

## CURRICULUM VITAE

November 1, 2008

### PERSONAL DATA

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Nationality : UK, Canadian

### ACADEMIC POSITIONS

05/2007-Present	<b>Assistant Professor</b> Faculty of Kinesiology University of Calgary, Calgary, AB
05/2007-Present	<b>Assistant Professor</b> Department of Biochemistry and Molecular Biology Faculty of Medicine University of Calgary, Calgary, AB
10/2004-Present	<b>Research Group Membership</b> Gastrointestinal Research Group Diabetes and Endocrine Research Group Faculty of Medicine. University of Calgary, Calgary, AB
10/2004-03/2007	<b>Managing Director</b> Clara Christie Center for Mouse Genomics & Modelling of Human Disease Faculty of Medicine. University of Calgary, Calgary, AB <i>Website: <a href="http://www.med.ucalgary.ca/cmj">http://www.med.ucalgary.ca/cmj</a></i>
10/2004-03/2007	<b>Assistant Research Professor</b> Department of Biochemistry and Molecular Biology Faculty of Medicine University of Calgary, Calgary, AB <i>Website:<a href="http://www.fp.ucalgary.ca/bmb/Shearer/shearer.html">http://www.fp.ucalgary.ca/bmb/Shearer/shearer.html</a></i>

### EDUCATION

1997-2001	<b>Doctorate of Philosophy</b> ( <i>Human Biology &amp; Nutritional Sciences</i> ) University of Guelph, Guelph, ON Thesis: Pro- and Macroglycogen during Rest and Exercise Mentor: Dr. Terry Graham
1997-2001	Academic Equivalency - Dietitians of Canada
1997-2001	<b>Certificate in Food Science</b> Ontario Agricultural College University of Guelph, Guelph, ON

- 1993-1997            **Bachelor of Science** (*Life Science*)  
 Faculty of Arts and Science. Queen's University, Kingston, ON
- 1993-1997            **Bachelor of Physical and Health Education** (*Exercise Science*)  
 Faculty of Arts and Science. Queen's University, Kingston, ON

## **RESEARCH TRAINING**

- 2001-2004            **Postdoctoral Research Fellow**  
 Department of Molecular Physiology and Biophysics  
 National Institutes of Health, Mouse Metabolic Phenotyping Centre  
 Vanderbilt University School of Medicine  
 Nashville, TN. Mentor: Dr. David Wasserman
- 2002                    **Postdoctoral Trainee**  
 Baltic Summer School – Intensive Training Course  
 Skeletal Muscle Signaling: Assessment of AMPK in Human Skeletal Muscle  
 August Krogh Institute, Copenhagen Muscle Research Center  
 Copenhagen University, Denmark. Mentors: Drs. Erik Richter & Jørgen  
 Wojtaszewski

## **TEACHING EXPERIENCE**

- 2008-2009            **Undergraduate Supervisor**  
 MDSC 508: Thesis (Robyn Lee)  
*University of Calgary, Calgary, AB.*
- 2007-2008            **Guest Lecturer**  
 KNES 637: Nutrition for Physically Active Populations  
*University of Calgary, Calgary, AB.*
- 2007-2008            **Principal Lecturer**  
 KNES 213: Research Methods  
*University of Calgary, Calgary, AB.*
- 2005-Present        **Guest Lecturer**  
 MDCN 302: Principles of Medicine  
*University of Calgary, Calgary, AB.*
- 2005                    **Guest Lecturer**  
 MDSC 751.02: Cellular and Molecular Mechanisms in the  
 Pathogenesis and Treatment of Diabetes  
*University of Calgary. Calgary, AB.*
- 2003-04                **Lecturer**  
 MP & B 326: Exercise Physiology  
*Vanderbilt University, Nashville, TN.*
- 2000-01                **Sessional Lecturer**  
 NUTR 4210: Nutrition, Exercise & Metabolism  
*University of Guelph, Guelph, ON.*
- 1999-00                **Head Teaching Assistant/Laboratory Coordinator**  
 NUTR 3210: Fundamentals of Nutrition

- 1997-00 *University of Guelph, Guelph, ON.*  
**Teaching Assistant**  
 HK 4320: Work Physiology, HK 4550: Cardio-Respiratory Physiology  
 NUTR 3390/4330: Applied Nutritional Sciences, HK 4070: Biomechanics  
*University of Guelph, Guelph, ON.*
- 1997-98 **Graduate Service Assistant**  
 HK 3401/3402: Human Anatomy  
*University of Guelph, Guelph, ON.*

## **SCHOLARSHIPS & AWARDS**

- Canadian Diabetes Association – Scholar Award 2007-2012 (Declined)
- Heart and Stroke Foundation of Canada – New Investigator, 2007-2012
- Alberta Heritage Foundation for Medical Research – Medical Scholar Award, 2007-2014
- Natural Sciences and Engineering Research Council of Canada (NSERC – Postdoctoral Fellowship, PDF), 2003-04
- Baltic Summer School Travel Award – Glucose/Insulin Signaling. Copenhagen, DK, 2002
- Canadian Society of Exercise Physiology Graduate Student Award, 2001
- Young Investigators Award – Federation of American Societies of Experimental Biology, Molecular Mechanisms of Regulation by Dietary Constituents, 2001
- Natural Sciences and Engineering Research Council of Canada (NSERC), Industrial Postgraduate Scholarship (IPS1,2) –Quaker Oats Company, 1998-01
- Gatorade Sports Science Institute Graduate Studentship Award, 1997-00.

## **SCHOLARSHIPS & AWARDS – GRADUATE STUDENTS**

- Canadian Obesity Network – Presentation Award to Jasmine Tunnicliffe, 2008.
- Alberta Heritage Foundation for Medical Research – Summer Studentship to Robyn Lee, 2008.
- American Physiological Society, David S. Bruce Undergraduate Finalist to Carol Chan, 2007.

## **STUDENT SUPERVISION**

### **Principal Supervisor**

- Curtis C. Hughey – PhD Student, Biochemistry & Molecular Biology. University of Calgary, Calgary, AB. 2008
- Jasmine Turnnicliffe - MSc Student, Kinesiology. University of Calgary, Calgary, AB. 2008
- Zahra Ezzat Edeh – MSc Student, Kinesiology. University of Calgary, Calgary, AB. 2008
- Robyn Lee – BHSc Summer Student, University of Calgary, Calgary, AB. 2008
- Carol Chan – BHSc Thesis Student, University of Calgary, Calgary, AB. 2006
- Carol Chan – BHSc Summer Student, University of Calgary, Calgary, AB. 2005
- Karen Ross – MSc Supervisory Committee, University of Calgary, Calgary, AB. 2006
- Belinda Yong Suan Mok – MBT Student, University of Calgary, Calgary, AB. 2005
- Elizabeth Sellars – Diabetes Research & Training Program. Vanderbilt University, TN. 2004

- Kimberly Causey – Interdisciplinary Graduate Student, Vanderbilt University, TN. 2003-04
- Brittney VornDick – Summer Student, Vanderbilt University, TN. 2002-03

### **Supervisory Committee Member**

- Megan Hallam - MSc Supervisory Committee, University of Calgary, Calgary, AB. 2008
- Constance Tweedie – MSc Supervisory Committee, University of Calgary, Calgary, AB. 2008
- Kimberly Pyra - MSc Supervisory Committee, University of Calgary, Calgary, AB. 2008
- Kelly Dinsmore - MSc Supervisory Committee, University of Calgary, Calgary, AB. 2008
- Gavin Duggan - MSc Supervisory Committee, University of Calgary, Calgary, AB. 2008
- Lindsay Eller - PhD Thesis Committee Member, University of Calgary, Calgary, AB. 2008
- Karen Ross – MSc Supervisory Committee, University of Calgary, Calgary, AB. 2006
- Jill Parnell – PhD Thesis Committee Member, University of Calgary, Calgary, AB. 2006

### **Examiner**

- KarylIn Holmes – External Examiner, University of Alberta, AB. 11/2008.
- Albi Sole – Neutral Chair, University of Calgary, Calgary, AB. 07/2008.
- Ashi Mehta – Neutral Chair, University of Calgary, Calgary, AB. 05/2008.
- Marianne Rogerson – Neutral Chair, University of Calgary, Calgary, AB. 05/2008
- Jill Parnell – PhD Examiner, University of Calgary, Calgary, AB. 06/2008
- Alannah Maurer – PhD Examiner, University of Calgary, Calgary, AB. 2008
- Gary Nelson Dormer – Neutral Chair, University of Calgary, Calgary, AB. 2008
- Melissa Thomas - PhD Candidacy Examiner, University of Calgary, Calgary, AB. 2008
- Lindsay Eller – PhD Candidacy Examiner, University of Calgary, Calgary, AB. 2007
- Alannah Maurer – PhD Candidacy Examiner, University of Calgary, Calgary, AB. 2006
- Karen Ross – MSc Examiner, University of Calgary, Calgary, AB. 2006
- Jill Parnell – PhD Candidacy Examiner, University of Calgary, Calgary, AB. 2006
- Emma Neupart, MSc Examiner. University of Calgary, Calgary, AB. 2005
- Joel Edmond Hazzan, MKIN Examiner, University of Calgary, Calgary, AB. 2005

## **PROFESSIONAL SERVICE**

### **Committees**

- University of Calgary, Biological Sciences Hiring Committee, External Advisor, April 2008
- University of Calgary Child Care Board of Directors – Sept 2007 to Present
- University of Calgary Biosafety Committee – Sept 2007 to Present
- Teaching and Curriculum Development Committee – June 2007 to Present
- Executive Board, University of Calgary Child Care Center – Oct 2007 to Present
- “E-FOOD” Biotechnical Start-up, Scientific Advisory Board Member. Calgary, AB
- Center for Advanced Technologies – Steering Committee, University of Calgary, AB.
- Center for Mouse Genomics and Modelling of Human Disease – Executive Committee, University of Calgary, AB.

### **Manuscript Review**

- PEN Nutrition Service - Reviewer
- Journal of Applied Physiology, Nutrition and Metabolism
- American Journal of Physiology
- Journal of Nutrition
- Journal of Clinical Nutrition
- Journal of the Canadian Diabetes Association
- Neuroscience
- Canadian Journal of Applied Physiology
- Canadian Journal of Physiology and Pharmacology

### **Society Memberships**

- Canadian Society of Exercise Physiology
- Canadian Obesity Network
- Federation of American Societies for Experimental Biology
- Canadian Diabetes Association
- American Physiological Society

### **RESEARCH SUPPORT – SECURED**

#### **University Research Grants Committee – Internal Grant**

Title: “Dietary Modulation of Tissue Adenosine Receptor Expression”

Role: Principal Investigator

Funds: \$17 500 CDN

Term: 2008-09

#### **Alberta Heritage Foundation for Medical Research – Visiting Scholar**

Title: Dr. David Wasserman visit, Dean’s Lecture Series

Role: Principal Investigator

Funds: \$1400 CDN

Term: 2008

#### **Alberta Heritage Foundation for Medical Research – Infrastructure Grant**

Role: Principal Investigator, Medical Scholar

Funds: \$146 000 CDN

Term: 2007-09

#### **Alberta Heritage Foundation for Medical Research – Salary Support**

Role: Principal Investigator, Medical Scholar

Funds: \$350 000 CDN

Term: 2007-14

#### **Heart and Stroke Foundation of Canada – Salary Support**

Role: Principal Investigator, New Investigator

Funds: \$250 000 CDN  
Term: 2007-12

**Canadian Diabetes Association – Scholar Award 2007-2012** (Financial award declined due to overlapping funding, incentive award, \$10k/year accepted) – Salary Support

Role: Principal Investigator, Scholar Award

Funds: \$250 000 CDN

Term: 2007-12

**Canadian Institutes for Health Research - Operating Grant**

*“Ranked 3rd out of 47 applications to Cardiovascular Research Section”*

Title: “Glycogen-Induced Insulin Resistance in Diabetic Cardiomyopathy”

Role: Principal Investigator (Dr. David Severson, Co-Applicant)

Funds: \$287 000 CDN

Term: 2006-09

**Genome Canada - Competition III Grant, Operating**

Title: “Four-Dimensional Patterns of Disease Modelling”

Subproject: “Polygenetic Causes of Obesity in Mice”

Role: Co-Applicant (Dr. Christoph Sensen, Principal Investigator)

Funds: \$4 750 000 CDN (\$1 045 695 to JS subproject)

Term: 2006-11

## **RESEARCH SUPPORT – PREVIOUS**

**Vanderbilt Institute for Coffee Studies - Pilot & Feasibility Grant**

Title: “Effects of Decaffeinated Coffee on Whole Body Insulin Sensitivity”

Role: Principal Investigator

Funds: \$39 000 US direct + indirect

Term: 2003-04

**National Coffee Association - Grant-in-Aid, Operating**

Title: “Effects of Caffeine on Dietary-Induced Insulin Resistance”

Role: Industrial Research, Principal Investigator

Funds: \$32 000 US

Term: 2005-06

**Cardiovascular Therapeutics Inc. - Industrial Research Contract**

Title: “Effects of a Novel A1-AdoR Agonist on Glucose & Fatty Acid Utilization *In Vivo*”

Role: Industrial Grant, Principal Investigator.

Funds: \$80 000 US direct + indirect costs

Term: 2005-06

## PUBLICATIONS

### Written Communications: Submitted, Accepted & Published Articles (29 Total)

1. Hittel, D.S., Berggren, J.R., **Shearer, J.**, Boyle, K., Houmard, J.A. The Expression and Secretion of Myostatin from Skeletal Muscle is Increased in Extremely Obese and Insulin Resistant Women. *Diabetes*, Oct 3, 2008. PMID 18835929. Coauthor, IF=8.03
2. **Shearer, J.**, Severson, D., Su, L., Belardinelli, L., Dhalla, A. Partial A1 Adenosine Receptor Agonist Regulates Cardiac Substrate Utilization in Insulin Resistant Rats In Vivo. In Press, *Journal of Pharmacology & Experimental Therapeutics*. JPET/2008/143594. Principal Author, IF=4.04
3. **Shearer, J.**, Fueger, P.T., Wang, Z., Bracy, D., Wasserman, D.H., Rottman, J.N. Metabolic and Functional Consequences of FABP3 in Insulin Resistant Cardiac Muscle. *BBA – Molecular Basis of Disease*. Oct;1782(10):586-92. Principal author, IF=3.72
4. **Shearer, J.** Causey, K., Pencek, R.R., Swift, L., Wasserman, D.H., Rottman, J.N. Assessing Long Chain Fatty Acid Utilization *In Vivo*: Comparison of [<sup>125</sup>I]-BMIPP and [<sup>3</sup>H]-Bromopalmitate Kinetics. *Lipids*. Aug;43(8):703-11. Principal author, IF=1.94
5. Tunnicliffe, J.M., Erdman, K.A., Reimer, R.A., Lun, V. & **Shearer, J.** Coffee Consumption in Physically Active Populations: Physiological Interactions. *Journal of Applied Physiology, Nutrition and Metabolism*. Invited Review. In Press. 2008. Senior responsible author, IF=1.56
6. Tunnicliffe, J.M. & **Shearer, J.** Coffee, Glucose Homeostasis and Insulin Resistance: Physiological Mechanisms and Mediators. *Journal of Applied Physiology, Nutrition and Metabolism*. Invited Review. In Press. Jan 2008. Senior responsible author, IF=1.56
7. **Shearer, J.**, Duggan, G., Hittel, D.S., Wasserman, D.H., Vogel, H.J. Metabolomic Profiling of Dietary-Induced Insulin Resistance in the High Fat Fed C57BL/6J Mouse. *Diabetes, Obesity and Metabolism*. Sep;10(10):950-8, 2008. Principal author, IF=2.43
8. Fueger P.T., Lee-Young, R.S., **Shearer J.**, Bracy, D.P., Heikkinen, S., Laakso, M., Rottman, J.N., Wasserman D.H. Phosphorylation Barrier to Muscle Glucose Uptake in High Fat Fed Mice: Studies in Mice with a 50% Reduction of Hexokinase II. *Diabetes*. Oct;56(10):2476-84, 2007. Collaborator, IF=8.03
9. **Shearer, J.**, Sellars, E., Farah, A., Graham, T.E., Wasserman, D.H. Effects of Chronic Coffee Consumption on In Vivo Glucose Kinetics in High-Fat Fed Rats. *Canadian Journal of Physiology and Pharmacology*. Aug 85 (8), 823-30, 2007. Principal author, IF=1.52. *Publication highlighted in Faculty of 1000 Biology: <http://www.f1000biology.com/article/id/1092349/evaluation>. Evaluates the most interesting papers published in the biological sciences, based on the recommendations of over 2000 of the world's top researchers.*
10. Fueger, P.T., Li, C.Y., Ayala, J.E., **Shearer, J.**, Bracy, D.P., Charron, M.J., Rottman, R.N., Wasserman, D.H. Glucose Kinetics and Exercise Tolerance in GLUT4 Null C57BL/6 Mice. *Journal of Physiology (London)*. Jul 15;582(Pt 2):801-12, 2007. Collaborator, IF=4.27
11. **Shearer, J.**, Fueger, P.T., Bracy, D.P., Rottman, J.N., Wasserman, D.H. Partial Gene Deletion of Heart-Type Fatty Acid Binding Protein Limits the Severity of Dietary-Induced Insulin Resistance. *Diabetes*. Nov;54(11):3133-9, 2005. Principal author, IF=8.03
12. Fueger P.T., **Shearer J.**, Krueger T.M., Posey K.A., Bracy D.P., Heikkinen S, Laakso M, Rottman J.N, Wasserman D.H. Hexokinase II Protein Content is a Determinant of Exercise

- Endurance Capacity in the Mouse. *Journal of Physiology (London)*. Jul 15;566(Pt 2):533-41, 2005. Co-principal author, IF=4.27
13. **Shearer, J.**, Wilson, R. Battram, D., Richter, E.A., Robinson, Bakovic, M., Graham, T.E. Increases in Glycogenin mRNA and Activity Accompany Glycogen Resynthesis in Human Skeletal Muscle. *American Journal of Physiology. Endocrinology and Metabolism*. Sep; 289(3):E508-14, 2005. Principal author, IF=4.45
  14. **Shearer, J.**, Graham, T.E., Battram, D., Robinson, D., Richter, E.A., Bakovic, M. Glycogenin Activity and mRNA Expression in Response to Exhaustive Exercise in Human Skeletal Muscle. *Journal of Applied Physiology*. Sep;99(3):957-62, 2005. Principal author, IF=3.04
  15. Pencek, R.R., **Shearer, J.**, Camacho, R.C., James, F.D., Lacy, D.B., Fueger, P.T., Donahue, E.P., Snead, W., Wasserman, D.H. 5-Aminoimidazole-4-Carboxamide-1- $\beta$ -D-Ribofuranoside Causes Acute Hepatic Insulin Resistance *In Vivo*. *Diabetes*. 54(2): 355-60, 2005. Co-principal author, IF=8.03
  16. Fueger, P.T, **Shearer, J.**, Bracy, D.P., Posey, K.A., Pencek, R.R., McGuinness, O.P., Wasserman, D.H. Control of Muscle Glucose Uptake: Test of the Rate-Limiting Step Paradigm in Conscious, Unrestrained Mice. *Journal of Physiology (London)*. Feb 1; 562(Pt 3):925-35, 2005. Co-principal author, IF=4.27
  17. **Shearer, J.**, Fueger, P.T., Rottman, J.N, Bracy, D.P., Binas, B., Wasserman, D.H. Concentration-Dependent and Reciprocal Effects of Heart-Type Fatty Acid Binding Protein on Fatty Acid and Glucose Utilization during Exercise. *American Journal of Physiology. Endocrinology and Metabolism*. 288(2):E292-7, 2005. Principal author, IF=4.45
  18. Pencek, R.R., Battram, D., **Shearer, J.**, James, F., Lacy, B.D., Jabbour, K., Williams, P.E., Graham, T.E., Wasserman, D.H. Portal Caffeine Infusion Enhances Insulin-Stimulated Net Hepatic Glucose Uptake during a Glucose Load. *Journal of Nutrition*. 134(11): 3042-6, 2004. Collaborator, IF=3.69
  19. **Shearer, J.**, Fueger, P.T., Rottman, J.N., Bracy, D.P., Martin, P.H., Wasserman, D.H. AMPK Stimulation Increases LCFA but not Glucose Clearance in Cardiac Muscle *In Vivo*. *American Journal of Physiology. Endocrinology and Metabolism*. 287(5):E871-7, 2004. Principal author, IF=4.45
  20. **Shearer, J.** Graham, T.E. Invited Review: Novel Aspects of Skeletal Muscle Glycogen Regulation. *Exercise and Sport Science Reviews*. 32:2:120-6, 2004. Principal author, IF=2.49
  21. **Shearer, J.**, Fueger, P.T., Bracy, D.P. Rottman, J.N., Clanton, J.A., Wasserman, D.H. AMPK Induced Skeletal Muscle Glucose but not LCFA Uptake is Dependent on Nitric Oxide. *Diabetes*. 53: 1429-1435, 2004. Principal author, IF=8.03
  22. Battram, D.S., **Shearer, J.**, Robinson, D., Graham, T.E. Caffeine Ingestion does not Impede the Resynthesis of Proglycogen and Macroglucogen following Prolonged Exercise and Carbohydrate Supplementation in Humans. *Journal of Applied Physiology*. 96(3):943-50, 2003. Co-principal author, IF=3.04
  23. **Shearer, J.**, Farah, A., de Paulis, T., Bracy, D.P., A., Pencek, R.R., Graham, T.E., Wasserman, D.H. Quinides of Roasted Coffee Enhance Insulin Action in the Conscious Rat. *Journal of Nutrition*. 133: 3536-3539, 2003. Principal author, IF=3.69
  24. Marchand, I. Chorneyko, K., Tarnopolsky, M., Hamilton, S., **Shearer, J.**, Potvin, J., Graham, T.E. Quantification of Subcellular Glycogen in Resting Muscle: Granule Size, Number, and Location. *Journal of Applied Physiology*. 93: 1598-1603, 2002. Collaborator, IF=3.04
  25. **Shearer, J.**, and Graham, T.E. New Perspectives on Muscle Glycogen Storage and Utilization

- during Exercise. *Canadian Journal of Applied Physiology*. 27(2):179-203, 2002. Principal author, IF=1.56
26. Graham, T.E., Adamo, K., **Shearer, J.**, Marchand, I. and Saltin, B. Exercise and Pro- and Macroglycogenolysis: Intensity, Duration & Repeated exercise. *Journal of Applied Physiology*. 90 (3): 873-880, 2001. Collaborator, IF=3.04
  27. **Shearer, J.**, Marchand, I., Dyck, D., Tarnopolsky, M., and Graham, T. Pro- and Macroglycogenolysis during Intense Exercise: Roles of Glycogen Content and Phosphorylase Activation. *Journal of Applied Physiology*, 90 (3): 880-889, 2001. Principal author, IF=3.04
  28. Tarnopolsky, M.A., Zawada, C., Richmond, L.B., Carter, S., **Shearer, J.** Graham, T.E., Phillips, S.M. Gender Differences in Carbohydrate Loading are Related to Energy Intake. *Journal of Applied Physiology*. 91 (1) : 225-231, 2001. Collaborator, IF=3.04
  29. **Shearer, J.**, Marchand, I., Sathasivam, P., Tarnopolsky, M., and Graham T.E. Glycogenin Activity in Human Skeletal Muscle is Proportional to Muscle Glycogen Concentration. *American Journal of Physiology. Endocrinology and Metabolism*. 278 : E177-180, 2000. Principal author, IF=4.45

### **Abstracts (47 Total)**

1. Duggan, G., Hittel, D.S., Lee, R.K., Tunncliffe, J.M., Vogel, H.J., Shearer, J. Contribution of Diet to Abnormal Metabolomic Profile in Dietary-Induced Insulin Resistance. Obesity Network, National Obesity Summit. #2122, Kananaskis, AB. May 7-10<sup>th</sup>, 2009.
2. Duggan, G., Hittel, D.S., Tunncliffe, J.M., Weljie, A., Vogel, H.J., Shearer, J. Metabolomic Profiling of Exercise-Induced Weight Loss in a model of Dietary Obesity. Keystone Symposia, Obesity: Novel Aspects of the Regulation of Body Weight (J4), Banff, AB. Jan 20-25, 2009.
3. Hughey, C. H., Zadeh, Z.E., Mazursky, S., MacIntosh, B., **Shearer, J.** Fiber Type-Specific Alterations in Skeletal Muscle Mitochondrial Oxidative Phosphorylation following Induction of Heart Failure. NIH - Mitochondrial Biology in Cardiovascular Health & Diseases Meeting. Bethesda, Maryland. Oct 6-7, 2008.
4. Hittel, D.S., Berggren, J.R., **Shearer, J.**, Boyle, K., Houmard, J.A. The Expression and Secretion of Myostatin from Skeletal Muscle is Increased in Extremely Obese and Insulin Resistant Women. *CSEP Annual Meeting, 2008*.
5. Hughey, C.C., Wilson, R.J., Lee, R.K., Hittel, D.S., Severson, D.L., **Shearer, J.** Characterization of elevated glycogen in cardiac dysfunction induced by high fat feeding in the C57BL/J mouse. *CSEP Annual Meeting, 2008*.
6. Tunncliffe, J., Eller, L., Su, L., Reimer, R., **Shearer, J.** Chlorogenic Acid Does Not Directly Stimulate GLP-1 Secretion in Human Colon Cells. *NASSO Meeting, 2008. #P0280*.
7. Tunncliffe, J., Eller, L., Hallam, M., Su, L., Reimer, R., **Shearer, J.** Chlorogenic Acid Reduces Intestinal Glucose Absorption and Alters Gut Peptide Secretion. *NASSO Meeting, 2008. #P0271*.
8. Brusselers, O., Severson, D., Hittel, D.S., Su, L., Sensen, C., **Shearer, J.** Dietary-Induced Insulin Resistance Leads to Altered Substrate Availability and Early Cardiac Remodeling in the C57BL/J Mouse. *NASSO Meeting, 2008. #P0275*.
9. Zadeh, Z.E., Hittel, D., Severson, D., Hepple, R., Sensen, C., **Shearer, J.** High Fat Feeding Increases Mitochondrial Content while Compromising Outer Membrane Integrity in the

Mouse Heart. *NASSO Meeting, 2008. #P0336*

10. **Shearer, J.**, Severson, D., Su, L., Belardinelli, L., Dhalla, A. Partial A1 Adenosine Receptor Agonist Regulates Cardiac Substrate Utilization in Insulin Resistant Rats In Vivo. *NASSO Meeting, 2008. #P0509*
11. Eller, L., **Shearer, J.**, Reimer, R. Insulin sensitivity is improved with leucine supplementation in diet induced obese rats. *NASSO Meeting, 2008. #P0209*
12. Farah, A., **Shearer, J.**, de Paulis, T. Diferuloylquinide is converted to diferuloylquinic acid and other phenolic compounds during digestion and/or metabolism in rats. *FASEB Meeting 2008. #889.13*
13. Tunnicliffe, J. Eller, L., Hallam, M., Su, L. **Shearer, J.** Chlorogenic Acid and Blood Glucose Control: the Link Between Coffee and Diabetes. *Canadian Obesity Network, Students and New Professionals Meeting. Calgary, AB. March 2008.*
14. Farah, A., **Shearer, J.**, de Paulis, T. Diferuloylquinide is metabolized to diferuloylquinic acid and other phenolic compounds in rats. *3<sup>rd</sup> International Conference on Polyphenols and Health. Kyoto, Japan. Aug 2007. #10267.*
15. Duggan, G.E., Weljie, A., Vogel, H., **Shearer, J.** Prediction of Dietary-Induced Insulin Resistance in Mice by Targeted Profiling of Magnetic Resonance Spectra. *CFBS Meeting. Waterloo, ON. July 2007.*
16. Fueger, P.T., Lee-Young, R.S., **Shearer, J.**, Bracy, D.P., Heikkinen, S., Markku, L., Wasserman, D.H. Interaction of high fat feeding and impaired glucose phosphorylation capacity in control of muscle glucose uptake during insulin stimulation and exercise. *American Diabetes Association Meeting 2007.*
17. **Shearer, J.**, Terchinsky, J., Wright, D.C. Decreased mitochondrial enzyme content in adipose tissue following the consumption of a high fat diet is associated with oxidative stress. *FASEB Meeting 2007.*
18. Duggan G.E., Vogel H.J., **Shearer J.**, Weljie A.M. NMR Spectral Alignment for Multivariate Analysis of Type 1 and Type II Diabetic Mouse Models. Submitted, *Metabolomics Society Meeting, 2006.*
19. **Shearer, J.**, Binas, B., Wasserman, D.H., Wang, Z., Rottman, J.N. Cardiovascular consequences of heart-type fatty acid binding protein (FABP3) deletion in conscious C57BL/6 mice. *American Diabetes Association Meeting 2006.*
20. Fueger, P.T., Ayala, J.E., **Shearer, J.**, Bracy, D.P., Charron, M.J., Rottman, J.N., Wasserman D.H. Basal and exercise-stimulated cardiac glucose uptake is preserved in GLUT4 null mice. *American Diabetes Association Meeting 2006.*
21. Ross, K.D., **Shearer, J.**, Carley, A.N., Chan, CYW., Carroll, R., Severson, D.L. Exercise-Induced Increase in Pro-and Macroglycogen Content in Hearts from Type 1 Diabetic Mice. *FASEB Meeting 2006.*
22. Chan, CYW., Ross, K.D., Carley, A.N., Chan, CYW., Carroll, R., Severson, D.L., **Shearer, J.** Insulin-Resistance Induced Elevations in Cardiac Glycogen are not Attenuated by Regular Exercise. Submitted, *FASEB Meeting 2006. Finalist – American Physiological Society, David S. Bruce Undergraduate Award.*
23. Fueger, P.T., **Shearer, J.**, Posey, K.A., Ayala, J.E., Bracy, D.P., Wasserman, D.H. Hexokinase II overexpression increases exercise-stimulated muscle glucose uptake and endurance in GLUT4 null mice. *American Diabetes Association Meeting 2005.*
24. **Shearer, J.**, Causey, K.R., Pencek, R.R., Swift, L.L., Rottman, J.N., Wasserman, D.H. Reduced

Tissue Retention of Bromopalmitate when Metabolic Demands are Elevated. *FASEB Meeting, 2005.*

25. Fueger, P.T., **Shearer, J.**, Posey, K.A., Bracy, D.P., Wasserman, D.H. Complete GLUT4 ablation impairs muscle glucose uptake and endurance and creates exercise-induced hyperglycemia in C57Bl/6J mice *in vivo*. *FASEB Meeting, 2005.*
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43. Graham, T.E., Battram, D., **Shearer, J.**, Gibula, K. Caffeine with or without Gatorade does not cause fluid imbalance during exercise. *Canadian Journal of Applied Physiology* .26: S255, 2001.
44. Robinson, L.E., Battram, D., **Shearer, J.**, Gibula, K., Graham, T.E. Caffeine with or without Gatorade modifies plasma [K+] during exercise. *Canadian Journal of Applied Physiology*. 26: S507, 2001.
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47. **Shearer, J.**, Adamo, K., Saltin, B., Greer, F., Marchand, I., Graham, T.E. Effects of exercise intensity on pro- and macroglycogen utilization. *Canadian Journal of Applied Physiology*. 23: S506, 1998.

### **Publications Resulting from Industry R&D**

1. **Shearer, J.** & Petrie, H. *Gatorade Energy Bar*. Canadian Information Pamphlet. Includes nutritional information, product details, and commonly asked questions. Published by Quaker Oats Company of Canada. Distributed to the general public. 2000.
2. **Shearer, J.** & Petrie, H. Information Booklet: Gatorade Sports Science Institute. *Quick reference guide*. Used in employee training sessions. Includes information on dehydration, fluid balance, heat stress and commonly asked questions and answers. 2000.

### **Invited Talks and Symposia**

1. Coffee & Caffeine: Effects on Exercise, Health and Performance. Canadian Society for Exercise Physiology. London, ON. Dr. Terry Graham. Nov 2007.
2. Career Paths Taken. Discovery Day in the Health Sciences: The Canadian Medical Hall of Fame/Pfizer Canada. University of Calgary, Calgary AB. Oct 2007.
3. Metabolic Inflexibility in Obesity and Insulin Resistance. Canadian Obesity Network, Professional Seminar Presentations. University of Calgary. Calgary, AB. 2007
4. Caffeine, Coffee and Insulin Resistance. Canadian Society for Clinical Nutrition. Winnipeg,

- MB. Chair: Dr. Terry Graham. 2007.
5. Coffee, Caffeine and Metabolic Disease Risk. Western Obesity Summit. Kananaskis, AB. Host: Canadian Obesity Network. 2007
  6. Insulin Resistance: Role of Glycogen. University of Guelph. Guelph, ON. April 2007. Host: Dr. Terry Graham. 2007.
  7. Mechanisms of Glycogen-Induced Cardiomyopathy. University of Calgary. Calgary, AB. Dec 2006.
  8. Nutrigenomics of Chronic Coffee Consumption. Editors Workshop, National Coffee Association. New York, NY. Host: Dr. Sally Vater, Procter & Gamble. Nov 2005
  9. Modulation of Hepatic Substrate Utilization by Adenosine. Gastrointestinal Research Group. University of Calgary. Calgary, AB. Host: Dr. Keith Sharkey. May 2005.
  10. Deciphering the Mouse Phenotype. University of British Columbia, BC. Host. Dr. Pamela Hoodless. May 2005.
  11. *In Vivo* Modelling of Substrate Utilization in Healthy and Insulin Resistant States. University of Alberta. Edmonton, AB. Host: Dr. Gary Lopaschuk. April, 2005
  12. 8<sup>th</sup> International Gatorade Sports Science Congress. Lifting the Ban – Physiology of Caffeine in Athletics, Mexico City, MX, 2004.
  13. Heat stress and dehydration. Canadian Industrial Accident Prevention Association. Various oral presentations, 1998-2001.
  14. Sports Nutrition for Ironman Athletes. Gatorade Sports Science Institute – Sports Nutritionist. National Ironman Championships, 1999-2000.
  15. Organization of the glycogen granule. Graduate Student Symposium in Honour of Dr. Dirk Pette. Waterloo University - Waterloo, ON, 2000.

### **Media Interviews, Publications, Events**

1. Gauntlet Newspaper: “Physiological Effects of Caffeine”, April 2008 (MSc. Jasmine Tunnicliffe)
2. Global Television, 5pm News: “Antioxidant Properties of Coffee”, Jan 2008 (MSc. Jasmine Tunnicliffe)
3. CBC Radio, Quirks and Quarks: “Coffee and Caffeine in Health and Disease”, Dec 2007.
4. Obesity Task Force: Media Announcement, University of Calgary, June 2007
5. Obesity Task Force: Television: CTV News and Shaw TV, June 2007
6. Obesity Task Force: Print: Metro Newspaper, Calgary Herald, On-Campus Magazine, June 2007