

STEPHANE L BOURQUE, PhD

Assistant Professor, Department of Anesthesiology & Pain Medicine, Pharmacology and Pediatrics
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EDUCATION

- PhD (Pharmacology and Toxicology)** Jan 2009
Queen's University at Kingston, Ontario
- ◆ Thesis supervisors: Dr. Kanji Nakatsu and Dr. Michael A. Adams
 - ◆ Thesis title: The long-term cardiovascular and behavioural consequences of maternal iron restriction during gestation in rat offspring
- Bachelor of Science, Honours (Life Sciences, Subject of Specialization)** May 2003
Queen's University at Kingston, Ontario
- ◆ Electives in cardiovascular pharmacology
 - ◆ Undergraduate thesis in the Department of Pathology and Molecular Medicine

RESEARCH EXPERIENCE

- Assistant Professor (Anesthesiology & Pain Medicine and Pharmacology)** Jan 2014 – Present
University of Alberta, Edmonton, Alberta
- ◆ Research Interest: fetal programming, iron deficiency, vascular and kidney function, obesity and metabolism, anesthetic agents and hemodynamic regulation
- Postdoctoral Fellow (Obstetrics and Gynecology)** Sep 2009 – Dec 2013
University of Alberta, Edmonton, Alberta
- ◆ Supervisor: Dr. Sandra T. Davidge
 - ◆ Research Topic: Cardiovascular consequences of prenatal hypoxia in adult offspring: mechanisms and therapeutics.
- Research Associate (Pharmacology and Toxicology)** Jan 2009 – Aug 2009
Queen's University at Kingston, Ontario
- ◆ Employer: Dr. Kanji Nakatsu and Dr. Michael A. Adams
 - ◆ Research Topic: Cardiovascular and metabolic consequences of prenatal iron deficiency in adult offspring
- PhD Student (Pharmacology and Toxicology)** Aug 2003 – Jan 2009
Queen's University at Kingston, Ontario
- ◆ Supervisors: Dr. Kanji Nakatsu and Dr. Michael A. Adams
 - ◆ Research Topic: Prenatal iron deficiency and the long-term effects on hemodynamics and intrarenal vascular resistance properties in rat offspring.
- Undergraduate Thesis Student (Pathology and Molecular Medicine)** Aug 2002 – May 2003
Queen's University at Kingston, Ontario
- ◆ Supervisor: Dr. David Lillicrap
 - ◆ Research topic: lentiviral-mediated delivery of transgene therapy for haemophilia

AWARDS, DISTINCTIONS, AND PRESENTATIONS

Academic Awards, Distinctions and Fellowships

- ◆ Canadian Institutes of Health Research (CIHR) New Investigator Award 2016 - 2021
- ◆ Canadian Institutes of Health Research (CIHR) Postdoctoral Fellowship (Ranked 5th of 497 in Open Competition) 2010 - 2013
- ◆ Alberta Innovates Health Solutions Fellowship (Ranked 3rd in Competition) 2010 - 2012
- ◆ Molly Towell Perinatal Research Fellowship (Ranked 1st in Competition; Declined) 2010
- ◆ Alberta Heritage Foundation for Medical Research Fast-Track Fellowship 2009 -2010
- ◆ Recognition as the Most Outstanding Thesis in Life Sciences at Queen's University 2009
- ◆ Official Division I (Health Sciences) Nominee for the Governor General's Gold Medal at Queen's University 2009
- ◆ CIHR Canadian Hypertension Society/Pfizer Research and Development Doctoral Scholarship (Ranked 1st in Competition) 2006 - 2008
- ◆ Ontario Graduate Scholarship 2005 – 2006
- ◆ Canadian Institutes of Health Research (CIHR) Gasotransmitter Research and Training (GREAT) Master's Scholarship 2004 - 2005
- ◆ Queen's Graduate Award 2003 - 2007
- ◆ Ontario Graduate Scholarship 2003
- ◆ Pharmacology and Toxicology Alumni Fellowship 2003
- ◆ Walter K. Mildred Award for upper-year undergraduate students 2002
- ◆ Dean's List, Queen's University 2000 - 2003

Conference Presentations and Travel Awards

- ◆ University of Alberta Department of Obstetrics and Gynecology Travel Award 2013
- ◆ Western Perinatal Research Meeting (Best Oral Presentation) 2013
- ◆ Translational Science in Perinatal Biology Course Scholarship (Four awards given out of a total of 25 participants) 2013
- ◆ Canadian Hypertension Congress Best Abstract Presentation (Postdoctoral Fellow Category, Oral Presentation) 2012
- ◆ Sponsored Fellow at the Making Connections Conference 2010 and 2012
- ◆ F1000 Award for Most Noteworthy Contributions in 2011 2012
- ◆ Women and Children's Health Research Institute Travel Award 2012
- ◆ ASPET Travel Award for Experimental Biology 2012
- ◆ Canadian Hypertension Congress Travel Award 2011 and 2012
- ◆ Canadian Hypertension Congress Best Abstract Presentation (Postdoctoral Fellow Category, Oral Presentation) 2011
- ◆ ASPET Cardiovascular Division Best Abstract Presentation (Postdoctoral Fellow Category, Oral Presentation) 2011
- ◆ Canadian Institutes of Health Research Institute for Human Development, Child and Youth Health Travel Award 2011
- ◆ Western Perinatal Research Meeting (Best Oral Presentation) 2010
- ◆ Dean's Travel Grant for Doctoral Field Research 2005 and 2008
- ◆ Ontario Hypertension Society Travel Award 2003 - 2005, 2007 - 2008
- ◆ Canadian Hypertension Society Travel Award 2006, 2008
- ◆ International BioIron Society Travel Award 2005 and 2007
- ◆ Canadian Cardiovascular Congress Best Abstract Presentation (Best Poster Presentation) 2005

Invited Presentations

- ◆ Global Health Symposium, University of Alberta Jan 2017
 - Title: Iron deficiency in pregnancy: a deceptively complex global health issue
- ◆ Cardiovascular Research Centre, University of Alberta Nov 2016
 - Title: Iron deficiency in pregnancy: implications for fetal development and long-term cardiometabolic health of the offspring
- ◆ Department of Biomolecular and Sciences, Queen's University, Jul 2015
 - Title: Iron deficiency, cardiovascular disease and obesity: a link between three major global problems
- ◆ Obstetrics Grand Rounds, Royal Alexandria Hospital May 2015
 - Title: Iron deficiency, cardiovascular disease and obesity: a link between three major global problems
- ◆ Vascular Biology Group Meeting, University of Alberta Apr 2015
 - Title: Intralipid for the treatment of life-threatening hypotension
- ◆ Cardiovascular Research Centre, University of Alberta Dec 2014
 - Title: Iron deficiency, cardiovascular disease and obesity: a link between three major global problems
- ◆ 3rd Annual Gelfan and Bell Anesthesia Research Symposium May 2014
 - Title: Preclinical testing of intralipid for reversal of propofol-mediated hypotension
- ◆ Department of Pharmacology, University of Alberta Oct 2013
 - Title: NO news is good news: new insights into the interaction between nitric oxide and endothelin-1 in the acute regulation of vascular tone
- ◆ Cardiovascular Research Centre, University of Alberta May 2012
 - Title: The interaction between NO and ET-1: new perspectives
- ◆ Depts. of Obstetrics and Gynecology and Physiology, University of Alberta Apr 2009
 - Title: The cardiovascular consequences in offspring of inadequate maternal iron intake during pregnancy

SUPERVISORY AND TEACHING EXPERIENCE

Supervisor

University of Alberta

- ◆ Graduate students (2) Sep 2015 – Present
- ◆ Clinical fellow (1) Sep 2014 – Present
- ◆ MPH student (1) Jan 2015 – May 2015
- ◆ Summer students (7) 2010-2015

Queen's University at Kingston, Ontario

- ◆ Undergraduate thesis (PHAR 499) students (3) 2004, 2006, 2007

Facilitator

University of Alberta, Edmonton, Alberta

2017 – Present

- ◆ Discovery Learning Program of the Undergraduate Medical Education Curriculum

Lecturer

University of Alberta, Edmonton, Alberta

2010 – Present

- ◆ Pharmacology 415: Cardiovascular Pharmacology – Critical Analysis
- ◆ Physiology 404: Cardiovascular Physiology
- ◆ Physiology 513: Fetal Physiology

Teaching Assistant

2003 – 2008

Queen's University at Kingston, Ontario

- ◆ Assisted professors with teaching and laboratory sessions for undergraduate, graduate and medical courses in pharmacology and physiology

AFFILIATIONS/MEMBERSHIPS

- ◆ Associate member of the Faculty of 1000
- ◆ American Society for Pharmacology and Experimental Therapeutics
- ◆ American Physiological Society
- ◆ Hypertension Canada
- ◆ International Society for Developmental Origins of Health and Disease
- ◆ Pharmacological Society of Canada

PROFESSIONAL DEVELOPMENT & SERVICE

Associate Editor

- ◆ Pharmacological Research (special themed issue) Apr 2017 – Present
- ◆ J DOHaD (special themed issue) Apr 2017 – Present

Committees

- ◆ Research Committee – Department of Anesthesiology & Pain Medicine Sep 2016 - Present
- ◆ Member of Chair Selection Committee for Anesthesiology Jan 2015 – Present
- ◆ Member of the University of Alberta Animal Care and Use Committee Sep 2014 – Present

Conference and Symposium Organization

- ◆ Session Chair, Global Health Symposium at the University of Alberta Jan 2017
- ◆ Inaugural DOHaD Canada Meeting Co-Chair Feb 2017
- ◆ ASPET Symposium Co-Chair at Experimental Biology Apr 2017

Ad Hoc Reviewer

- ◆ Grant Panels (including CIHR, AIHS, WCHRI, FoMD at the UofA).
- ◆ Journals include Circulation, Faseb J, Plos One, Int J Obes, Placenta, J Pharmacol Exp Ther

Faculty of 1000 Contributor (Associate member)

- ◆ Post publication peer review commentaries on “articles of interest” (6-8 commentaries/yr)

GRANTS

Operating and Infrastructure Grants

12. Critical Care Strategic Clinical Network New Investigator Seed Grant May 2017 – Apr 2018
 - Title: Preclinical testing of novel treatment strategies for septic shock in a mouse model of advance age.
 - Role: Principal Applicant
 - Amount awarded: \$3,325.50
11. CIHR Transitional Open Operating Grant Jul 2015 – Jun 2020
 - a. Title: Developmental programming of cardiovascular function by iron deficiency: early mechanisms and therapeutic interventions.
 - b. Role: Principal Applicant

- c. Amount awarded: \$590,251 over 5 years.
- 10. CIHR Transitional Open Operating Grant Jul 2015 – Jun 2018
 - a. Title: Mechanisms underlying propofol-induced hypotension in normal and accelerated aging.
 - b. Role: Co-Principal Applicant Co-Principal Applicant: Ferrante Gragasin
 - c. Amount Awarded: \$260,220 over 3 years.
- 9. Edmonton Civic Employees Research Award
 - a. Title: Preclinical testing of novel treatment strategies Jun 2015-May 2016
for septic shock in a rat model of advanced age
 - b. Role: Co-applicant Principal Applicant: Rachel Khadaroo
 - c. Amount Awarded: \$10,000 for 1 year.
- 8. Alberta Innovation and Advanced Education Grant Feb 2015
 - a. Title: Infrastructure for the study of normal and accelerated age-related decline in vascular function and hemodynamic control
 - b. Role: Principal Applicant Co Applicant: Dr. Ferrante Gragasin
 - c. Amount awarded: \$146,557
- 7. Canadian Foundation for Innovation John R. Evans Leadership Fund Nov 2014
 - a. Title: Infrastructure for the study of normal and accelerated age-related decline in vascular function and hemodynamic control
 - b. Role: Principal Applicant Co Applicant: Dr. Ferrante Gragasin
 - c. Amount awarded: \$146,557
- 6. CIHR IHDCYH Priority Announcement: New Investigator Grant Sep 2014 – Aug 2015
 - o Title: Developmental programming of cardiovascular function by iron deficiency: early mechanisms and therapeutic interventions
 - a. Role: Principal Applicant Co Applicant: Dr. Rhonda Bell
 - b. Amount awarded: \$100,000 for 1 year
- 5. WCHRI Innovation Grant Sep 2014 – Aug 2016
 - a. Funding Body: Women and Children’s Health Research Institute
 - b. Title: Pre-clinical testing of resveratrol as an intervention for the programming of obesity by prenatal iron deficiency
 - c. Role: Principal Applicant Co Applicants: Drs. Davidge, Dyck and Yager
 - d. Amount awarded: \$50,000 over 2 years
- 4. CIHR Open Operating Grant Jul 2014 – Jun 2019
 - a. Funding Body: Canadian Institutes of Health Research
 - b. Title: Effects of advanced maternal age on vascular adaptations in pregnancy and subsequent maternal and offspring cardiovascular health
 - c. Role: Co-Applicant Principal Applicant: Dr. Sandra Davidge
 - d. Amount awarded: \$518,975 over 5 years
- 3. Heart and Stroke Foundation of Canada Grant-in-Aid (Declined) Apr 2014
 - a. Title: Effects of advanced maternal age on vascular adaptations in pregnancy and subsequent maternal and offspring cardiovascular health
 - b. Role: Co-Applicant Principal Applicant: Dr. Sandra Davidge
 - c. Amount Requested: \$296,384 for 3 years
- 2. UHF Medical Research Grant Jan 2014 – Dec 2014
 - a. Funding Body: University Hospital Foundation

- b. Title: Effects of intralipid on propofol anesthesia: alterations in propofol pharmacokinetics
 - c. Role: Co-Applicant Principal Applicant: Dr. Ferrante Gragasin
 - d. Amount awarded: \$35,000 over 1 year
1. WCHRI Start-up and Retention Grant Jan 2014 – Dec 2016
 - a. Funding Body: Women and Children’s Health Research Institute
 - b. Title: Developmental programming of renal and vascular function by prenatal iron deficiency: early mechanisms and therapeutic interventions
 - c. Role: Principal Applicant
 - d. Amount awarded: \$150,000 over 3 years

Conference Grants

2. WCHRI Scientific Knowledge and Exchange Program Grant Aug 2016
 - o Title: Inaugural Meeting for the Canadian DOHaD Society
 - o Role: Principal Applicant
 - o Amount awarded: \$1,652
1. International DOHaD Society Conference Grant Aug 2016
 - o Title: Inaugural Meeting for the Canadian DOHaD Society
 - o Role: Principal Applicant
 - o Amount awarded: \$2,000 GBP

PUBLICATIONS

Published Papers (trainees underlined)

21. Woodman AG, Care AS, Mansour Y, Cherak S, Panahi S, Gragasin FS, BOURQUE SL. Modest and severe maternal iron deficiency in pregnancy are associated with fetal anaemia and hypoxia in rats. In Press at Sci Reports (IF: 5.228).
20. Care AS, Sung M, Panahi S, Gragasin FS, Dyck JRB, Davidge ST, BOURQUE SL. Prenatal and immediate postnatal maternal resveratrol treatment mitigates the development of hypertension in adult SHR offspring. Hypertension. 2016 May;67(5):1038-44. (2013 IF: 6.499) Manuscript selected as the subject of an invited editorial commentary in Hypertension. Manuscript selected for the MedStar Award for best paper by a trainee (AS Care) in the Faculty of Medicine and Dentistry at the University of Alberta.
19. Fraser GM, Morton JS, Schmidt SM, BOURQUE S, Davidge ST, Davenport MH, Steinback CD. Reduced uterine perfusion pressure (RUPP) decreases functional capillary density in skeletal muscle. Am J Physiol Heart and Circ Physiol. 2015 Dec 15;309(12):H2002-7. (IF: 3.838)
18. Care AS, BOURQUE SL, Morton J, Davidge ST. Effects of advanced maternal age on pregnancy outcome in the rat. Hypertension. 2015 Jun;65(6):1324-30 (IF: 6.499).
17. Sipos P*, BOURQUE SL*, Ridgeway A, Hubel C, Baker P, Davidge ST, Crocker I. Endothelial colony forming cells derived from pregnancies complicated by intrauterine growth restriction are fewer and have reduced vasculogenic capacity. *Equal contributions. J Clin Endocrinol Metab. 2013 Dec;98(12):4953-60. (2013 IF: 6.310)
16. BOURQUE SL, Gragasin F, Mansour Y, Quon A, Morton J, Davidge ST. Prenatal hypoxia causes long-term alterations in vascular endothelin-1 function in aged male but not female offspring. Hypertension. 2013 Oct;62(4):753-8. (2013 IF: 7.632) Manuscript selected as the subject of an invited editorial commentary in Hypertension.

15. BOURQUE SL, Kuny S, Reyes LM, Davidge ST, Sauve Y. Prenatal hypoxia is associated with long-term retinal dysfunction in rats. *Plos One*. 2013 Apr;8(4):e61861. (2013 IF: 3.534)
14. Sipos P, Rens W, Schlecht H, Fan X, Wareing M, Hayward C, Hubel C, BOURQUE S, Baker PN, Davidge ST, Sibley C, Crocker I. The expansion of the uterine vasculature in human pregnancy involves function macro-chimerism by endothelial colony forming cells. *Stem Cells*. 2013 Jul;31(7):1363-70. (2013 IF: 7.133)
13. Abdalvand A*, Morton JS*, BOURQUE SL*, Quon A, Davidge ST. Vascular endothelin-1 function is altered in a reduced uteroplacental perfusion pressure rat model of preeclampsia. *Hypertension*. 2013 Feb;61(2):488-93. (2013 IF: 7.632)
12. Gragasin FG, BOURQUE SL, Davidge ST. Propofol increases vascular relaxation in aged rats chronically treated with the angiotensin converting enzyme inhibitor captopril. *Anesth Analg*. 2013 Apr;116(4):775-83. (2013 IF: 3.422)
11. Gragasin FG*, BOURQUE SL*, Davidge ST. Vascular aging and hemodynamic stability in the perioperative period. *Front Physiol*. 2012; 3:74. (Review)
10. BOURQUE SL, Dolinsky VW, Dyck JRB, Davidge ST. Maternal resveratrol treatment during pregnancy improves adverse fetal outcomes in a rat model of severe hypoxia. *Placenta*. 2012 May; 33(5):449-52. (2012 IF: 3.117)
9. BOURQUE SL*, Komolova M*, Adams MA, Nakatsu K. Perinatal iron deficiency combined with a high fat western diet in rats increases susceptibility to obesity and cardiovascular dysregulation. *Endocrinology*. 2012 Mar; 153(3):1174-82. (2012 IF: 4.717) Manuscript selected as the subject of an invited editorial commentary in *Endocrinology*.
8. BOURQUE SL*, Whittingham HA*, Brien SE, Davidge ST, Adams MA. Role of endothelin-1 in the hyper-responsiveness to nitrovasodilators following acute NOS inhibition. *Br J Pharmacol*. 2012 Mar; 165(6):1992-9. (2012 IF: 5.067)
7. BOURQUE SL, Davidge ST, Adams MA. The interaction between endothelin-1 and nitric oxide in the vasculature: new perspectives. *Am J Physiol Regul Integr Comp Physiol*. 2011 Jun; 300(6):R1288-95. (2011 IF: 3.336) (Review)
6. BOURQUE SL, Adams MA, Nakatsu K, Winterborn A. Comparison of buprenorphine and meloxicam for post-surgical analgesia in rats; effect on body weight, locomotor activity and hemodynamic parameters. *J Am Assoc Lab Anim Sci*. 2010 Sep; 49(5):617-22. (2010 IF: 0.805)
5. BOURQUE SL, Benjamin CD, Adams MA, Nakatsu K. Lack of hemodynamic effects after extended heme synthesis inhibition by succinylacetone. *J Pharmacol Exp Ther*. 2010 Apr; 333(1):290-6. (2010 IF: 4.017)
4. Komolova M, BOURQUE SL, Nakatsu K, Adams MA. Perinatal iron deficiency results in increased visceral adiposity in male Wistar rats. *Int J Obes*. 2008 Sep;32(9):1441-4. (2008 IF: 3.64)
3. BOURQUE SL, Iqbal U, Reynolds JR, Adams MA, Nakatsu K. Perinatal iron deficiency affects locomotor behavior and water maze performance in adult male and female rats. *J Nutr*. 2008 May; 138(5):931-937. (2008 IF: 3.647)
2. BOURQUE SL, Komolova M, Nakatsu K, Adams MA. Long-term circulatory consequences of perinatal iron deficiency in male wistar rats. *Hypertension*. 2008 Jan; 51(1):154-159. (2008 IF: 7.37)
1. Bui L, Rish K, Jaronczyk K, BOURQUE S, McLaughlin BE, Brien JF, Marks GS, Smith A, Nakatsu K. The source of heme for vascular heme oxygenase I: heme uptake in rat aorta. *Can J Physiol Pharmacol*. 2004 Apr;82(4):209-17. (2004 IF: 1.71)

Papers in Review or in Press

3. Woodman AG, Noble RMN, Keddie D, Panahi S, Lemieux H, BOURQUE SL. Prenatal iron deficiency causes sex-depending mitochondrial dysfunction and oxidative stress in fetal kidneys.
2. Macala KE, Khadaroo RG, Panahi S, Gragasin FS, BOURQUE SL. Intralipid resuscitation confers survival advantage compared to ClinOleic in Rats overdosed with propranolol. Under review at *PLoS One*.
1. Noble RMN, Salim SY, Walker B, Khadaroo RG, Chiarella AB, Gragasin FS, BOURQUE SL. Survival of Staphylococcus epidermidis in propofol and intralipid in the dead-space of IV injection ports. *Anesthesia & Analgesia*. In Press

Papers in Preparation

5. Cherak SJ, Yoo J, Woodman AG, Panahi S, Dyck JRB, Gragasin F, BOURQUE SL. Brown fat quantity and activity are differentially affected in male and female offspring by prenatal exposure to anemia.
4. Gragasin FS, BOURQUE SL, Mansour Y, Tsui BC, Davidge ST. Intralipid reverses propofol-induced vasodilation and hypotension in aging rats.
3. BOURQUE SL*, Cherak S, Panahi S, Dyck JRB, Davidge ST, Yager J. Prenatal sulforaphane treatment prevents the development of obesity in intrauterine growth restricted offspring.
2. Gragasin F, Panahi S, Mittal R, Moher C, BOURQUE SL. Intralipid only modestly reverses propofol-induced cortical burst suppression in rats.
1. Sipos P, Fan X, BOURQUE SL, Stanley J, Andersson I, Wareing M, Hubel C, Baker P, Davidge S, Sibley C, Crocker I. Human endothelial progenitor cells play a physiological role in placental vessel formation.

*Equal contributions

Invited Commentaries (F1000 Contributions)

Quarterly commentaries on research articles of interest (see <http://f1000.com>) Nov 2009-Present

Conference Abstracts

(trainees and notable recognitions underlined)

85. Cherak SJ, Yoo J, Johnson PA, Woodman AG, Gragasin FS, BOURQUE SL. Perinatal iron deficiency alters brown fat quantity and thermogenic capacity in adult offspring. Accepted for poster presentation at the DOHaD World Congress, to be held in Rotterdam, Netherlands, Oct 15-18, 2017.
84. Woodman AG, Noble R, Lemieux H, BOURQUE SL. Prenatal iron deficiency causes sex-dependent mitochondrial dysfunction in the fetal liver and kidney. Accepted for poster presentation at the DOHaD World Congress, to be held in Rotterdam, Netherlands, Oct 15-18, 2017.
83. Macala K, Khadaroo R, Panahi S, Gragasin FS, BOURQUE SL. Cinaciguat improves intra-abdominal sepsis survival in young and aged mice. Accepted for poster presentation at the 34th Scandinavian Society of Anesthesiology and Intensive Care Congress, to be held in Malmo/Lund, Sweden, Sep 6-8, 2017. Abstract won 1st place for best abstract submitted by a resident.
82. Woodman AG, Lemieux H, Gragasin FS, BOURQUE SL. Prenatal iron deficiency causes sex-dependent mitochondrial dysfunction in fetal liver and kidney. Selected for podium

- presentation and won best presentation at Pharmacology Research Day, University of Alberta, Edmonton, Canada, Jun 23, 2017.
81. Macala K, Khadaroo R, Panahi S, Gragasin FS, BOURQUE SL. Cinaciguat confers a survival advantage in sepsis in young and aged mice. Podium presentation and won 2nd place for best abstract and won People's Choice Award at Division of Critical Care Medicine Research Day. May 15-16, 2017.
 80. Macala K, Khadaroo R, Panahi S, Gragasin FS, BOURQUE SL. Cinaciguat confers a survival advantage in sepsis in young and aged mice. Podium presentation and 1st place for best abstract at Tom Williams Surgical Research Day, May 12, 2017.
 79. Macala K, Khadaroo R, Panahi S, Gragasin F, Bourque S. Novel treatment strategies for septic shock in a murine model of advanced age. Selected for podium presentation at the Surgical Infection Society Annual Meeting. St. Louis, MO May 2-5, 2017.
 78. Woodman AG, Lemieux H, Gragasin FS, BOURQUE SL. Prenatal iron deficiency causes sex-dependent mitochondrial dysfunction in the fetal liver and kidney. Selected for podium presentation at Gelfan and Bell Anesthesia Research Day, University of Alberta, Edmonton, Canada, May 12 2017.
 77. BOURQUE SL, Cherak SJ, Yoo J, Johnson PA, Woodman AG, Gragasin FS. Prenatal iron deficiency causes long-term alterations in brown adipose tissue quantity and thermogenic capacity in adult rats. Accepted for podium presentation at Experimental Biology, Chicago IL, Apr 22-26, 2017; FASEB J, 31: 44.5.
 76. Woodman AG, Mah RL, Lemieux H, BOURQUE SL. Prenatal iron deficiency causes fetal kidney hypoxia and sex-dependent upregulation of cytochrome *c* oxidase. Accepted for podium presentation at Experimental Biology, Chicago IL, Apr 22-26, 2017; FASEB J. 31: 141.3.
 75. Woodman AG, Mah RL, Lemieux H, BOURQUE SL. Prenatal iron deficiency causes fetal kidney hypoxia and sex-dependent upregulation of cytochrome *c* oxidase. Selected for Podium presentation (top ranked abstract) at the Canadian National Perinatal Research Meeting, Montebello QC, February 14-17, 2017
 74. Woodman AG, Lemieux H, BOURQUE SL. Sex dependent cytochrome *c* oxidase upregulation in iron deficient fetal rat kidneys: a potential protective mechanism. Poster presentation and won best poster (basic science category) at the University of Alberta Global Health Fair, January 30, 2017.
 73. Woodman AG, Lemieux H, BOURQUE SL. Sex dependent cytochrome *c* oxidase upregulation in iron deficient fetal rat kidneys: a potential protective mechanism. Podium presentation (top ranked abstract) at the 9th Annual Women and Children's Health Research Institute Research Day, November 16, 2016.
 72. Mah R, Woodman AG, BOURQUE SL. Effect of maternal iron deficiency on fetal glomerular size and density in prenatal rats. Poster presentation at the 9th Annual Women and Children's Health Research Institute Research Day, Edmonton AB, November 16, 2016.
 71. Mah R, Woodman AG, BOURQUE SL. Effect of maternal iron deficiency on fetal glomerular size and density in prenatal rats. Poster presentation at WISEST/HYRS Celebration of Research, Edmonton AB, August 16, 2016.
 70. Woodman AG, Mansour Y, Cherak S, BOURQUE SL. Consequences of maternal iron-deficiency: fetal anemia and hypoxia in select tissues of the conceptus. Selected for podium presentation at Pharmacology Research Day, Edmonton AB, June 10, 2016.

69. Cherak S, Woodman AG, Panahi S, BOURQUE SL. The effect of prenatal iron deficiency on fetal programming of body composition: role of brown adipose tissue. Selected for podium presentation at Pharmacology Research Day, Edmonton AB, June 10, 2016.
68. Gragasin FS, Mittal R, Moher C, Panahi S, BOURQUE SL. Lipid Reverses hypotension but not anesthetic profile of propofol. Selected for Poster presentation and short-listed for CVT Roymond Martineau Prize at the Canadian Anesthesiologists' Society Annual Meeting, Vancouver BC, 2016 Jun 24-27.
67. Woodman AG, Mansour Y, BOURQUE SL. Consequences of maternal iron-deficiency: fetal anemia and hypoxia in select tissues of the conceptus. Poster presentation at Pediatrics Research Day, Edmonton AB, May 18, 2016.
66. Cherak S, Woodman AG, Panahi S, BOURQUE SL. The effect of prenatal iron deficiency on fetal programming of body composition: role of brown adipose tissue. Poster presentation at Pediatrics Research Day, Edmonton AB, May 18, 2016.
65. Kokotilo M, Woodman AG, BOURQUE SL, Gragasin FS. Correlation between maternal and fetal hemoglobin at Cesarean section. Poster presentation at Gelfan and Bell Research and Education Symposium, Edmonton AB, May 13, 2016.
64. Macala K, Khadaroo R, Panahi S, Gragasin F, BOURQUE SL. Intralipid resuscitation confers a survival advantage compared to ClinOleic in rats overdosed with propranolol. Selected for podium presentation at the American Society of Anesthesiologists Annual Meeting, Chicago, IL, 2016.
63. Macala K, Khadaroo RG, Panahi S, Gragasin FS, BOURQUE SL. Cinaciguat confers a survival advantage in sepsis in young and aged mice. Selected for podium presentation at Gelfan and Bell Research and Education Symposium at the University of Alberta, Edmonton, AB, 2016 May 13.
62. Macala K, Khadaroo RG, Panahi S, Gragasin FS, BOURQUE SL. Cinaciguat confers a survival advantage in sepsis in young and aged mice. Abstract submitted to Critical Care Medicine Annual Research Day at the University of Alberta, Edmonton, AB, 2016.
61. Woodman AG, Mansour Y, BOURQUE SL. Consequences of maternal iron deficiency: fetal anemia, and hypoxia in select tissues of the conceptus. Selected for podium presentation and won American Society of Nutrition Emerging Leaders in Nutrition Science Poster Competition at Experimental Biology, San Diego CA, 2016 Apr 2-4; FASEB Journal 30:287.3.
60. BOURQUE SL, Care AS, Sung M, Dyck JRB, Davidge ST. Effect of maternal resveratrol supplementation on blood pressure and vascular function in adult spontaneously hypertensive rats. Poster presentation at Experimental Biology, San Diego CA, 2016 Apr 2-4; FASEB J, 30:1213.1.
59. BOURQUE SL, Care AS, Sung M, Dyck JRB, Davidge ST. Effect of maternal resveratrol supplementation on blood pressure and vascular function in adult spontaneously hypertensive rats. Poster presentation at the 63rd Annual Scientific Meeting for the Society for Reproductive Investigation, Montreal QC, 2016 Mar 16-19; reproductive sciences 2016 23:1A-50A.
58. Woodman AG, Mansour Y, BOURQUE SL. Consequences of maternal iron deficiency: fetal anemia, and hypoxia in select tissues of the conceptus. Selected for podium presentation at Canadian Perinatal Research Meeting, Banff, AB, 2016 Feb 10-13.
57. Macala K, Khadaroo RG, Panahi S, Gragasin FS, BOURQUE SL. Intralipid resuscitation confers survival advantage compared to ClinOleic in rats overdosed with propranolol. Selected for podium presentation and best abstract winner at the 27th Annual Alberta Society for Intensive Care Physicians Meeting, Lake Louise AB 2016 Jan 22-27.

56. Woodman AG, Mansour Y, BOURQUE SL. Consequences of maternal iron deficiency: fetal anemia, and hypoxia in select tissues of the conceptus. Poster presentation at the Women and Children's Health Research Institute Annual Meeting, Edmonton AB, 2015 Oct 28.
55. Gragasin FS, Mittal R, Moher C, Panahi S, BOURQUE SL. Intralipid Reverses Propofol-Mediated Hypotension in aged rats. Poster presentation at the Society of Anesthesiologists' Annual Meeting, San Diego CA, 2015 Oct 24-28.
54. Macala K, Khadaroo RG, Panahi S, Gragasin FS, BOURQUE SL. Intralipid resuscitation confers survival advantage compared to ClinOleic in rats overdosed with propranolol. Poster presentation at Critical Care Canada Forum, Toronto ON, 2015 October 25-28.
53. Fraser GF, Morton JS, Schmidt S, BOURQUE SL, Davidge ST, Davenport MH, Steinback CD. The reduced uterine perfusion pressure (RUPP) model of preeclampsia causes decreased capillary perfusion in skeletal muscle. Poster presentation at Experimental Biology, Boston MA, Mar 29-Apr 1 2015. *Faseb J* 29:LB551.
52. BOURQUE SL, Panahi S, Mittal R, Moher C, Gragasin FS. Intralipid Reverses Propofol-Mediated Hypotension in Rats. Poster presentation at Experimental Biology, Boston MA, Mar 29-Apr 1 2015. *Faseb J* 29:624.3.
51. Care AS, BOURQUE SL, Davidge ST. Assessment of the time-course of pregnancy loss in a rat model of advanced maternal age. Poster presentation at the Canadian National Perinatal Research Meeting, Montebello, Quebec, 2015 February 24-27.
50. BOURQUE SL, Mansour Y, Gragasin FS. Prenatal iron deficiency in the absence of maternal anemia causes fetal hypoxia. Selected for podium presentation at the Canadian National Perinatal Research Meeting, Montebello, Quebec, 2015 February 24-27.
49. Care AS, BOURQUE SL, Davidge ST. Assessment of the time-course of pregnancy loss in a rat model of advanced maternal age. Poster presentation at the Society for Reproductive Investigation Annual Meeting, to be held in San Francisco, USA. March 26, 2015.
48. Brennan L, Pakseresht M, Field CJ, Bell R, Begum Sudhan F, Manca D, Singhal N, O'Brien M, BOURQUE SL and the APrON Team. Relationship between maternal iron level and birth outcome in Alberta women: an APrON cohort Analysis. Poster presentation at the Women and Children's Health Research Institute Research Day, Edmonton Alberta, 2014 November 6.
47. Mansour Y, Gragasin FS, BOURQUE SL. Prenatal iron deficiency in the absence of maternal anemia causes fetal hypoxia. Selected for podium presentation at the Women and Children's Health Research Institute Research Day, Edmonton Alberta, 2014 November 6.
46. Mansour Y, Gragasin FS, BOURQUE SL. Prenatal iron deficiency in the absence of maternal anemia causes fetal hypoxia. Poster presentation at the Faculty of Medicine and Dentistry Summer Student Research Day, Edmonton Alberta, 2014 October 18.
45. Mittal R, Moher C, BOURQUE SL, Gragasin FS. The anesthetic profile of propofol in response to intralipid. Poster presentation at the Faculty of Medicine and Dentistry Summer Student Research Day, Edmonton Alberta, 2014 October 18.
44. Moher C, Mittal R, BOURQUE SL, Gragasin FS. The pharmacokinetic effects of intralipid on propofol. Poster presentation at the Faculty of Medicine and Dentistry Summer Student Research Day, Edmonton Alberta, 2014 October 18.
43. Care AS, BOURQUE SL, Morton JS, Shah A, Cooke CLM, Reyes LM, Davidge ST. Growth restriction and increased susceptibility to cardiovascular disease in offspring born from rat dams of advanced maternal age. Selected for podium presentation at the Society of Reproductive Biology Annual Meeting, Melbourne Australia, 2014 August 20-25.

42. Sipos P, BOURQUE SL, Baker PN, Crocker IP. Transient exposure to hypoxia impairs the function of fetal endothelial colony forming cells (ECFC). Selected for podium presentation at the Society for Gynecologic Investigation 61st Annual Scientific Meeting, Florence Italy, 2014 March 26-29; *Reprod Sci.* 21(3) Suppl, Abstract O-085.
41. Care AS, BOURQUE SL, Davidge ST. Effect of advanced maternal age on pregnancy outcome in the rat. Won best poster presentation at the Society for Gynecologic Investigation 61st Annual Scientific Meeting, Florence Italy, 2014 March 26-29; *Reprod Sci.* 21(3) Suppl, Abstract F-134.
40. BOURQUE SL, Care AS, Davidge ST. Prenatal iron deficiency increases susceptibility to diet induced obesity: effects of prenatal resveratrol treatment. Poster presentation at the Society for Gynecologic Investigation 61st Annual Scientific Meeting, Florence Italy, 2014 March 26-29; *Reprod Sci.* 21(3) Suppl, Abstract T-095.
39. Care AS, BOURQUE SL, Hjartarson EP, Morton JS, Davidge ST. Effect of advanced maternal age on pregnancy outcomes in the rat. Selected for podium presentation at the Canadian National Perinatal Research Meeting, Banff AB, 2014 Feb 12-15.
38. BOURQUE SL, Care AS, Komolova M, Nakatsu K, Adams MA, Davidge ST. Prenatal iron deficiency increases susceptibility to diet-induced obesity: effects of prenatal resveratrol treatment. Selected for podium presentation at the Canadian National Perinatal Research Meeting, Banff AB, 2014 Feb 12-15.
37. BOURQUE SL, Davidge ST. Prenatal hypoxia programs long-term endothelin-1 signaling and hypertension in aged offspring. Selected for podium presentation at the 6th Annual Women and Children's Health Research Institute Research Day, Edmonton AB, 2013 Nov 6.
36. Care AS, BOURQUE SL, Davidge ST. Effect of advanced maternal age on pregnancy outcome in the rat. Poster presentation at International Federation of the Placenta Associations (IFPA), Whistler BC, 2013 Sep 11-14.
35. BOURQUE SL, Rueda-Clausen CF, Davidge ST. Fetal and placental hypoxia program long-term endothelial dysfunction and hypertension: role of endothelin-1. Poster presentation at International Federation of the Placenta Associations (IFPA), Whistler BC, 2013 Sep 11-14.
34. Gragasin FS, BOURQUE SL, Davidge ST. Intralipid reverses vasodilation and hypotension due to propofol in aging rats. Poster presentation at the Canadian Anesthesia Society Annual Meeting, Calgary AB, 2013 Jun 21-24.
33. Gragasin FS, BOURQUE SL, Davidge ST. Intralipid reverses vasodilation and hypotension due to propofol in aging rats. Poster presentation at the International Anesthesia Research Society Annual Meeting, San Diego California USA, 2013 May 4-7.
32. BOURQUE SL, Kune S, Sauve Y, Davidge ST. Intrauterine growth restriction causes long-term retinal dysfunction in rats. Poster presentation at Experimental Biology, Boston MA, 2013 Apr 20-24; *FASEB J.* 27:1178.4.
31. Sauve Y, BOURQUE SL, Kune S, Davidge ST. Intrauterine growth restriction is associated with long-term retinal dysfunction in rats. Poster presentation at The Association for Research in Vision and Ophthalmology Annual Meeting, Seattle, WA, 2013 May 5-9; Abstract 3271.
30. BOURQUE SL, Sung M, Dyck JR, Davidge ST. Prenatal resveratrol treatment fails to prevent the development of hypertension in the spontaneously hypertensive rat. Poster presentation at the Society for Gynecologic Investigation 60th Annual Scientific Meeting, Orlando FL, 2013 Mar 19-23; Abstract S-011.
29. BOURQUE SL, Quon A, Davidge ST. Prenatal hypoxia programs long-term endothelin-1 signaling and hypertension in aged offspring. Selected for podium presentation and won best

- abstract competition at the 21st Annual Western Perinatal Research Meeting, Banff AB, 2013 Feb 14-16.
28. BOURQUE SL, Sipos P, Davidge ST, Baker PN, Sibley C, Crocker I. Fetal endothelial colony forming cells from pregnancies complicated by intrauterine growth restriction have reduced vasculogenic capacity. Selected for podium presentation at 5th Annual Women and Children's Health Research Institute Research Day, Edmonton AB, 2012 Nov 28.
 27. BOURQUE SL, Davidge ST. Enhanced endothelin-1 signaling underlies sex-specific hypertension in aged intrauterine growth restricted offspring. Selected for podium presentation and won best postdoctoral abstract competition at the Canadian Hypertension Congress, Toronto ON, 2012 Oct 25-28.
 26. BOURQUE SL, Sipos P, Davidge ST, Baker PN, Sibley C, Crocker I. Fetal endothelial colony forming cells from pregnancies complicated by intrauterine growth restriction have reduced vasculogenic capacity. Poster presentation at Experimental Biology, San Diego CA, 2012 Apr 21-25; FASEB J. 26:683.1.
 25. BOURQUE SL, Davidge ST. Resveratrol treatment mitigates the deleterious effects of prenatal hypoxia in the fetus. Poster presentation at Keystone Symposium: Advances in Hypoxic Signaling, Banff AB, 2012 Feb 12-17.
 24. BOURQUE SL, Sipos P, Davidge ST, Baker PN, Sibley C, Crocker I. Endothelial colony forming cells derived from pregnancies complicated by intrauterine growth restriction have altered function and reduced vasculogenic capacity. Selected for podium presentation and won postdoctoral abstract competition at the Canadian Hypertension Congress, Aliston ON, 2011 Oct 2-5.
 23. BOURQUE SL, Davidge ST. Prenatal hypoxia programs vascular endothelin-1 activity in adult offspring. Selected for podium presentation and won ASPET cardiovascular division best postdoctoral abstract competition at Experimental Biology, Washington DC, 2011 Apr 9-13; FASEB J. 25:631.1.
 22. BOURQUE SL, Dolinsky VW, Dyck JR, Davidge ST. Resveratrol treatment mitigates the deleterious effects of prenatal hypoxia in the fetus. Poster presentation at the 58th Annual Meeting of the Society for Gynecological Investigation, Miami Beach FL, 2011 Apr 14-17. Abstract ranked in top 50 of all (>1000) submitted abstracts.
 21. BOURQUE SL, Komolova M, Davidge ST, Adams MA, Nakatsu K. Perinatal iron deficiency predisposes offspring to obesity and cardiovascular dysregulation. Poster presentation at the 23rd Scientific Meeting for the International Hypertension Society, Vancouver BC, 2010 Sep 26-30. Top ranked poster chosen for oral presentation.
 20. BOURQUE SL, Davidge ST, Adams MA, Nakatsu K. Perinatal iron deficiency combined with a high fat diet causes obesity and cardiovascular dysregulation. Selected for podium presentation at the 14th Annual Cardiac Sciences Day, Edmonton AB, 2010 Jun 11.
 19. BOURQUE SL, Davidge ST, Adams MA, Nakatsu K. Perinatal iron deficiency programs long-term metabolic dysfunction and blood pressure dysregulation. Selected for podium presentation and won best abstract presentation (oral) at the 18th Annual Western Perinatal Research Meeting, Banff AB, 2010 Feb 11-14.
 18. BOURQUE SL, Adams MA, Nakatsu K. Perinatal iron deficiency programs long-term metabolic dysfunction and blood pressure dysregulation. Poster presentation at the 5th International Congress on the Developmental Origins of Health and Disease (DOHaD), Santiago Chile, 2009 Nov 19-22; J DOHaD. S1:Si-s350, Abstract P-10A-434.

17. BOURQUE SL, Whittingham HA, Adams MA. Inhibition of ET-1 signaling is a critical component of nitric oxide-mediated acute regulation of arterial pressure. Poster presentation at the 63rd High Blood Pressure Research Conference, Chicago IL, 2009 Sep 23-26; Hypertension. 54:e26-e127, Abstract P446.
16. BOURQUE SL, Bridge SK, Adams MA. Dynamic interplay between alpha-antagonists and local modulators of vascular tone. Poster presentation at the Canadian Cardiovascular Congress, Edmonton AB, 2009 Oct 24-27; Can J Cardiol 2009 Oct; 25: Suppl B, CHS-Pulmonary Hypertension and Vascular Biology, Abstract 287.
15. BOURQUE SL, Whittingham HA, Brien SE, Adams MA. NO news is good news: a novel role for nitric oxide in the maintenance of vascular tone. Poster presentation at the Joint Meeting of the Ontario Hypertension Society and Heart and Stroke Foundation, Niagara-on-the-lake ON, 2009 Apr 24-26.
14. BOURQUE SL, Whittingham HA, Brien SE, Adams MA. NO news is good news: a novel role for nitric oxide in the maintenance of vascular tone. Selected for podium presentation at the 11th Annual Meeting for Health Sciences Research Trainees at Queen's University, Kingston ON, 2008 Apr.
13. BOURQUE SL, Nakatsu K, Adams MA. Impact of perinatal iron deficiency on hemoenzyme function involved in the regulation of arterial pressure. Selected for podium presentation at the Canadian Hypertension Society Meeting, Toronto ON, 2008 Oct 25-29; Can J Cardiol. 24:Suppl E, CHS Oral Session I: Abstract 003.
12. BOURQUE SL, Komolova M, Nakatsu K, Adams MA. Sedentarity and increased visceral adiposity in perinatally iron deficient rats. Presented at the IXth World Conference of Clinical Pharmacology and Therapeutics, Quebec City QC; 2008 Jul 27-Aug 01; Can J Clin Pharmacol. 15(3):e420-e781.
11. BOURQUE SL, Komolova M, Nakatsu K, Adams MA. Perinatal iron deficiency results in increased abdominal adiposity in male wistar rats. Poster presentation at Experimental Biology, San Diego CA, USA 2008 Apr 5-9; FASEB J. 22:719.16.
10. BOURQUE SL, Komolova M, Nakatsu K, Adams MA. Perinatal iron deficiency programs sedentarity and increased visceral adiposity in adult rats. Selected for podium presentation at the 19th Annual Meeting of the Ontario Hypertension Society, Toronto ON, 2008 May 2-4.
9. BOURQUE SL, Nakatsu K, Adams MA. Perinatal iron deficiency results in abnormal cardiovascular and renal function. Selected for podium presentation at the 18th Annual Meeting of the Ontario Hypertension Society, London ON, 2007 May 4-5.
8. BOURQUE SL, Komolova M, Nakatsu K, Adams MA. Perinatal iron deficiency adversely affects cardiovascular and renal function in rats. Poster presentation at the Second Meeting of the International Bioiron Society, Kyoto Japan, 2007 Apr 1-6; Am J Hematol.82(6); 504-604, Abstract P-54
7. BOURQUE SL, Iqbal U, Reynolds J, Nakatsu K, Adams MA. Gestational iron-deficiency induces spatial learning deficits in rats. Poster presentation at the 3rd International Congress on the Developmental Origins of Health and Disease (DOHaD), Toronto ON, 2005 Nov 16-19.
6. BOURQUE SL, Nakatsu K, Adams MA. Gestational iron-deficiency results in cardiac and renal hypertrophy. Won best poster presentation at the Canadian Cardiovascular Congress, Montreal QC, 2005 Oct 22-26; Can J Cardiol. 21(13):1226; Abstract 014.
5. BOURQUE SL, Nakatsu K, Adams MA. Effects of adult onset dietary iron-deficiency on blood pressure and heart rate in male and female rats. Poster presentation at the First Meeting of the International Bioiron Society, Prague Czech Republic, 2005 May 22-27; Abstract 222.

4. BOURQUE SL, Nakatsu K, Adams MA. Gestational iron-deficiency results in cardiac and renal hypertrophy. Selected for podium presentation at the 16th Annual Meeting of the Ontario Hypertension Society, Niagara on the Lake ON, 2005 Apr 29-May 1.
3. BOURQUE SL, Nakatsu K, Adams MA. The mechanisms of maternal iron-deficiency-induced fetal programming of hypertension. Poster presentation at the 28th Annual Perinatal Investigators Meeting, Kingston ON, 2004 Nov 4-6.
2. BOURQUE SL, McLaughlin B, Adams MA, Brien JF, Nakatsu K. Is the heme supply to the vasculature an endothelium process? Poster presentation at the 15th Annual Meeting of the Ontario Hypertension Society, Gravenhurst ON, 2004 May.
1. BOURQUE SL, McLaughlin B, Adams MA, Brien JF, Nakatsu K. Is the heme supply to the vasculature an endothelium-dependent process? Selected for podium presentation at the 7th Annual Meeting for Health Sciences Research Trainees at Queen's University, Kingston ON, 2004 Apr.