012. Each ISCFR has produced a Proceedings Book as a special issue of an

academic journal, consisting of peer reviewed ISCFR reviews and research papers selected as representing Symposium highlights and seminal contributions to domestic and exotic carnivore reproductive science.

### SPONSORSHIP

✦ We are reaching out to potential sponsors of this important and prestigious meeting for support. The meeting routinely draws attendance of researchers from nearly every laboratory worldwide with a significant and ongoing interest in domestic and exotic canine, feline or other carnivore reproduction or small animal contraception, as a subject of study.

### ATTENDANCE AND DELEGATES

✦ The symposium speakers and delegates represent those doing much of the graduate student training as well as the clinical and didactic teaching of these subjects to future veterinarians and researchers. These delegates are seeking to become as informed as possible about relevant new research results, new or newly introduced instrumentation, products, drugs, and drug applications, as well as new research and clinical techniques represent. Typically, attendance involves 150-180 delegates, a majority of whom contribute to the 140-170 research reports typically presented. Individuals who would like to be included on the ISCFR mailing list must use the **ONLINE FORM**

### REIMBURSEMENT

✦ Due to current budgetary limitations, invited speakers and committee members are responsible for their own expenses (including travel, lodging, meals and registration).

### SOCIAL PROGRAM

✦ In keeping with the tradition of this symposium series, there will be a Welcome Party, Poster Reception (with optional Seine Dinner Cruise) and Awards Ceremony (with optional Gala Dinner).

### SCIENTIFIC PROGRAM

✦ As at past meetings, topics to be represented by invited speakers, featured speakers, and accepted oral abstracts and posters, will include the following - ovarian cycles and pregnancy, gamete and embryo biology *in vivo* and *in vitro*, andrology, contraception, clinical advances in domestic carnivores, reproduction of exotic and endangered carnivores, application of new biotechnologies to carnivore reproduction research, cryopreservation, genetics and sexual development, and, carnivore models of human reproductive disease.

Download the **Scientific Program**.

### REGISTRATION

Download the **Registration Form**.

<b>Registration for the scientific program includes admission to all of the social program activities.</b>		
<b>Scientific Program</b>	<b>Before May 22, 2016</b>	<b>After May 22, 2016</b>
Veterinarians/Scientists	350 €	400 €
Retired/Emeritus	150 €	200 €
Students/Trainees	150 €	200 €

<b>For guests not attending the scientific program but desiring admission to the social program.</b>	
<b>Social Program Only</b>	<b>Before May 22, 2016</b>
Welcome Reception (Wednesday)	30 €
Seine Dinner Cruise (Thursday)	155 €
Gala Dinner (Friday)	80 €

### LODGING

Download the list of **suggested hotels**.

#### ✦ **Walking distance to Salons du Moulin Brûlé :**

- Chinagora, Alfortville - Visit the website
- Le Petit Caporal, Maisons-Alfort - website
- Adagio Appart Hotel - website
- Hotel Kyriad, Paris Est Bois de Vincennes - website
- Appart Hotel, Saint Maurice - website

**Subway travel to Salons du Moulin Brûlé :**

- Ibis hotel in Paris (3 stops by underground) - Visit the website
- Or all other hotels in Paris who are near any stop on the subway line N°8 (the stop is "École Vétérinaire de Maisons Alfort")

### ABSTRACTS

↑ **Abstracts were due by February 15, 2016.** Authors will have the decision of the Abstract Review Committee by **March 25, 2016.** All accepted abstracts will be published in the "ISCFR Abstract Book" and made available online world-wide for free to the animal research and veterinary communities.

For example, see **Abstracts from the 2012 Whistler Meeting online.** Selected abstract authors will be invited to provide a full-length manuscript for a post-conference "Proceedings" publication in the journal "Reproduction in Domestic Animals". Instructions for manuscript submission will be sent directly to these authors, with full-length manuscripts due by **July 15, 2016.**

### "ISCFR PROCEEDINGS" BOOK SERIES

↑ Each ISCFR results in a post-conference "Proceedings" volume of peer-reviewed papers representing the most significant reports of the Symposium. This book series has become the sine qua non resource on the history and state of the art of domestic and exotic canine and feline reproduction. As a group, the Proceedings are the most frequently referenced source material on the subject. They have been published by the Journal of Reproduction and Fertility, by the journal Theriogenology, and most recently by the journal Reproduction in Domestic Animals.

### PROGRAM OVERVIEW

↑ Nearly three days of parallel sessions, round table discussions and poster presentations beginning with a Welcome Party on Wednesday evening (June 22), followed by the Opening Session on Thursday morning (June 23) at Moulin Brûlé just a few train stops from the Symposium Hotel (Huatian Chinagora). Events also include Thursday's Poster Reception with optional Seine Dinner Cruise and Friday's Awards Ceremony with optional Gala Dinner. The Symposium will close in time for delegates to attend the ICAR welcome reception in Tours, France.

**Topics:** Domestic and exotic carnivore reproduction; ovarian cycle regulation and contraception; pregnancy biology and management; parturition and perinatology; ovarian, oocyte, embryo, testis, and sperm morphology, physiology, culture and cryopreservation; andrology; clinical management, breeding technologies, AI, and cloning; new technologies; reproductive and mammary disease and management; reproduction of endangered, wild and zoo carnivores; carnivore models of human reproductive disease.

**REVIEW.** All abstracts submitted will be reviewed by the 2016 ISCFR Scientific Programming Committee. The decision of the Committee will be final.

Accepted abstracts will be assigned to one of the following categories based upon subject matter, session organization, time constraints, and in consideration of the preference of the author(s).

1. Invited Presentation (35 min)
2. Podium Presentation (15 min)
3. Poster Presentation

**ABSTRACT BOOK, PRINT AND ON-LINE.** All accepted abstracts will be included in the Abstract Book available to delegates at the meeting and in the "ISCFR 2016 - EVSSAR 2016 Abstracts" publication available on-line before and during the meeting, and then maintained permanently online as Internet-retrievable PDF documents.

#### Matrix Metalloproteinase Expression in Cultured Canine Trophoblasts

Someone, X.<sup>a</sup>, Someone, Y.<sup>b</sup> and Someone, Z.<sup>c</sup>

<sup>a</sup>Dept., Institution, City, State/Prov., Country and <sup>b,c</sup>Dept., Institution, City, State/Prov., Country.

[asomenone@somewhere.edu](mailto:asomenone@somewhere.edu)

The factors regulating trophoblast invasion into the canine decidua are not well described. Matrix metalloproteinases play a crucial role in trophoblast implantation and invasion in many species.<sup>1</sup> Of these, MMP-2 and -9 are involved in the degradation of the extracellular matrix and cell migration. Trophoblast expression of MMP-2 and -9 has been demonstrated in normal and abnormal human placentas.<sup>2</sup> To establish a baseline for future studies investigating placental disorders in dogs, the objective of this research was to determine MMP-2 and -9 expression in cultured canine trophoblasts. We hypothesized that cultured canine trophoblasts would express MMP-2 and -9. Trophoblasts were isolated from three canine placentas using collagenase and trypsin with Percoll density gradient centrifugation. Cells were then cultured in DMEM media (#829415, Gibco-Invitrogen, Carlsbad, CA) at 38°C with 5% CO<sub>2</sub> and grown to 70% confluency on coverslips. Cells were fixed in 70% methanol and expression of MMP-2 (#MS806P0, clone Ab4, Neomarkers, Fremont, CA) and MMP-9 (#RB1539P0, clone Ab9, Neomarkers, Fremont, CA) was confirmed using fluorescent immunohistochemistry (Alexa Flour 488, #A21202, Invitrogen, Carlsbad, CA; Texas Red, #T2767, Invitrogen, Carlsbad, CA). Expression of cytokeratin-7 (#p103620, DAKO, Carpinteria, CA) was to confirm cell type. Hoescht 33342 (#H1399, Invitrogen, Carlsbad, CA) was used to count cells. The average percentage of MMP positive cells for multiple fields was determined for each placenta and reported as the mean±SEM MMP-2 and MMP-9 percent positive. MMP-2 and MMP-9 percent positive cells were compared using a Students t test. The staining intensity and stain localization within MMP positive cells was also noted. More cultured canine trophoblasts expressed MMP-9

(54.7±3.4%) compared to MMP-2 (40.3±1.8) (p=0.02). However, MMP-2 was more intensely expressed within cells compared to MMP-9. Although both MMPs were immunolocalized to the cytoplasm, MMP-2 was found in large vesicles, whereas MMP-9 was more diffusely expressed. In trophoblasts from normal human pregnancies, MMP-2 and MMP-9 are expressed at a similar intensity and frequency (75% and 78.5%, respectively).<sup>2</sup> However, it was found that MMP-9 expression was reduced to 15% in trophoblasts from pregnancies complicated with preeclampsia (e.g., those having shallow trophoblast invasion).<sup>2</sup> The canine endotheliochorial placenta is a naturally-occurring shallowly invasive placenta. The lower frequency of MMP positive cells reported in the present study with canine trophoblasts and in the previous study<sup>2</sup> with preeclamptic human trophoblasts could be related to their limited ability to deeply invade the decidua. Activated MMP-2 can activate proMMP-9 but the reverse has not been shown. This may explain why more canine trophoblasts expressed MMP-9 compared to MMP-2. Previous research has demonstrated that the staining pattern in human trophoblasts for MMP-9 is diffuse; whereas the staining pattern for MMP-2 is granular.<sup>3</sup> Similar results were found in canine trophoblasts. In addition, we have shown that MMP-2 is more intensely expressed within canine cultured trophoblasts than MMP-9. Future studies using canine placental tissues will investigate the mechanism and significance of this expression, as well as determine if the addition of MMP-2 in culture can induce greater MMP-9 expression.

[1] Salamonsen LA. Role of proteases in implantation. *Rev Reprod* 1999;4:11-22.

[2] Shokry M, Omran OM, Hassan HI, et al. Expression of matrix metalloproteinases 2 and 9 in human trophoblasts of normal and preeclamptic placentas: preliminary findings. *Exp Mol Pathol* 2009;87:219-225.

[3] Fridman R, Toth M, Pena D, et al. Activation of progelatinase B (MMP-9) by gelatinase A (MMP-2). *Cancer Res* 1995;55:2548-2555.

Download the **example abstract** [PDF].

Feel free to forward and distribute this announcement to fellow researchers, veterinarians and trainees.

*Leading the way in providing veterinary information*

