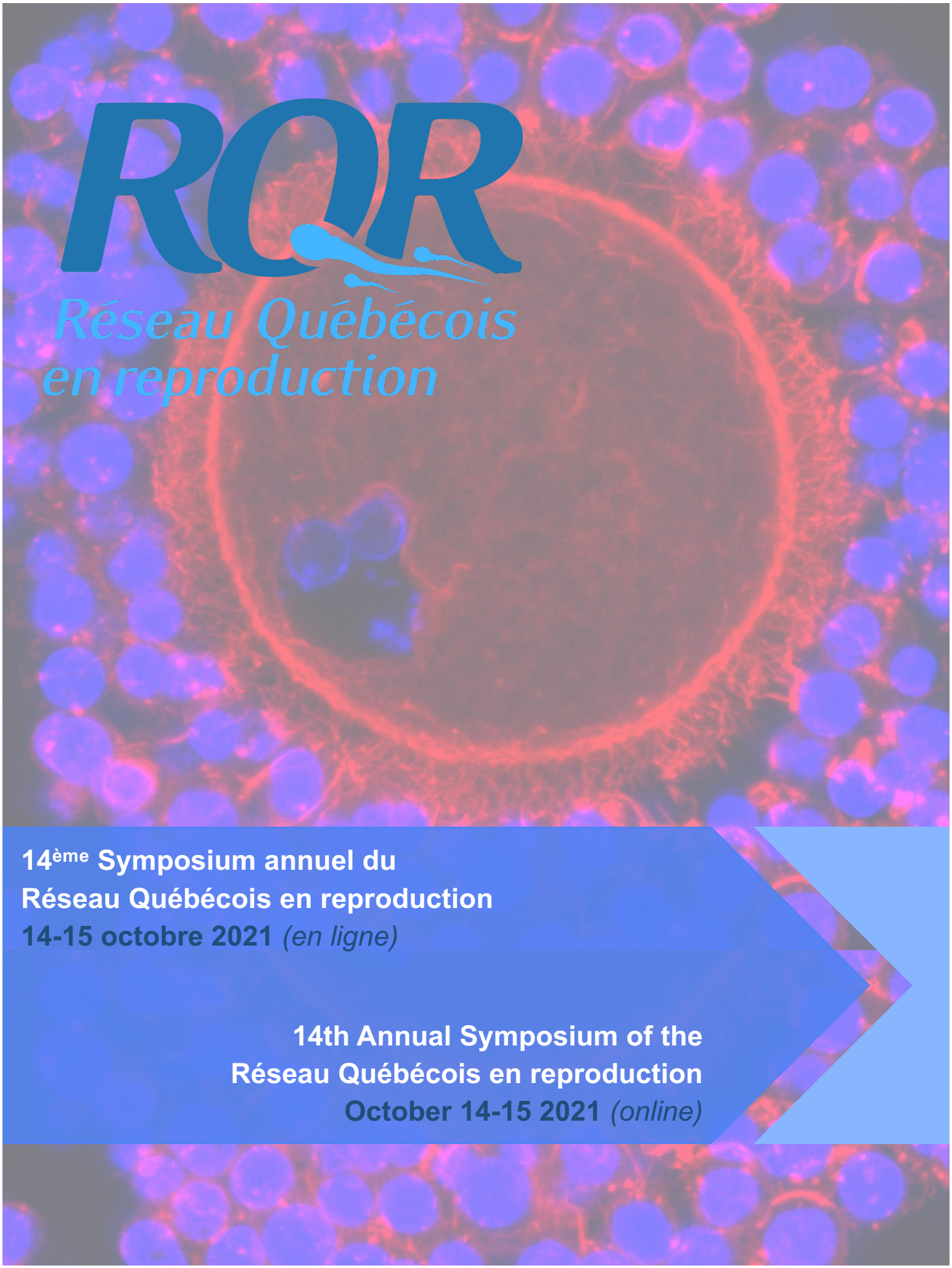

14ème Symposium annuel du Réseau Québécois en reproduction

14-15 octobre 2021 *(en ligne)*

14th Annual Symposium of the Réseau Québécois en reproduction

October 14-15 2021 *(online)*

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Agenda of the 14th Symposium of the Réseau Québécois en reproduction

Jeudi 14 octobre – *Thursday October 14th*

8h45-9h00	**Connexion sur la plateforme Zoom** ***Connexion on Zoom platform***
9h00 – 9h15	**Mot de bienvenue** ***Welcome***
9h15 – 10h30	**Présentations - Session I / *Presentations – Session I*** 5 présentations d'étudiant(e)s / 5 *student présentations*
10h30 – 10h45	**Pause** ***Break***
10h45 – 11h45	**Séminaire en production animale / *Animal production seminar*** *** Johanne Cameron, Consultante indépendante spécialisée en production ovine « *Utilisation d'un programme lumineux intensif pour produire à l'année chez les ovins - Un succès québécois* »
11h45 – 13h00	**Dîner** ***Lunch***
13h00 – 14h00	**Présentations - Session II / *Presentations – Session II*** 4 présentations d'étudiant(e)s / 4 *student présentations*
14h00 – 15h30	**Pause-café - session d'affiches I** ***Coffee Break - Poster Session I***
15h30 – 16h30	**Conférencier invité / Invited speaker** *** Stéphane Fabre, INRAE *« Genetic regulation of ovulation rate and ovarian follicular development in sheep »*
16h30 – 16h45	**Remise du Prix MdC du RQR** ***RQR KT Award Presentation***

Vendredi 15 octobre – *Friday October 15th*

9h00 – 10h30	**Session d'affiches II** ***Poster Session II***
10h30 – 11h30	**Conférencière invitée / Invited speaker** *** Deborah Bourc'his, Institue Curie *« The dichotomy of DNA methylation is spermatogenesis: protect or program »*
11h30 – 12h15	**Atelier EDI / DEI workshop** *** Lisa Greenhill, Association of American Veterinary Medical Colleges *« Be More than a DEI Supporter, Be an Ally »*
12h15 – 13h30	**Dîner** ***Lunch***
13h30 – 15h00	**Présentations - Session III / *Presentations – Session III*** 6 présentations d'étudiant(e)s / 6 *student présentations*
15h00 – 15h15	**Pause** ***Break***
15h15 – 16h15	**Conférencière invitée / Invited speaker** *** Bin Gu, Michigan State University *«2-Cell Based Genome Editing: From Embryonic Development to Disease Modeling »*
16h15 – 16h30	**Remise des prix et mot de la fin** ***Awards presentation and closing***

Noter que le programme est à l'heure de l'Est (UTC-5)
Note that the meeting schedule is on Eastern time (UTC-5)

Session d'affiches I / Poster session I
14 octobre - October 14th
14h00 – 15h30

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Frailty considerations in pediatric lung transplantation (#6), *John Johnson, MSc Student, University of Alberta (page 68).*

Fibronectin Type III domain containing 5 (FNDC5) expression in bovine ovary and in vitro effect on bovine granulosa cell proliferation and steroidogenesis (#7), *Mathilde Daudon, PhD student, Université de Montréa, (page 69)*

Investigating the temporal control of mitotic exit in mammalian embryos (#9), *Henry Brennan-Craddock, MSc student, Université de Montréal (page 71)*

Développement d'une nouvelle méthode de caryotypage chez le porc (#10), *William Poisson, MSc student, Université Laval (page 72)*

The placenta for early identification of high-risk infants born at 29-36 weeks gestation (#16), *Jonathan Charron, MSc student, Université de Montréal (page 75)*

Single-cell look-seq to identify error prone transcriptional profiles in oocytes (#18), *Karolina Kravarikova, MSc student, Université de Montréal (page 76)*

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Effect of elevated NEFAs exposed during in vitro maturation on the cocultured porcine granulosa cells (#37), *Meihong Shi, PhD student, Université Laval (page 86).*

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Quercetin mitigates H2O2-induced oxidative stress in bovine parthenogenetic embryos: in vitro cleavage assessment and reactive oxygen species quantification (#1)

Ernesto Orozco-Lucero[1], Melissa Molina-Garcia[1], Marbella Chavez-Solano[2], Jose M. Carrera-Chavez[1], Christian Y. Felix-Delgado[1], Armando Varela-Ramirez[3], Diana M. Beristain-Ruiz[1], Alejandro Martinez-Martinez[2], Andres Quezada-Casasola[1]

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Antioxidants can diminish oxidative stress, improving embryonic development. Here, we evaluated the effects of an oxidative stress inducer, hydrogen peroxide (H2O2), and the antioxidant quercetin (QUE; plant-derived flavonoid) supplementation, by assessing in vitro cleavage development and reactive oxygen species (ROS) levels in bovine parthenotes. The parthenotes were either untreated, exposed to H2O2 (85 µM), QUE (2 µM), or double-exposed. Development was assessed at 96 hours post-parthenogenetic activation. The rates were estimated for: Cleavage, 2-cell (2C), 4-cell (4C), early 8-cell (e8C: 5-8 cells), late 8-cell (L8C: 10-16 cells), and 5-16 cell (5-16C; e8C+L8C) stages. All cleaved parthenotes were stained with 2',7'-dichlorofluorescin diacetate to quantify ROS. The possible association between development and ROS levels was evaluated by correlation analysis. The H2O2-exposed parthenotes showed a significantly lower e8C-developmental rate than untreated ($P<0.05$). Similarly, H2O2-exposed parthenotes revealed less L8C-developmental rate than QUE-treated ($P<0.05$). Also, in H2O2-treated parthenotes, the 5-16C-rate was less than untreated ($P=0.0557$) and QUE-treated ($P=0.0502$). Concerning ROS, the H2O2-treated parthenotes exhibited higher quantities than QUE-treated 2C-parthenotes ($P<0.05$). Furthermore, ROS levels were higher in H2O2-exposed than in untreated ($P<0.001$), QUE-treated, and double-exposed in e8C-parthenotes ($P<0.0001$). Moreover, The H2O2-exposed parthenotes exhibited higher ROS levels, as compared with untreated ($P<0.001$), QUE-treated, and double-exposed ($P<0.0001$) at the 5-16C stage. Finally, the trends in the correlation analysis suggested inverse association between development and ROS levels. In conclusion, parthenogenetic cleavage and ROS levels appear inversely correlated. Quercetin inhibits H2O2-inflicted oxidative stress by mitigating ROS levels and increases in vitro cleavage in bovine parthenotes of five to 16 cells.