Richard Thompson

Professor

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Date of Birth: July 4th, 1969 ***Citizenship:*** Canadian

EDUCATION

B.Sc. Engineering Physics	1993	University of Alberta, Edmonton, Canada
Ph.D. Medical Sciences	1999	University of Alberta, Edmonton, Canada
Post Doctoral Fellowship	2003	National Institutes of Health, Bethesda, MD, USA

WORK EXPERIENCE

Postgraduate Research (Sept. 1993 – Sept 1999)
Department of Biomedical Engineering, University of Alberta (NSERC and AHFMR Funding)
Supervisor - Dr. Peter S Allen (Chair of BME and Director of MRI, 1986-2006)
Project - The Response of Coupled Spin Systems to In Vivo NMR Spectroscopy Experiments

Postdoctoral Research (Jan. 2000 – Oct. 2003)
National Institutes of Health, Laboratory of Cardiac Energetics, Bethesda MD (NSERC Funding)
Supervisor - Dr. Elliot McVeigh (Chair, BME, Johns Hopkins University)
Project – Development of Magnetic Resonance Imaging for Quantification of Flow

Assistant Professor (Jan 2004 – Jan 2010) *(75% Research, 20% Teaching, 5% Administration)*
Department of Biomedical Engineering, Faculty of Medicine and Dentistry, University of Alberta

Associate Professor (Jan 2010 – Present) *(75% Research, 20% Teaching, 5% Administration)*
Department of Biomedical Engineering, Faculty of Medicine and Dentistry, University of Alberta

Professor (Jan 2016 – Present) *(75% Research, 20% Teaching, 5% Administration)*
Department of Biomedical Engineering, Faculty of Medicine and Dentistry, University of Alberta

HONOURS AND AWARDS

Undergraduate

NSERC Undergraduate Summer Research Award	1991, 1992, 1993
Deans Research Award	1993
APEGGA Gold Medal in Engineering Physics	1993

Graduate

NSERC Postgraduate Scholarship	1993-1995
Walter John's Postgraduate Scholarship	1993, 1994
AHFMR Postgraduate Scholarship	1994-1999

Post-Graduate

NSERC Post Doctoral Fellowship	2000-2003
National Institutes of Health - Award for Research Excellence	2002

Faculty

AHFMR Scholar	2005-2011

CAREER DEVELOPMENT AND SERVICE

Grant Panels

Heart and Stroke Foundation of Canada (Doctoral Awards Committee): 2008-2010, 2013-2018
Heart and Stoke Foundation of Canada (Early Career Awards Committee): 2014-2018
Heart and Stoke Foundation of Canada (Salary Awards Committee): 2008-2010, 2013-2018
CIHR Review Committee for Team Grants: 2010-2015
CIHR MPI Committee: 2018-2023

Ad Hoc Reviews and Journal Boards

GRANTS
Heart and Stroke Foundation of Canada (Operating Grants): 2008, 2009, 2010, 2017, 2018
Canadian Institutes of Health Research: 2012-2015, 2018-2022
National Institutes of Health (United States – k99 and R01): 2007, 2008, 2009, 2012, 2013
NSERC (Discovery Grant): 2007-2018

JOURNALS
Magnetic Resonance in Medicine, Journal of Magnetic Resonance Imaging, Magnetic Resonance Imaging, IEEE (Transactions on Medical Imaging), NMR in Biomedicine, International Journal of Cardiology, American Journal of Physiology, Journal of Applied Physiology, American Journal of Cardiology, Radiology, Circulation – Cardiovascular Imaging, Neroimaging (~20 reviews per year)

ABSTRACTS
International Society for Magnetic Resonance in Medicine (2004-2015)
Society for Cardiovascular Magnetic Resonance Imaging (2007-present)

75th Anniversary Awards Competition (University of Alberta): 2012, 2013, 2014

Magnetic Resonance in Medicine – Editorial Board Member (2021-Present)

Conference and Committee

Member of Annual Meeting Program Committee (AMPC) – International Society for Magnetic Resonance in Medicine (ISMRM) (2022-2024)

I organized and moderated the 4rd annual Alberta Imaging Symposium, which took place in June of 2014, in Edmonton (~150 participants from Edmonton, Calgary and Lethbridge). Keynote speaker Dr. Reza Nezafat from Harvard University.

I was co-organizer of the International Workshop: Myocardial Tissue Characterization with MRI Relaxometry: Principle and Emerging Methods (Nice, France, Feb 4-5, 2015). This was the most highly attended workshop in the history of the International Society for Magnetic Resonance in Medicine with ~350 attendees.

Moderator of "Imaging Sequences for T_1 Mapping" oral session at the Myocardial Tissue Characterization with MRI Relaxometry workshop (Nice, France, Jan 2015). Co-moderator of "Myocardial Parametric Imaging Methods" oral session at Society for Cardiovascular Magnetic Resonance Imaging Annual Meeting (Nice, France, Jan 2015). Co-moderator of "Cardiovascular Tissue Characterization" oral session at International Society for Magnetic Resonance in Medicine meeting (Toronto, Canada, May 2015). Co-moderator of "Myocardial Tissue Characterization" oral session at International Society for Magnetic Resonance in Medicine meeting (Milan, Italy, May 2014).

Engineering Nominating Committee (University of Alberta) 2012-Present

Candidacy Exams and Thesis Defense Exam

1. Yusuf Bhagat — Biomedical Engineering (Supervisor: Christian Beaulieu)
   Candidacy Exam 2005, PhD Defense 2007
2. Jacob Ellegood — Biomedical Engineering (Supervisor: Christian Beaulieu)
   Candidacy Exam 2005, PhD Defense 2008
3. Jeff Snyder — Biomedical Engineering (Supervisor: Alan Wilman)
   Candidacy Exam 2006, PhD Defense 2009
4. Jacqueline Flewitt — Biomedical Engineering (Supervisor: John Tyberg, University of Calgary)
   External Examiner 2006
5. Robert Stobbe — Biomedical Engineering (Supervisor: Christian Beaulieu)
   Candidacy Exam 2006, PhD Defense 2010

6. John Russel — Electrical Engineering (Supervisor: Zoltan Koles)
   MSc Exam 2007
7. Natasha Kuzbik — Electrical Engineering (Supervisor: Zoltan Koles)
   MSc Exam 2007
8. Corey Tomzcak — Physical Therapy (Supervisor: Mark Haykowsky)
   Candidacy Exam 2007, PhD Defense 2011
9. Richelle Prickett — Biomedical Engineering (Supervisor: Locksley McGann)
   Candidacy Exam 2007, PhD Defense 2010
10. Michael Cook — Electrical Engineering (Supervisor: Zoltan Koles)
    MSc Exam 2007
11. Alireza Abazari — Chemical Engineering (Supervisor: Janet Elliott)
    PhD Defense 2010
12. Gillian Redman — Mechanical Engineering (Supervisor: Warren Finlay)
    PhD Defense 2010
13. Edie Pituskin — Rehabilitation Medicine (Supervisor: Mark Haykowsky)
    Candidacy Exam 2010, PhD Defense 2013
14. Marc Lebel — Biomedical Engineering (Supervisor: Alan Wilman)
    Candidacy Exam 2010, PhD Defense 2013
15. Catherine Lebel — Biomedical Engineering (Supervisor: Christian Beaulieu)
    Candidacy Exam 2010, PhD Defense 2013
16. Michael Nelson — Physical Education (Supervisor: Stu Peterson)
    PhD Defense 2011
17. Jean-David Jutras — Medical Physics (Supervisor: Fino Falone)
    MSc Defense 2011
18. Lauren Stieglitz — Physics (Supervisor: Laurence Lee)
    MSc Defense 2011
19. Leandro Solis — Rehabilitation Medicine (Supervisor: Vivian Mushahwar)
    Candidacy Exam 2011, PhD Defense 2012
20. Min Liu — Biomedical Engineering (Supervisor: Christian Beaulieu)
    Candidacy Exam 2011, PhD Defense 2013
21. Eugene Yip — Oncology (Supervisor: Gino Falone)
    MSc Defense 2012
22. Andrew Walsh — Biomedical Engineering (Supervisor: Alan Wilman)

Candidacy Exam 2012, PhD Defense 2013

23. Corey Baron — Biomedical Engineering (Supervisor: Christian Beaulieu)
Candidacy Exam 2012, PhD Defense 2014

24. Yan Jiang — Electrical Engineering (Supervisor: Roger Zemp)
Candidacy Exam 2012

25. Nasir Uddin — Biomedical Engineering (Supervisor: Alan Wilman)
Candidacy Exam 2012

26. Rui Zhou — Rehabilitation Medicine (Supervisor: Vivian Mushahwar)
Candidacy Exam 2013

27. Hongful Sun — Biomedical Engineering (Supervisor: Alan Wilman)
Candidacy Exam 2013

28. Neha Meena — Rehabilitation Medicine (Supervisor: Mark Haykowksy)
MSc Defense 2014

29. Myles Mabee — Biomedical Engineering (Supervisor: Jacob Jaremko)
MSc Defense 2014

30. Justin Grenier — Biomedical Engineering (Supervisor: Youssef Belhamadia)
MSc Defense 2014

31. Eugene Yip — Oncology (Supervisor: Gino Falone)
Candidacy Exam 2014

32. Jean-David Justras — Oncology (Supervisor: Nicola DeZanche)
Candidacy Exam 2014

33. Lindsay Burrows — Biomedical Engineering (Supervisor: John Tyberg)
Candidacy Exam 2014

34. Azzam Hazim — Biomedical Engineering (Supervisor: Youssef Belhamadia)
Candidacy Exam 2015

35. Dylan Breitkreutz — Oncology (Supervisor: Atiyah Yahya)
MSc Defense 2015

36. Hongfu Sung — Biomedical Engineering (Supervisor: Christian Beaulieu)
PhD Defense 2015

37. Ahmed Elkady — Biomedical Engineering (Supervisor: Alan Wilman)
Candidacy Exam 2016

38. Riu Zhou — Biomedical Engineering (Supervisor: Vivian Mushahwar)
PhD Defense 2016

39. Diana Valdes — Biomedical Engineering (Supervisor: Christian Beaulieu)
Candidacy Exam 2019

40. Nashwan Naji — Biomedical Engineering (Supervisor: Alan Wilman)
Candidacy Exam 2019

41. Ashmita De — Biomedical Engineering (Supervisor: Alan Wilman)
Candidacy Exam 2019

42. Mona Al Onazi — Rehabilitation Medicine (Supervisor: Margaret McNeely)
Candidacy Exam 2020

43. Anish Nikhanji — Medicine (Supervisor: Gavin Oudit)
Candidacy Exam 2020

44. Lingyu Xu — Biomedical Engineering (Supervisor: Richard Thompson)
PhD Defense 2020

45. Azzam Hazim — Biomedical Engineering (Supervisor: Stevan Dubljevic)
PhD Defense 2020

46. Quinn Meadus — Biomedical Engineering (Supervisor: Richard Thompson)
MSc Defense 2020

47. Gitanjali Chhetri — Biomedical Engineering (Supervisor: Alan Wilman)
MSc Defense 2020

48. Nima Mehdizadeh — Biomedical Engineering (Supervisor: Alan Wilman)
MSc Defense 2021

49. Javad Esfahani — Biomedical Engineering (Supervisor: Alan Wilman)
MSc Defense 2022

50. Diana Valdes — Biomedical Engineering (Supervisor: Christian Beaulieu)
PhD Defense 2022

51. Ashmita De — Biomedical Engineering (Supervisor: Alan Wilman)
PhD Defense 2022

52. Anish Nikhanji — Medicine (Supervisor: Gavin Oudit)
PhD Defense 2022

53. Nashwan Naji — Biomedical Engineering (Supervisor: Alan Wilman)
PhD Defense 2023

54. Niharika Kashyap — Medicine (Supervisor: Gavin Oudit)
Msc Defense 2023

55. Kim Nguyen — Medicine (Supervisor: Lawrence Le)
PhD Defense 2023

56. Ziyan Zhu	Biomedical Engineering (Supervisor: Alan Wilman) Candidacy Exam 2023
57. Mi Zhou	Biomedical Engineering (Supervisor: Christian Beaulieu) Candidacy Exam 2023
58. Sharanya Balachandran	Radiology (Supervisor: Kumaradevan Punithakumar) Candidacy Exam 2023
59. Xiao Ma	Biomedical Engineering (Supervisor: Christian Beaulieu) Candidacy Exam 2023
60. Pablo Shanchez	Biomedical Engineering (Supervisor: Christian Beaulieu) Candidacy Exam 2023
61. Alejandro Acosta	Biomedical Engineering (Supervisor: Christian Beaulieu) Candidacy Exam 2023
62. Tereza Assuncao	Biomedical Engineering (Supervisor: Christian Beaulieu) Candidacy Exam 2023
63. Varsha Kesavan	Radiology (Supervisor: Kumaradevan Punithakumar) Candidacy Exam 2025
64. Chris Keen	Biomedical Engineering (Supervisor: Richard Thompson) MSc Defense 2024
65. Jing Zhu	Biomedical Engineering (Supervisor: Gavin Oudit) Msc Defense 2024
66. Carly Weber	Biomedical Engineering (Supervisor: Christian Beaulieu) PhD Defense 2024
67. Mi Zhou	Biomedical Engineering (Supervisor: Christian Beaulieu) PhD Defense 2025
68. Guru	Biomedical Engineering (Supervisor: Christian Beaulieu) Msc Defense 2025
69. Thomas McMurtry	Biomedical Engineering (Supervisor: Richard Thompson) MSc Defense 2024
70. Xiao Ma	Biomedical Engineering (Supervisor: Christian Beaulieu) PhD Defense 2025

PATENT AND INTELECTUAL PROPERTY RIGHTS

1. *Imaging and Reconstruction of Partial Field of View in Phase Contrast MRI*

   USA Patent Application No. 11/227,406 filed September 14, 2005
   (Reza Nezafat, Richard Thompson and Elliot McVeigh)

A new approach for imaging blood velocity using magnetic resonance imaging was developed that improved imaging efficiency (significantly increases temporal resolution) by allowing the imaging field of view to be significantly reduced.

2. *Enhanced drug delivery with Orientable Particles*

   USA Patent Application filed August 24, 2008 (US20100303916)
   (Andrew Martin, Richard Thompson and Warren Finlay).

This invention details the use of external magnetic fields to target inhaled drug delivery with the use of geometrically optimized delivery particles that respond to the magnetic fields.

3. *Improved accuracy and off-resonance performance in quantitative magnetization prepared magnetic resonance imaging*

   USA Patent Application No. 61/914,455 filed December 11, 2013
   (Kelvin Chow, Bruce Spottiswoode and Richard Thompson).

This invention details a new approach to quantify MRI parameters with increased accuracy and with less susceptibility to artifacts.

4. *Surface Modeling of a Segmented Echogenic Structure for Detection and Measurement of Anatomical Anomalies*

   USA Patent Application No. 62/169,530 filed June 1, 2015
   (Jacob Jaremko, Abhilash Hareendranathan, Myles Mabee, Richard Thompson, Pierre Bourlanger, Kumaradevan Punithakumar).

This invention details a new approach for three-dimensional quantitative determination of structures using ultrasound imaging for the detection of pathology.

PUBLICATIONS (*Trainees are underlined)*

183 Refereed Journal Publications with 62 published in the last 5 years (2021-2025)

h-index (Google Scholar): 48 *(13192 Citations)*

Peer Reviewed Publications

1. **Thompson RB**, Keen C, Coulden R, Jones H, Stobbe RW, Grenier JG. 3D Cartesian ultrashort double half-echo imaging of the lung parenchyma for water density imaging. *Magnetic Resonance in Medicine*. 2026;95:101–111.
2. Skow RJ, Foulkes SJ, Mugele H, Perkins DR, Lawley JS, Tomczak CR, Nelson MD, La Gerche A, Haykowsky MJ, **Thompson RB**. Validation of magnetic resonance imaging-derived venous oxygen saturation and oxygen consumption measurements during exercise. *American Journal of Physiology-Heart and Circulatory Physiology*. 2025;
3. Ghazanfari A, Pérez DJ, Vega-Medina A, Velázquez-Martínez CA, **Thompson RB**, Jaremko JL, Davies NM, Doschak MR. Synthesis and Characterization of Bisphosphonate-Functionalized Gadolinium Oxide Nanoparticles as Nonionizing Contrast Agents to Detect Bone Turnover. *ACS Applied Materials & Interfaces*. 2025;
4. Pituskin E, Foulkes S, Skow RJ, McMurtry T, Kruger C, Bates JE, Lamoureux D, Brandwein J, Lieuw E, Wu C, **Thompson RB**. Rationale and design of APOLLO: a personalized rehAbilitation PrOgram in aLLOgeneic bone marrow transplantation. *BMC cancer*. 2025;25:163.
5. Keen C, Grenier J, Šereš P, Stobbe R, White J, Beaulieu C, Sherrington R, Kirkham A, Paterson DI, **Thompson R**. MRI Assessment of Lung Water Density in Individuals Previously Infected With COVID-19: A Cross-Sectional Study. *Journal of Magnetic Resonance Imaging*. 2025;
6. Marshall J, Poon J, Bergman A, Karan T, Deyell MW, Schellenberg D, **Thompson RB**, Thomas S. Margins to account for cardiac and respiratory motion in cardiac radioablation. *Medical Physics*. 2025;52:e70041.
7. Labib D, Haykowsky M, Sonnex E, Mackey JR, **Thompson RB**, Paterson DI, Pituskin E. Long-term cardiac MRI follow up of MANTICORE (Multidisciplinary Approach to Novel Therapies in Cardio-Oncology REsearch). *Cardio-Oncology*. 2025;11:13.
8. Velanki H, Tyreman N, Seres P, Solis LR, Lu S, **Thompson R**, Mushahwar VK. Intermittent Electrical Stimulation-Induced Contractions Accelerate Pro-Regenerative Processes in Muscles With Deep Tissue Injury in Rats. *Wound Repair and Regeneration*. 2025;33:e70102.
9. Skow R, Foulkes S, Walesiak D, Grenier J, **Thompson R**, Haykowsky M, McMurtry S. Acute Effects of Submaximal Aerobic Exercise on Aortic Wall Stress Measured by Magnetic Resonance Imaging in Patients with Thoracic Aortic Disease. *Physiology*. 2025;40:0227.
10. Skow RJ, Foulkes SJ, **Thompson RB**, Grenier J, Moulson N, Niederseer D, McKinny J, Elefteriades J, McMurtry MS, Haykowsky MJ. Acute Effects of Aerobic Exercise on Aortic Wall Stress in Thoracic Aortic Disease. *American Journal of Physiology-Heart and Circulatory Physiology*. 2025;
11. Montes-Ibarra M, Oliveira CL, Olobatuyi T, Gonzalez MC, **Thompson R**, Paterson DI, Prado CM. Accuracy of resting energy expenditure predictive equations in coronavirus disease 2019 (COVID-19) survivors. *Clinical Nutrition Open Science*. 2024;58:175–182.
12. Foulkes SJ , Haykowsky MJ , Sherrington R , Kirkham AA , Grenier J , Seres P , Paterson DI , **Thompson RB**. (2025). Reference Values for Water-Specific T1, Intermuscular and Intramuscular Fat Content in Skeletal Muscle at 2.89 T. Journal of magnetic resonance imaging : JMRI. 1: 1-10.

13. Rees JL , Walesiak D , **Thompson R** , Mager D , Senior P , Boulé NG. (2025). HbA1c and Liver Fat After 16 Weeks of Fasted versus Fed Exercise Training in Adults With Type 2 Diabetes. Medicine and science in sports and exercise. 57(1): 106-114.
14. **Thompson RB** , Sherrington R , Beaulieu C , Kirkham A , Paterson DI , Seres P , Grenier J. (2024). Reference Values for Water-Specific T1 of the Liver at 3 T: T2*-Compensation and the Confounding Effects of Fat. Journal of magnetic resonance imaging : JMRI. 59: 1-13.
15. Goodhart T , Seres P , Grenier J , Keen C , Stobbe R , **Thompson RB**. (2024). Dynamic changes in lung water density and volume following supine body positioning. Magnetic resonance in medicine. 91: 1-9.
16. Suntratonpipat S , Pajunen K , Rosolowsky E , Escudero CA , Girgis R , **Thompson RB** , Pagano JJ, Tham EB. (2024). Cardiac MRI evaluation of aortic biophysical properties in paediatric Turner syndrome. Cardiology in the young. 34(8): 1764-1770.
17. Iyer NR , Bryant JA , Le TT , Grenier JG , **Thompson RB** , Chin CWL , Ugander M. (2024). Lung water density is increased in patients at risk of heart failure and is largely independent of conventional cardiovascular magnetic resonance measures. European heart journal. Imaging methods and practice. 2(3): qyae089.
18. Skow RJ , Foulkes SJ , Seres P , Freer MA , Mathieu ED , Raj SR , **Thompson RB** , Haykowsky MH , Richer L. (2024). Effect of lower body negative pressure on cardiac and cerebral function in postural orthostatic tachycardia syndrome: A pilot MRI assessment.Physiological reports. 12(6): e15979.
19. Montes-Ibarra M , Godziuk K , **Thompson RB** , Chan CB , Pituskin E , Gross DP , Lam G , Schlögl M, Felipe Mota J , Ian Paterson D , Prado CM. (2024). Protocol for a pilot study: Feasibility of a web-based platform to improve nutrition, mindfulness, and physical function in people living with Post COVID-19 condition (BLEND).Methods (San Diego, Calif.). 231: 186-194.
20. Hager A , Boule N , Pritchard L , Hodgetts S , Noga M , Guo Y , Mazurak V , Grenier J , **Thompson R**, Gilmour SM , Mager DR. (2024). Sarcopenia in Children Post Liver Transplant: Development of a Home Based Video Program to Support Muscle Strength and Function-A Pre-Post Controlled Pilot Study. Clinical transplantation. 38(9): e15455.
21. da Silva BR , Pagano AP , Kirkham AA , Gonzalez MC , Haykowsky MJ , Joy AA , King K , Singer P ,Cereda E , Paterson I , Pituskin E , **Thompson R** , Prado CM. (2024). Evaluating predictive equations for energy requirements throughout breast cancer trajectory: A comparative study. Clinical nutrition (Edinburgh, Scotland). 43(9): 2073-2082.
22. Mallabone M , Labib D , Abdelhaleem A , Dykstra S , **Thompson RB** , Paterson DI , Thompson SK, Hasanzadeh F , Mikami Y , Rivest S , Flewitt J , Feng Y , Macdonald M , King M , Bristow M , Kolman L ,Howarth AG , Lydell CP , Miller RJ , Fine NM , White JA. (2024). Sex-based Differences in the Phenotypic Expression and Prognosis of Idiopathic Non-ischemic Cardiomyopathy: A Cardiovascular Magnetic Resonance Study. European heart journal. Cardiovascular Imaging. 25: 1-10.
23. Poon J , **Thompson R** , Deyell MW , Schellenberg D , Kohli KS , Thomas S. (2024). Left ventricle segment specific motion assessment for cardiac-gated radiosurgery. Biomedical physics & engineering express. 10:1-10.
24. Foulkes SJ , Haykowsky MJ , Li T , Wang J , Kennedy M , Kirkham AA , **Thompson RB** , Paterson DI , La Gerche A , Pituskin E. (2024). Determinants of Impaired Peak Oxygen Uptake in Breast Cancer Survivors: JACC: CardioOncology Primer. JACC. CardioOncology. 6(1): 33-37.

25. Foulkes SJ , Howden EJ , Pituskin E , **Thompson RB** , La Gerche A , Haykowsky MJ. (2024). A Review on the Role of Exercise Training to Prevent a Decline in Cardiorespiratory Fitness and Cardiac Function in Breast Cancer Survivors. Journal of cardiopulmonary rehabilitation and prevention. 44(1): 5-14.
26. Poon J , **Thompson RB** , Deyell MW , Schellenberg D , Clark H , Reinsberg S , Thomas S. (2024). Analysis of left ventricle regional myocardial motion for cardiac radioablation: Left ventricular motion analysis. Journal of applied clinical medical physics. 25(5): e14333.
27. Paterson DI , White JA , Beaulieu C , Sherrington R , Prado CM , Tandon P , Halloran K , Smith S, McCombe JA , Ritchie B , Pituskin E , Haykowsky MJ , Coulden R , Emery D , Tsui AK , Wu KY, Oudit GY , Ezekowitz JA , **Thompson RB**. (2024). Rationale and design of the multi organ inflammation with serial testing study: a comprehensive assessment of functional and structural abnormalities in patients with recovered COVID-19. Frontiers in medicine. 11: 1392169.
28. Greidanus PG , Pagano JJ , Escudero CA , **Thompson R** , Tham EB. (2023). Regional Elevation of Liver T1 in Fontan Patients. CJC pediatric and congenital heart disease. 2(3): 134-142.
29. Christensen, Rebecca AG and Haykowsky, Mark J and Nadler, Michelle and Prado, Carla M and Small, Stephanie D and Rickard, Julia N and Pituskin, Edith and Paterson, D Ian and Mackey, John R and Thompson, Richard B and others. (2023). Rationale and design of IMPACT-women: a randomised controlled trial of the effect of time-restricted eating, healthy eating and reduced sedentary behaviour on metabolic health during chemotherapy for early-stage breast cancer. British Journal of Nutrition. 130(5):852-859.
30. Beaulieu D , Treit S , Pagano JJ , Beaulieu C , **Thompson R**. (2023). Cardiac Magnetic Resonance Imaging in Individuals With Prenatal Alcohol Exposure. CJC pediatric and congenital heart disease. 2(3): 150-161.
31. Da Silva BR , Kirkham AA , Ford KL , Haykowsky MJ , Paterson DI , Joy AA , Pituskin E , **Thompson R**, Prado CM. (2023). Time-Restricted Eating in Breast Cancer Survivors: Effects on Body Composition and Nutritional Status. Nutrition and cancer. 75(5): 1309-1314.
32. Pituskin E , Foulkes SJ , Cox-Kennett N , Driga A , Dimitry R , **Thompson RB** , Kirkham A , Prado C, Gyenes G , Haykowsky MJ. (2023). Cardio-oncology and Cancer Rehabilitation: Is an Integrated Approach Possible?. The Canadian journal of cardiology. 39(11S): 315-322.
33. Da Silva, Bruna Ramos and Kirkham, Amy A and Ford, Katherine L and Haykowsky, Mark J and Paterson, D Ian and Joy, Anil A and Pituskin, Edith and **Thompson, R** and Prado, Carla M. (2023). Time Restricted Eating in Breast Cancer Survivors: Effects on Body Composition and Nutritional Status. Nutrition and Cancer. 75(5): 1309-1314.
34. Da Silva BR , Kirkham AA , Ford KL , Haykowsky MJ , Paterson DI , Joy AA , Pituskin E , **Thompson R**, Prado CM. (2023). Phase angle is associated with muscle health and cardiorespiratory fitness in older breast cancer survivors. Clinical nutrition ESPEN. 55: 208-211.
35. Kirkham, Amy A and Mackey, John R and **Thompson, Richard B** and Haykowsky, Mark J and Oudit, Gavin Y and McNeely, Margaret and Coulden, Richard and Stickland, Michael K and Baracos, Vickie E and Dyck, Jason RB and others. (2023). TITAN Trial: A Randomized Controlled Trial of a Cardiac Rehabilitation Care Model in Breast Cancer. JACC: Advances. 2(6): 100424.
36. Greidanus, Paul G and Pagano, Joseph J and Escudero, Carolina A and **Thompson, Richard** and Tham, Edythe B. (2023). Regional Elevation of Liver T1 in Fontan Patients. CJC Pediatric and Congenital Heart Disease. 2(3): 134-142.

37. Kirkham AA , Ford KL , Ramos Da Silva B , Topolnyski J , Prado CM , Joy AA , Paterson DI , Boulé N , Pituskin E , Haykowsky MJ , **Thompson RB**. (2023). Implementation of weekday time-restricted eating to improve metabolic health in breast cancer survivors with overweight/obesity. Obesity (Silver Spring, Md.). 31 Suppl 1: 150-160.

38. Perera, K.; Kashyap, N.; Wang, K.; Omar, F.; Prosia, E.; **Thompson, R. B**.; Paterson, D. I.; Fine, N. M.; White, J. A.; Khan, A. Integrating Cardiac MRI Imaging and Multidisciplinary Clinical Care Is Associated With Improved Outcomes in Patients With Fabry Disease. Current Problems in Cardiology 2023, 48 (2), 101476.

39. Kirkham, A. A.; Ford, K. L.; Ramos Da Silva, B.; Topolnyski, J.; Prado, C. M.; Joy, A. A.; Paterson, D. I.; Boulé, N.; Pituskin, E.; Haykowsky, M. J.; **Thompson, R. B**.. Implementation of weekday time-restricted eating to improve metabolic health in breast cancer survivors with overweight/obesity. Obesity. 2023;31:150-160.

40. Greidanus PG, Pagano JJ, Escudero CA, **Thompson R**, Tham EB. Regional Elevation of Liver T1 in Fontan-Associated Liver Disease. CJC Pediatric and Congenital Heart Disease. Published online 2023.

41. Da Silva BR, Kirkham AA, Ford KL, et al. Time-Restricted Eating in Breast Cancer Survivors: Effects on Body Composition and Nutritional Status. Nutrition and Cancer. Published online 2023:1-6.

42. Da Silva BR, Kirkham AA, Ford KL, et al. Phase angle is associated with muscle health and cardiorespiratory fitness in older breast cancer survivors. Clinical Nutrition ESPEN. 2023;55:208-211.

43. Beaulieu D, Treit S, Pagano JJ, Beaulieu C, **Thompson R**. Cardiac magnetic resonance imaging in individuals with prenatal alcohol exposure. CJC Pediatric and Congenital Heart Disease. Published online 2023.

44. Zhang H, Jamieson KL, Grenier J, et al. Myocardial iron deficiency and mitochondrial dysfunction in advanced heart failure in humans. Journal of the American Heart Association. 2022;11(11):e022853.

45. Kirkham AA, Pituskin E, Mackey JR, Grenier JG, D Paterson I, Haykowsky MJ, **Thompson RB**. Longitudinal Changes in Skeletal Muscle Metabolism, Oxygen Uptake, and Myosteatosis During Cardiotoxic Treatment for Early-Stage Breast Cancer. The Oncologist 2022.

46. Alhumaid W, Small SD, Kirkham AA, Becher H, Pituskin E, Prado CM, **Thompson RB**, Haykowsky MJ, Paterson DI. A Contemporary Review of the Effects of Exercise Training on Cardiac Structure and Function and Cardiovascular Risk Profile: Insights From Imaging. Frontiers in Cardiovascular Medicine 2022;9.

47. Zhang, H., Jamieson, K.L., Grenier, J., Nikhanj, A., Tang, Z., Wang, F., Wang, S., Seidman, J.G., Seidman, C.E., **Thompson, R**., Seubert, J.M., Oudit, G.Y. Myocardial Iron Deficiency and Mitochondrial Dysfunction in Advanced Heart Failure in Humans. (2022) Journal of the American Heart Association, 11 (11), art. no. e022853.

48. Kirkham, A.A., Ford, K.L., Topolnyski, J., Da Silva, B.R., Paterson, D.I., Prado, C.M., Joy, A.A., Boulé, N.G., Pituskin, E., Haykowsky, M.J., **Thompson, R.B**. Time-Restricted Eating to Reduce Cardiovascular Risk Among Older Breast Cancer Survivors: A Single-Arm Feasibility Study. (2022) JACC: CardioOncology, 4 (2), pp. 276-278.

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Book Chapters

1. Vascular Hemodynamics: Bioengineering and Clinical Perspectives. Chapter Title: *Measurement of Blood Flow with Phase-Contrast Magnetic Resonance Imaging (pp 213-245).* Edited by Peter Yim. John Wiley and Sons. 1st Edition - October 2008.
2. ISAM Textbook of Aerosol Medicine. Chapter Title: *Magnetic Resonance Imaging of Aerosol Deposition.* 1st Edition. Mary Ann Liebert, Inc., Fall 2015.

Invited Presentations

1. Blood Flow … the Function: Intra-Cardiovascular Pressure Difference Measurement with Phase Contrast MRI. *10th Annual Meeting of the Society of Magnetic Resonance,* Honolulu, Hawaii. (May 2002).

2. Cardiovascular Magnetic Resonance Imaging: Research Topics and Clinical Application. *Cardiology Rounds (University of Alberta Hospital).* (Feb 2005)

3. Magnetic Resonance Imaging in the Diagnosis of Pediatric Cardiovascular Disease. *Pediatric Cardiology Rounds (University of Alberta Hospital).* (April 2006)

4. Cardiovascular Computational Fluid Dynamics – The Role of Magnetic Resonance Imaging. *Chemical Engineering Seminar Series (University of Alberta).* (Jan 2007)

5. Magnetic Resonance Imaging in Bone and Joint Health – What is MRI? *Transdisciplinary Bone and Joint Health Core Course (University of Alberta and University of Calgary)* (Sept 12, 2007)

6. IEEE NCS EMBS Meeting - Imaging Diastolic Function with Magnetic Resonance Imaging and ultrasound - how does the heart relax? An Engineer's Perspective. (Dec 11, 2007)

7. Imaging the Mechanisms of Diastolic Function. Vanderbilt University Imaging of Institute Science (March 6th, 2009)

8. Imaging in Diastolic Function and Heart Failure. Vascular Biology Group, University of Alberta. (March 19th, 2009)

9. MRI Assessment of the Right Ventricle and Pulmonary Perfusion. 3rd International Conference Neonatal and Childhood Pulmonary Vascular Disease, Banff, Alberta, (March 11-13th, 2010)

10. Imaging Heart and Lung Function with Magnetic Resonance Imaging: *Does Oncology get all it can from MRI?* Cross Cancer Institute Grand Rounds, University of Alberta, Edmonton (March 29th, 2010).

11. Tissue Characterization with MRI. AHFMR Smart Neural Prostheses Team Seminar (May 17th, 2010).

12. Magnetic Resonance Imaging in Cardiovascular Disease. Biochemistry Seminar, University of Alberta (April 13, 1012).

13. Imaging and Interpretation of Left Ventricular Untwisting. Cardiology Rounds (University of Alberta Hospital) (June 16th, 2010).

14. Quantifying Heart Function, Morphology and Tissue Characteristics with MRI. Radiology Rounds, University of Alberta (July 13, 2012).

15. Development and Translation of Cardiovascular MRI Biomarkers. Libin Cardiovascular Institute, Calgary, Canada (July 27, 2012).

16. Quantitative Imaging of Diffuse Fibrosis in the Heart with MRI. Cardiovascular Research Centre, University of Alberta (Nov 15, 2012).

17. CMR: T_1, T_2, T_2*, and Imaging Methods in Viability and Perfusion. Cardiac MRI – A hands-on Workshop. Mazankowski Alberta Heart Institute (March 1, 2013).

18. T_1 Mapping Methods: SASHA with Comparison to MOLLI. Annual meeting of Society for Cardiovascular Magnetic Resonance, San Francisco, CA (Feb 2, 2013).

19. T_1 Mapping with SASHA: An Update. Annual meeting of Society for Cardiovascular Magnetic Resonance, New Orleans, USA (Jan 16, 2014).

20. Imaging of T1, T2 and T2*, perfusion and myocardial viability. Stephenson Cardiovacular MRI Centre, Calgary (Jan 24th, 2014).

21. Quantitative T1 Mapping of the Myocardium – Alberta Pediatric Cardiology Update, Edmonton, AB (Oct 18th, 2014).

22. Myocardial Parametric Mapping. Annual meeting of Society for Cardiovascular Magnetic Resonance, Nice, France (Feb 7, 2015).

23. Magnetic Resonance Imaging Update: Current Standard of Care and Future Applications. American College of Cardiology: Rockies. March 16, 2015, Banff, Alberta.

24. Research Promise of Parametric Mapping. 23rd annual International Society for Magnetic Resonance in Medicine meeting, Toronto, Canada (May 31st, 2015).

25. MR Imaging for Cardiac and Peripheral Muscle Function. Invited Presentation at the 2nd Jim Pattison Cardiac Rehabilitation Symposium. Banff AB, Canada. April 8th, 2016, Banff, Alberta.

26. Quantitative Imaging of Lung Water. Invited Lecture. University of Sydney. March 21, 2021.

27. Cardiovascular Rehabilitation Targets in Patients with Long COVID; Insight from Multi-Organ MRI studies. Invited Presentation at the 3rd Jim Pattison Cardiac Rehabilitation Symposium. Banff AB, Canada. April 21, 2023

28. Imaging of Liver T1 with PROFIT1. Invited Lecture. University of Leicester. May 26th, 2023.

Conference Abstracts *(National or International Meetings)*

1. **Thompson RB** and Allen PS. An integrated volume localization spectral editing pulse sequence. Proceedings of the 3rd Annual Meeting of the Society of Magnetic Resonance, Nice, France. 1909, (August 1995).
2. **Thompson RB** and Allen PS. The penetration of in vivo multiple quantum filters by "Dipolar field effect" signals. Proceedings of the 5th Annual Meeting of the Society of Magnetic Resonance, Vancouver, Canada. 1351, (August 1997).
3. **Thompson RB** and Allen PS. In vivo double quantum filtering of glutamate. Proceedings of the 5th Annual Meeting of the Society of Magnetic Resonance, Vancouver, Canada. 1350, (August 1997).
4. Cwick VA, **Thompson RB,** Hanstock CC, Boyd C, Brooke MH, Martin WRW and Allen PS. In-Vivo Estimation of Human Cerebral Glutamate with Proton Magnetic Resonance Spectroscopy: Results of Preliminary Studies in Amyotrophic Lateral Scerosis. American Neurological Association Conference, Annals of Neurology, San Diego, CA, 24:454 (1997).
5. Hanstock CC, **Thompson RB**, Trump ME, Gheorghiu D, Hochachka PW, and Allen PS. The Unusual Properties of the Methyl Proton Resonance of Cr/PCr in Muscle at Rest and in Ischemic Fatigue. Proceedings of the 6th Annual Meeting of the Society of Magnetic Resonance, Sydney, Australia. 1780, (April 1998).
6. Tibbo P, Hanstock CC, **Thompson RB**, Valiakalayil A, Nopoulos P and Allen PS. 1H-MRS in Adolescents at High-Risk for Schizophrenia. Annual Meeting of the Society of Biological Psychiatry, Washington, USA. 414, (May 1999).

7. **Thompson RB** and Allen PS. Quantification of the Coupled 1H Metabolites Using PRESS – Numerical Modeling and Basis Function Calculation. Proceedings of the 7th Annual Meeting of the Society of Magnetic Resonance, Philadelphia, USA. 1569, (May 1999).
8. **Thompson RB** and Allen PS. The Response of Coupled Spins to the STEAM Sequence – Improving Quantification. Proceedings of the 7th Annual Meeting of the Society of Magnetic Resonance, Philadelphia, USA. 587, (May 1999).
9. Hanstock CC, **Thompson RB**, Wieler M, Allen PS and Martin WMW. Depletion of Glutamate in the Motor Cortex in Huntington's Disease Measured using Short-Echo STEAM at 3 Tesla. Proceedings of the 7th Annual Meeting of the Society of Magnetic Resonance, Philadelphia, USA. 1445, (May 1999).
10. Wild JM, **Thompson RB** and Allen PS. The Influence of PRESS localization in Spectroscopic Imaging – Improving Quantification. Proceedings of the 8th Annual Meeting of the Society of Magnetic Resonance in Denver, USA. (2000).
11. **Thompson RB** and Allen PS. Quantification of the Coupled 1H Metabolites Using PRESS – Numerical Modeling and Basis Function Calculation. Proceedings of the 7th Annual Meeting of the Society of Magnetic Resonance, Philadelphia, USA. 1569, (May 1999).
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13. **Thompson RB** and Allen PS. Is GABA a Strongly Coupled Spin System at 1.5 T? Denver, USA. 1859, (April 2000).
14. **Thompson RB** and McVeigh ER. High Temporal Resolution Multi-Echo Phase Contrast MRI. Proceedings of the 9th Annual Meeting of the Society of Magnetic Resonance, Glasgow, Scotland. 1864, (April 2001).
15. **Thompson RB** and McVeigh ER. Calculation of Left-Heart Pressure Gradients with Breath-Hold Phase Contrast MRI. Proceedings of the 9th Annual Meeting of the Society of Magnetic Resonance, Glasgow, Scotland. 1893, (April 2001).
16. Peters DC, **Thompson RB,** and McVeigh ER. Multi-echo Projection Reconstruction for Real-Time Cardiac MRI. Proceedings of the 9th Annual Meeting of the Society of Magnetic Resonance, Glasgow, Scotland. 1882, (April 2001).
17. Peters DC, **Thompson RB**, Derbyshire JA and McVeigh ER. Azimuthally Undersampled Projection Reconstruction SSFP for Cardiac MR Imaging, ISMRM Workshop: Minimum MR Data Acquisition Methods, Marco Island, Florida. (October 2001).
18. **Thompson RB**, Ennis DB, Derbyshire JA and McVeigh ER. Calculation of Intra-Ventricular Pressure Gradients with Phase Contrast MRI: *In-Vivo* Validation with High Fidelity Pressure Transducers. Proceedings of the 10th Annual Meeting of the Society of Magnetic Resonance, Honolulu, Hawaii. 515, (May 2002).
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20. Ennis DB, **Thompson RB**, Derbyshire JA and McVeigh ER. Respiratory and Cardiac Gated 3D Imaging for Improved Spatial and Temporal Resolution. Proceedings of the 10th Annual Meeting of the Society of Magnetic Resonance, Honolulu, Hawaii. 1681, (May 2002).

21. Raman VK, Guttman MA, Dick AJ, Peters DC, **Thompson RB** and Lederman RJ. Intravascular guidewire coil facilitated invasive real-time magnetic resonance arteriography. *Journal of the American College of Cardiology* **39**, 352A-352A (2002).

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23. Dick AJ, Guttman MA, Raman VK, Peters DC, **Thompson RB**, Lederman RJ. Real-time MRI Selective Arteriography and Angioplasty in Swine Facilitated with an Active Intravascular Guidewire Coil. Proceedings of the 10th Annual Meeting of the Society of Magnetic Resonance, Honolulu, Hawaii. 2267, (May 2002).

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25. **Thompson RB**, Ennis DB, Derbyshire JA and McVeigh ER. Measurement of Intra-Ventricular Pressure Differences with Phase Contrast MRI: Validation and Early Experiences. Canadian Cardiovascular Congress 2002. Edmonton, Canada. 282, (Oct 2002).

26. **Thompson RB**, Raman VK, Dick AJ, Balaban RS, McVeigh ER and Lederman RJ. Measurement of Skeletal Muscle Perfusion in Normal Volunteers During Reactive Hyperemia: Validation of Gadolinium Enhanced Method Using Arterial Blood Flow Techniques. Proceedings of the 6th Annual Meeting of the Society For Cardiovascular Magnetic Resonance, Lake Buena Vista, Florida. 298, (Feb 2003).

27. **Thompson RB** and McVeigh ER. Real-Time Volume Flow Measurements with Complex Difference MRI. Proceedings of the 11th Annual Meeting of the Society of Magnetic Resonance, Toronto, Canada. 154, (May 2003).

28. Dick AJ, Hill JM, Raman VK, Guttman MA, Peters DC, **Thompson RB**, Pessanha BSS, Martin B, Dunbar CE, McVeigh ER and Lederman RJ. MRI for the delivery and surveillance of mesenchymal stem cells injected at the border of recent myocardial infarction in swine. *Molecular Therapy* **7**, S333-S333 (2003).

29. Raman VK, Karmarkar P, Dick AJ, Guttman MA, Peters DC, **Thompson RB**, Pessanha BS, De Silva R, Atalar E, McVeigh ER and Lederman RJ. Magnetic resonance fluoroscopy-guided endovascular repair of abdominal aortic aneurysm in swine. *Circulation* **108**, 428-428 (2003).

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31. **Thompson RB** and McVeigh ER. Flow-Gate MRI Using Radial Acquisitions. Proceedings of 17th Annual Scientific Meeting of the Society for Cardiovascular Magnetic Resonance, Barcelona, Spain. 439, (Feb 2004).

32. **Thompson RB**, Aviles R, Raman VK, Faranesh AZ, Balaban RS, McVeigh ER and Lederman RJ. Regional Measurement of Skeletal Muscle Blood Flow During Post-Ischemic Reactive Hyperemia. Proceedings of the 12th Annual Meeting of the Society of Magnetic Resonance, Kyoto, Japan. 561, (May 2004).

33. Nezafat R, **Thompson RB** and McVeigh ER J. Blood Velocity Imaging using Spiral Phase Contrast with Complex Difference Processing. Proceedings of the 12th Annual Meeting of the Society of Magnetic Resonance, Kyoto, Japan. 1851, (May 2004).

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38. Johnson SA, **Thompson RB**, Lambert RGW and McGann LE. Non-Invasive Measurement of Temperature Distribution in Cryopreservation Solutions Using SMRI. 106th Annual Meeting of the American Roentgen Ray Society, Vancouver, Canada. 103, (April 2006).

39. **Thompson RB,** Johnson SA, Lambert RGW and McGann LE. Measurement of Temperature Distributions in Cryopreservation Solutions Using Echo-Planar Spectroscopic Imaging. Proceedings of the 14th Annual Meeting of the Society of Magnetic Resonance, Seattle, USA. 3067, (May 2006).

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41. Snyder J, **Thompson RB**, Wild JM and Wilman AH. Radiofrequency Variations in Spectroscopic Imaging at High Field: Differences in Coupled and Uncoupled Spin Systems. Proceedings of the 14th Annual Meeting of the Society of Magnetic Resonance, Seattle, USA. 3080, (May 2006).

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44. **Thompson RB**, Yu J, Elliott J, and McGann L. Spectroscopic Imaging of Cryopreservative Concentration and Diffusion in Cartilage**.** Proceedings of the 15th Annual Meeting of the Society of Magnetic Resonance, Berlin, Germany. (May 2007).

45. Chow K, Paterson I, and **Thompson RB**. Imaging Water Content in the Lungs – Measuring and Correcting the Influence of Breathing. Proceedings of the 15th Annual Meeting of the Society of Magnetic Resonance, Berlin, Germany. (May 2007).

46. **Thompson RB**, Yu J, Irizar J, Elliott J, and McGann L. Direct Measurement of Phase Diagrams with NMR Spectroscopy. Proceedings of the 44th Annual Meeting of the Society for Cryobiology, Banff, Canada. (June 2007).

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dimensional Echocardiographic Speckle Tracking. Accepted for oral presentation at the Scientic Sessions of the American Heart Association, Orlando, Florida. (November 2007).

48. Chow KC, Paterson DI and **Thompson RB.** Cardiovascular B_1-Field Mapping using HASTE. Proceedings of 11th Annual Scientific Meeting of the Society for Cardiovascular Magnetic Resonance Los Angeles, USA. (Feb 2008).

49. Cheng J, Paterson DI and **Thompson RB.** Interpreting Pressure Gradients in the Filling Left Ventricle. Proceedings of 11th Annual Scientific Meeting of the Society for Cardiovascular Magnetic Resonance, Los Angeles, USA. (Feb 2008).

50. Chow KC, Paterson DI and **Thompson RB.** Radiofrequency (B1) Field Mapping In the Heart and Lungs Using a HASTE Double Angle Method. Proceedings of the 16th Annual Meeting of the Society of Magnetic Resonance, Toronto, Canada. (May 2008).

51. Cheng J, Paterson DI and **Thompson RB.** Increased Diastolic Pressure Gradients are Measured During Dobutamine Stress Tests. Proceedings of the 16th Annual Meeting of the Society of Magnetic Resonance, Toronto, Canada. (May 2008).

52. **Thompson RB**, Cheng Baron J, Chow KC, Scott JM, Esch BT, Haykowsky M and Paterson I**.** Spatiotemporal Relationship between Ventricular Expansion and Flow Propagation during Early Filling. 18Th meeting of the cardiovascular systems dynamics society, St. Louis, USA (Sept 27 – 30th). 2008

53. Kazemian P, Baron J, **Thompson RB**, Pantano A, Paterson DI Triplanar Method for Calculating Left Atrial Volume. Canadian Cardiovascular Congress, Oct 2008.

54. **Thompson RB**, Cheng Baron J, Scott JM, Esch BT, Haykowsky M, Warburton DER and Paterson I**.** Propagation of Pressure Gradient Waves in the Left Atrium and Left Ventricle during Early Filling. 18Th meeting of the cardiovascular systems dynamics society, St. Louis, USA (Sept 27 – 30th). 2008

55. **Thompson RB**, Scott JM, Esch BT, Cheng Baron J, Chow KC, Paterson I and Haykowsky M**.** Controlling Ventricular Preload using an MRI-Compatible Lower Body Negative Pressure Chamber: Measuring Changes in Morphology and Mechanical and Hemodynamic Function. 12th annual sessions of the society for cardiovascular magnetic resonance, Orlando, USA, Jan 2009.

56. **Thompson RB**, Cheng Baron J, Chow KC, Scott JM, Esch BT, Haykowsky M and Paterson I**.** Comprehensive Evaluation of Diastolic Function with MRI. 12th annual sessions of the society for cardiovascular magnetic resonance. 12th annual sessions of the society for cardiovascular magnetic resonance, Orlando, USA, Jan 2009.

57. **Thompson RB**, Cheng Baron J, Chow KC, Scott JM, Esch BT, Haykowsky M and Paterson I**.** Spatiotemporal Relationship between Ventricular Expansion and Flow Propagation during Early Filling. 12th annual sessions of the society for cardiovascular magnetic resonance, Orlando, USA, Jan 2009.

58. Chow K, Toma M, Esch B, Scott J, Haykowsky M, **Thompson RB**, Paterson I. Comparison of MRI Derived Pulmonary Edema Measures with LVEDP and serum BNP. 12th annual sessions of the society for cardiovascular magnetic resonance, Orlando, USA, Jan 2009.

59. Butler CR, Kumar A, Toma M, **Thompson RB,** Friedrich M, Paterson I. Late Enhancement in 39 Cardiac Transplant Patients: Prevalence, Pattern andExtent. Oral presentation 12th annual sessions of the society for cardiovascular magnetic resonance, Orlando, USA, Jan 2009.

60. Cheng Baron J, Esch B, Scott J, Haykowsky M, Paterson I, **Thompson RB**. Pressure gradient wave propagation in the left atrium and left ventricle during early diastole, International society of magnetic resonance in medicine 17th annual scientific meeting and exhibition, Honolulu, USA, April 2009.

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62. **RB Thompson**, J Cheng Baron, K Chow, J Scott, B Esch, M Haykowsky, and I Paterson. Comprehensive Evaluation of Diastolic Function with MRI, International society of magnetic resonance in medicine 17th annual scientific meeting and exhibition, Honolulu, USA, April 2009.

63. Chow K, Esch B, Haykowsky M, Paterson I, **Thompson RB**. Measurement of Regional and Global Lung Ventilation Using Non-Rigid Image Registration.17th Annual Scientific Meeting & Exhibition of the International Society for Magnetic Resonance in Medicine. Honolulu, USA, April 2009.

64. Chow K, Scott J, Esch B, Haykowsky M, **Thompson RB**, Paterson I. Quantification of Pulmonary Edema in Heart Failure Patients and Controls with B1-Field Corrected Free-Breathing MRI.17th Annual Scientific Meeting & Exhibition of the International Society for Magnetic Resonance in Medicine. Honolulu, USA, April 2009.

65. Nelson MD, Haykowsky MJ, Petersen SR, DeLorey DS, Cheng-Baron J, **Thompson RB**. Global diastolic function is preserved during passive heat stress due to augmented left ventricular untwisting. *The FASEB Journal*. 24: 991.20, 2010. (Experimental Biology, Anaheim, USA, April 2010.)

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67. Cheng-Baron J, Scott JM, Esch BT, Haykowsky MJ, Tyberg JV, **Thompson RB**. Relationship between mitral velocity and mitral flow time-profiles during ventricular filling. International society of magnetic resonance in medicine 18th annual scientific meeting and exhibition, Stockholm, Sweden, May 2010.

68. Chow K, Flewitt JA, Green JD, Friedrich MG, **Thompson RB**. Myocardial T2 Using Single Shot Turbo Spin Echo - Normal Regional Trends and Myocardial Infarction. At the 18th Annual Scientific Meeting & Exhibition of the International Society for Magnetic Resonance in Medicine. (International conference oral presentation). Stockholm, Sweden, May 2010

69. Andrew R. Martin, Gillian E.S. Redman, Paul Waszak, **Richard B. Thompson**, Po-Yin Cheung, Bernard Thébaud, and Warren H. Finlay. Influence of an Externally Applied Magnetic Field on Regional Deposition Patterns of Iron Oxide Loaded High Aspect Ratio Particles in Mechanically Ventilated Rabbits. Respiratory Drug Delivery meeting, Orlando, USA, April 2010.

70. Chow K, Flewitt JA, Green JD, Friedrich MG, **Thompson RB**. Myocardial T2 Using Single Shot Turbo Spin Echo - Normal Regional Trends and Myocardial Infarction. At the 18th Annual Scientific Meeting & Exhibition of the International Society for Magnetic Resonance in Medicine. (International conference oral presentation). Stockholm, Sweden, May 2010.

71. MD Nelson**,** MJ Haykowsky, SR Petersen, DS DeLorey, MK Stickland, J Cheng-Baron, **RB Thompson**. Biventricular function during passive heat stress: Influence of aerobic fitness. *Appl. Physiol. Nutr. Metab.* 35:S76, 2010.

72. Chow K, Flewitt JA, Green JD, Friedrich MG, **Thompson RB**. Characterization of myocardial T1 and partition coefficient as a function of time after gadolinium delivery in healthy subjects. Journal of Cardiovascular Magnetic Resonance 2011, 13(Suppl 1):P31

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74. Cheng-Baron J, Nelson MD, Tomczak CR, Chow K, Ezekowitz JA, Haykowsky MJ, Paterson DI and **Thompson RB**. Estimate of global radial, circumferential and longitudinal strain from SSFP cines: A study in controls and patients with low to normal ejection fraction. Poster, International society of magnetic resonance in medicine 19th annual scientific meeting and exhibition, Montreal, Canada, May 2011.

75. Cheng-Baron J, Nelson MD, Tomczak CR, Chow K, Ezekowitz JA, Haykowsky MJ, Paterson DI and **Thompson RB**. Estimate of global radial, circumferential and longitudinal strain from SSFP cines: A study in controls and patients with low to normal ejection fraction. Poster, 15th Annual Cardiac Sciences Research Day, Edmonton, Canada, June 2011.

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77. Chow K, Flewitt JA, Green JD, Friedrich MG, **Thompson RB**. Characterization of Myocardial T1 and Partition Coefficient as a Function of Time after Gadolinium Delivery in Healthy Subjects. At the 19th Annual Scientific Meeting & Exhibition of the International Society for Magnetic Resonance in Medicine. Montreal, Canada, May 2011

78. Pun SC, Figura M, Chow K, Haykowsky M, **Thompson RB**, Paterson I. A simple method for characterizing left ventricular remodeling by cardiovascular magnetic resonance. At the 14th Annual Scientific Sessions of the Society for Cardiovascular Magnetic Resonance. Nice, France, February 2011

79. Kazemian P, Cheng Baron J, Chow K, Haykowsky M, **Thompson RB**, Paterson I. Triplanar estimation of left atrial volume. At the 14th Annual Scientific Sessions of the Society for Cardiovascular Magnetic Resonance. Nice, France, February 2011

80. JJ Pagano, DI Paterson, H Becher, J Cheng-Baron, **RB Thompson.** Assessment of Heart Valve Timings Using Phase-Contrast Cardiovascular Magnetic Resonance Imaging: Comparison with Gold Standard Echocardiography in Heart Failure Patients. 23rd Annual International MR Angiography Conference; September 26-28th, 2011; Banff, Canada.

81. Chow K, Flewitt JA, Green JD, Friedrich MG, **Thompson RB**. T_2-dependent errors in MOLLI T_1 values: simulations, phantoms, and in-vivo studies. *Journal of Cardiovascular Magnetic Resonance*

2012, **14**(Suppl 1):P281 (1 February 2012) At the 15th Annual Scientific Sessions of the Society for Cardiovascular Magnetic Resonance, Orlando, USA.

82. Pagano JJ, Chow KC, Paterson DI, **Thompson RB.** Imaging contrast agent concentration and extracellular volume fraction in the right ventricle. *Journal of Cardiovascular Magnetic Resonance* 2012, **14**(Suppl 1):O109 (1 February 2012) At the 15th Annual Scientific Sessions of the Society for Cardiovascular Magnetic Resonance, Orlando, USA.

83. Vasanji Z, **Thompson RB**, Eves ND, Isaac D, Friedrich MG, Chow K and Sigal RJ. Increased Left Ventricular Extracellular Volume and Twist Function in Individuals with Type 1 Diabetes. Canadian Diabetes Association Annual Meeting. Vol **36**, Issue 5, page S53., Oct 10, 2012.

84. Chow K, Pagano JJ, **Thompson RB**. An Intuitive Model of Several Factors Affecting Accuracy of MOLLI T_1 Values. *At the 21st Annual Scientific Meeting & Exhibition of the International Society for Magnetic Resonance in Medicine*. (International conference poster presentation) Salt Lake City, USA, April 2013

85. Schmidt A, Chow K, Lau D, **Thompson RB,** Friedrich MG. T_1 mapping as an indication of diffuse, diabetes-related myocardial collagen deposition. *At the 16th Annual Scientific Sessions of the Society for Cardiovascular Magnetic Resonance*. (International conference poster) San Francisco, USA, January 2013

86. Pagano JJ, Chow K, Yang R, **Thompson RB**. Fat-water separated myocardial T1 imaging of the right ventricle with IDEAL-T1 saturation recovery gradient echo imaging. International society of magnetic resonance in medicine 22nd annual scientific meeting and exhibition, Stockholm, Sweden, May 2014.

87. Zvaigzne CG, Mah J, Reynolds K, Flewitt JA, Chow K, **Thompson RB**, Howarth AG, Patton DJ. Magnetic Resonance Imaging for Detection of Early Cardiotoxicity in Survivors of Childhood Cancer. At the Australian and New Zealand Children's Haematology/Oncology Group Annual Scientific Meeting 2013. Melbourne, Australia, May 2013

88. Chan K, Chow K, Pagano JJ, **Thompson RB**, Paterson DI. A New Cardiac MRI Measure of RV Remodeling in Normal Controls and Patients with Heart Failure At the Canadian Cardiovascular Congress 2013. (National conference oral presentation) Montreal, Canada, October 2013

89. Mah JC, Zvaigzne CG, Reynolds K, Flewitt J, Chow K, **Thompson RB**, Howarth AG, Patton DJ. Magnetic Resonance Imaging for Detection of Early Cardiotoxicity and Skeletal Muscle Abnormalities in Survivors of Childhood Cancer At the Canadian Cardiovascular Congress 2013. Montreal, Canada, October 2013.

90. Laura Olivieri, Anjali Chelliah, Li-Yueh Hsu, **Thompson RB**, Vladimir Bakalov, Douglas Rosing, Carolyn Bondy, Andrew E Arai. Shunt and right ventricular structural findings in isolated anomalous pulmonary venous return in Turner syndrome. *Journal of Cardiovascular Magnetic Resonance* 2013, **15**(Suppl 1):P296 (30 January 2013).

91. Sarah Thiesson and **Richard B Thompson**. Simultaneous Quantification of T1, T2, Fat Fraction and Off Resonance Frequency Using Phase Sweep SFFP. *Joint Annual Meeting ISMRM-ESMRMB* – May 10-16 2014 – Milan, Italy.

92. Kelvin Chow, Bruce S Spottiswoode, Joseph J Pagano, **Richard B Thompson**. Improved precision in SASHA T_1 mapping with a variable flip angle readout. *Journal of Cardiovascular Magnetic Resonance* 2014, **16**(Suppl 1):M9 (16 January 2014).

93. Joseph J Pagano, Kelvin Chow, Aneal Khan, Evangelos Michelakis, Ian Paterson, Gavin Y Oudit, **Richard B Thompson**. Reduced native right ventricular T_1 in Anderson-Fabry disease as compared to patients with pulmonary hypertension. *Journal of Cardiovascular Magnetic Resonance* 2014, **16**(Suppl 1):P2 (16 January 2014)

94. Sébastien Roujol, Sebastian Weingartner, Murilo Foppa, Kelvin Chow, Keigo Kawaji, Kraig V Kissinger, Beth Goddu, Sophie Berg, Peter Kellman, Warren J Manning, **Richard B Thompson**, Reza Nezafat Accuracy and reproducibility of four T_1 mapping sequences: a head-to-head comparison of MOLLI, ShMOLLI, SASHA, and SAPPHIRE. *Journal of Cardiovascular Magnetic Resonance* 2014, **16**(Suppl 1):O26 (16 January 2014)

95. Joseph J Pagano, Kelvin Chow, Ray Yang, **Richard B Thompson**. Fat-water separated myocardial T_1 mapping with IDEAL-T_1 saturation recovery gradient echo imaging. *Journal of Cardiovascular Magnetic Resonance* 2014, **16**(Suppl 1):P65 (16 January 2014).

96. Peter Kellman, Hui Xue, Kelvin Chow, Bruce S Spottiswoode, Andrew E Arai, **Richard B Thompson** Optimized saturation recovery protocols for T1-mapping in the heart: influence of sampling strategies on precision *Journal of Cardiovascular Magnetic Resonance* 2014, **16**:55 (16 January 2014)

97. Sarah B Thiesson, Kelvin Chow, **Richard B Thompson**. Characterization of T1 bias from lipids in MOLLI and SASHA pulse sequences. *18th Annual SCMR Scientific Sessions* – Feb 4-7 2015 – Nice, France.

98. Anupama K Rao, Anders M Greve, Sonia Nielles-Vallespin, Bruce S Spottiswoode, Kelvin Chow, **Richard B Thompson**, Peter Kellman, Andrew E Arai. Variability of T1 in purpose recruited normal volunteers and patients as a function of shim (B0), flip angle (B1) and myocardial sector at 3T**.** *Journal of Cardiovascular Magnetic Resonance* 2015, **17**(Suppl 1):P5 (3 February 2015).

99. Kelvin Chow, Peter Kellman, Bruce S Spottiswoode, Sonia Nielles-Vallespin, **Richard B Thompson** Optimized saturation pulse rrains for SASHA T_1 mapping at 3T. *Journal of Cardiovascular Magnetic Resonance* 2015, **17**(Suppl 1):W20 (3 February 2015)

100. Anna Schmidt, Kelvin Chow, Madeline Arnold, Alessandro Satriano, Andrew G Howarth, Matthias G Friedrich, **Richard B Thompson**, James A White. Diffuse myocardial fibrosis and early strain abnormalities in asymptomatic type 2 diabetics without overt cardiovascular disease. *Journal of Cardiovascular Magnetic Resonance* 2015, **17**(Suppl 1):P261 (3 February 2015).

GRANTS

OPERATING GRANTS				
Agency	**Role**	**Title**	**Period**	**Amount**
NSERC	PI	Development of Multiparametric MRI of Mixed Water and Fat Tissues	04/24-03/29	$210,000
CIHR	PI	Imaging of Long Term Tissue Damage from COVID-19 and Cardiometabolic Disease	10/24-09/29	$887,400
Ward Estate	Co-PI	Magnetic Resonance Imaging of Brain and Body in Children Post SARS-CoV-2 Infection	01/24-01/26	$150,000
Ward Estate	Co-PI	Cardiac, cerebral and muscle oxygenation responses in long COVID/POTS	01/24-01/26	$150,000
CIHR	Co-App	A novel remote intervention to decelerate the age-related decline and disease development among older breast cancer	07/23-06/28	$895,000
CIHR	Co-App	Mechanisms and Management of Impaired Functional Capacity in Older Breast Cancer Survivors	07/23-06/28	$577,567
CIHR	PI	Quantitative Imaging of the Evolution of the Whole-Body Fat Profile in Breast Cancer Survivors	09/21-09/26	$755,440
Medical Research Council (UK)	Co-App	RESET: REmission of diabetes and improved diastolic function by combining Structured Exercise with meal replacemenT and food reintroduction.	05/20-05/25	$775,000
Vancouver Coastal Health Research Institute (VCHRI)	Co-App	Optimization of Radiation Delivery for the Treatment of Refractory Ventricular Tachycardia	07/20-07/22	$75,000

UofA Pilot Seed Program	Co-App	Fasted Exercise in Type 2 diabetes	06/20-06/22	$28,000
CIHR	PI	Quantitative MRI of Pulmonary Edema: Application in Acute Heart Failure	07/18-07/23	$606,000
Canadian Cancer Society	PI	Maximizing metastatic breast cancer patient outcomes using diet and exercise	09/18-09/21	$200,000
Susan Komen Foundation	Co-App	Short-Term Lifestyle Interventions for Cardioprotection from Anthrcyclines	07/17-07/19	$240,000
NSERC	PI	Development of Novel Methods for Tissue Characterization in the Heart with Ultrasound Imaging	07/15-07/20	$100,000
CIHR	PI	Imaging Diffuse Fibrosis in Acute Myocardial Infarction	07/14-07/19	$462,429
CIHR	Co-App	Cryobiology and Preservation of Cells and Tissues	07/13-07/18	$825,773
CIHR	Co-App	Intraspinal Neural Prosthesis for Restoring Function after Spinal Cord Injury	07/13-07/17	$876,404
CIHR	Co-App	Prevention of Pressure Ulcer Formation using Electrical Stimulation	07/12-07/15	$459,000
CIHR	PI	Imaging the Mechanisms of Diastolic Dysfunction and their Role in Cardiovascular Performance	07/11-07/16	$283,000
NSERC	PI	Measurement of Tissue and Hemodynamic Wave Phenomena in Cardiac Function	07/09-07/16	$95,000
CIHR	Co-App	Multidisciplinary Approach to Novel Therapies in Cardiology Oncology Research	07/10–07/11	$100,000

Alberta Cancer Foundation	Co-App	Multidisciplinary Approach to Novel Therapies in Cardiology Oncology Research	07/10–07/12	$256,000
UofA Hospital Foundation	PI	Measuring Lung Ventilation and Blood Flow (V/Q scan) with Magnetic Resonance Imaging	01/09–01/10	$21,800
HSFC	Co-App	Cardiac Magnetic Resonance Imaging in the Diagnosis of Acute Heart Transplant Rejection	07/08–07/10	$90,000
CIHR	Co-App	Thermodynamics in Cryobiology and Applications in Biopreservation	07/08-07/12	$828,985
CIHR	Co-App	Analysis of Mitral Leaflet Motion During the E-Wave	07/07-07/10	$221,000
CIHR	Co-App	Thermodynamics in Cryobiology and Applications in Biopreservation	07/07–07/08	$97,836
UofA Hospital Foundation	Co-PI	Measurement of Pulmonary Edema with Magnetic Resonance Imaging	01/06–01/07	$20,000
Canadian Br. Cancer Rsrch Alliance	Co-App	Effect of Aerobic Training on Left Ventricular Systolic Function in Women with HER2 Positive Breast Cancer Treated with Trastuzumab	07/06–07/07	$43,919
CIHR	PI	Development of Magnetic Resonance for Pediatric Cardiovascular Imaging	07/06–07/07	$81,327
CIHR	Co-App	*Prevention of Pressure Sore Formation using Electrical Stimulation*	07/06-07/10	$365,123
CIHR	Co-App	Magnetic Resonance Quantification of Key Brain Metabolites	07/07-07/09	$321,100
CIHR	Co-App	In-Vivo Magnetic Resonance Spectroscopic Quantification of Brain Metabolites	07/05-07/06	$112,177

INFRASTRUCTURE AND EQUIPMENT GRANTS				
Agency	**Role**	**Title**	**Period**	**Amount**
Alberta Science and Research Authority	PI	Development of Magnetic Resonance for Cardiovascular Imaging	2005	$36,013
CFI, New Opportunities Program	PI	Development of Magnetic Resonance for Cardiovascular Imaging	2005	$48,016
AHFMR	PI	Development of Magnetic Resonance for Cardiovascular Imaging (Establishment Grant)	2005	$265,000

TEAM GRANTS / MAJOR INFRASTRUCTURE GRANTS				
Agency	**Role**	**Title**	**Period**	**Amount**
Canada Foundation for Innovation - CFI	Co-App	Heart Failure Translational Research Centre *Team Leader: Jason Dyck*	07/17-07/22	$2,900,000
Canada Foundation for Innovation (CFI), UHF	Co-App	University of Alberta Centre for Functional, Structural, and Metabolic Imaging of Disease *Team Leader: Christian Beaulieu*	07/14-07/19	$17,527,000
AHFMR	Co-App	AHFMR Interdisciplinary Team Grant on Understanding and Treating Diastolic Heart Failure: Novel Mechanisms, Diagnostics and Potential Therapeutics *Team Leaders: Jason Dyck (Edmonton) and Todd Anderson (Calgary)*	07/09-07/15	$5,000,000
AHFMR	Co-App	Smart Neural Prostheses to Restore Motor and Sensory Function *Team Leaders: Vivian Mushahwar and Richard Stein (Edmonton) and Zelma Kiss (Calgary)*	07/09-07/14	$5,000,000
FOMD at University of Alberta	Co-App	Cardio-respiratory function, school age abilities and quality of life in extremely low birth weight infants *Team Leader: Bernard Thebaud*	07/09– 07/11	$200,000

TRAINING AND SUPERVISION

UNDERGRADUATE (Primary Supervisor)

1) Conrad Macajewski in MD (May 2004 – August 2004)
2) Sarah Johnson in MD (May 2004 – August 2004)
3) Brad Andrews in Physics (May 2005 – Aug 2005)
4) Paul Kirvan in Physics (Sept 2005 – April 2006)
5) Juan Irizar in Laboratory Science (May 2006 – Aug 2006)
6) Mays Rahmatalla in Science (Sept 2006 – April 2007)
7) Andrew Walsh in Science (Sept 2007 – April 2008)
8) George Li in Electrical Engineering (May 2008 – Aug 2008)
9) Kelsey Gill in High School (May 2009-Aug 2009)
10) Joel Cadrin in Science (May 2010-Aug 2010)
11) Fred Liu in Electrical Engineering (May 2010-Aug 2010)
12) Alfred Dao in Electrical Engineering Co-op program (Jan 2011 – Aug 2011)
13) Peter Knight in Mechanical Engineering Co-op program (Jan 2013 – Aug 2013)
14) Ray Yang in Physics (May 2013-Aug 2013)
15) Viktor Sekowski in MD (May 2014 – Aug 2014)
16) Issac Wirzba (High School) (May 2015-Aug 2015)

Graduate (Primary Supervisor)

1. Angela Leung MSc NSERC Funded (August 2004 - 2006)
   Correction of breathing effects in Cardiac MRI
   (Angela began her program with a BSc. in Engineering Physics)

2. Kelvin Chow PhD NSERC funded (August 2006 - 2013)
   Development of MRI Methods for Quantitative Myocardial Tissue Characterization
   (Kelvin began his program with a BSc. in Engineering Physics and is currently pursuing a post-doctoral fellowship at the University of Virginia)

3. June Cheng Baron PhD NSERC Funded (Jan 2007 - 2013)
   Quantification of Diastolic Function with MRI
   (June began here program with a BSc. in Engineering Physics and is currently on a maternity leave)

4. Dr. Joe Pagano PhD AIHS Funded (Aug 2010 - Present)

Myocardial function and Tissue Characterization in Patients with Repaired Tetralogy of Fallot and Pulmonary Regurgitation
(Joe began his program after completing his training in Pediatric Cardiology)

5. Kory Mathewson MSc Grant Funded (August 2012 - 2014)
Simultaneous Measurement of Blood Flow and Oxygen Consumption Immediately Post-Exercise with MRI
(Kory began her program with a BSc. in Electrical Engineering and currently pursuing a PhD in computer science at the University of Alberta)

6. Sarah Thiessen MSc Grant Funded (August 2013 - 2015)
MRI Fat Quantification: A Phase Sweep b-SSFP Approach
(Sarah began her program with a BSc. in Chemical Engineering and will attend Medical School at the University of Saskatchewan in the fall of 2015).

7. Lingyu Xu PhD Grant Funded (August 2015 - Present
Ventricular Remodeling in Heart Failure

8. Esther Yang MSc Grant Funded (August 2015- 2017)
Correction for the effects of Magnetic Susceptibility of Fat

9. Quinn Meadus MSc Grant Funded (August 2017-2020)
Quantitative Magnetic Resonance Imaging of Lung Water

10. Thomas Goodhart MSc Grant Funded (May 2021-2023)
Effects of Body Position and Exercise on Lung Water Content

11. Christopher Keen MSc Grant Funded (May 2022-2024)
MRI and Ultrasound Imaging of Lung Water in Heart Failure

12. Thomas McMurtry MSc Grant Funded (May 2023-2025)
Muscle Oxygen Uptake Recovery Kinetics in Breast Cancer Survivors Previously Treated with Cardiotoxic Cancer Therapy

13. Rachel Sherrington MSc Grant Funded (Aug 2023-Present)
Diet Intervention in Breast Cancer for Reduction of Toxicity

Graduate (Co-Supervisor)

1. Jeff Snyder PhD NSERC Funded (March 2005 - 2008)
Magnetic Resonance Spectroscopy: Coupled Spin Techniques
(Jeff began his program with a BSc. in Physics, completed a MRI post-doctoral Fellowship at the University of Freiburg and is currently working in industry)

2. Ben Esch PhD (UofA/UBC) NSERC Funded (Jan 2007-Oct 2009 in Edmonton)
Measurement of Loading Effects in Endurance Trained Athletes
(Ben began his program with a BSc. Kinesiology and completed a law degree after his PhD and currently practicing law)

3. Jessica Scott PhD (UofA/UBC) NSERC Funded (Jan 2007-Oct 2009 in Edmonton)
Measurement of Cardiovascular Function in Endurance Trained Athletes
(Jessica began her program with a BSc. Kinesiology and is currently a staff scientist at NASA – Division of Space Life Sciences)

4. Michael Nelson PhD NSERC Funded (Jan 2007- 2012)
Measurement of Changes in Diastolic Function with Heat Stress
(Mike began his program with a BSc. Physical Education, completed a post-doctoral fellowship at Cedars Sinai in Los Angeles and is now an Assistant Professor the University of Texas, Arlington)

5. Myles Mabee MSc (Aug 2011 - 2014)
Novel Indices for the Diagnosis of Infant Hip Dysplasia using Two and Three Dimensional Ultrasound
(Myles began his program with a BSc. in Electrical Engineering and is now a research associate and is applying for Medical School).

6. Hiroshi Fukunari PhD Biomechanics (Univ. of Tokyo) (Visiting 2004 in Edmonton)
Computational Fluid Dynamics of Blood Flow across the Aortic Valve
(Hiroshi began his program with a BSc in Mechanical Engineering)

7. Lingyu Xu PhD Funding from China (Sept 2014 – 2020)
Characterization of Ventricular Remodeling with Valvular Disease
(Lingyu is a Cardiologist from Shantou University who is pursuing a PhD at the University of Alberta via the UofA-Shantou joint training program)

8. Lindsay Burrowes PhD (UofC) NSERC funded (Sept 2012 – 2016)
Phase-Contrast MRI to Study Hemodynamics of the Left Ventricle
(Lindsay began her program with a BSc. Mechanical Engineering)

Fellows and Staff

1. Jianping Yu Post-Doctoral Fellow (Jointly with Dr. Locksley McGann – Pathology and Laboratory Sciences). (Sept 2006 – Aug 2008)
Development of Imaging Methods in Cryopreservation

2. Justin Grenier Research Associate (Jan 2015 – Present)
Development of Imaging Methods for Quantitative Myocardial Perfusion
(Justin works in my lab and is funded by Siemens Medical Solutions to pursue the development of quantitative myocardial perfusion imaging with MRI)

3. *Pishoy Gouda* Research Associate (Sep 2015 – 2018)
REMCON (Multi-center Randomized Trial of REMote Ischemic CONditioning in Patients with an ST-segment Elevation Myocardial Infarction -Cardiac Magnetic Resonance Imaging Study)
(Pishoy works in my lab and is jointed funded by a CIHR Grant and Dr. Rob Welsh in Cardiology to manage the REMCON study).

4. *Amy Kirkham* Post-Doctoral Fellow (Biomedical Engineering). (March 2016 – March 2019)
Imaging and Therapeutic Interventions in Breast Cancer Cardiotoxicity
(*Amy has been funded by CIHR and AIHS clinical fellowships to work in my lab, with co-supervision by Dr. Ian Paterson (Cardiology) – exercise training in cancer patients to reduce muscle (heart, skeletal) toxicity).*

CLASSROOM TEACHING

1) Biomedical Engineering (BME) 310/410 – *Introduction to Biomedical Engineering and Physiological Modeling* – I developed and taught this new course for undergraduate biomedical engineering students.

2005: 12 Lectures (Instructors Rating: 4.6/5)
2006: 12 Lectures (Instructors Rating: 4.7/5)
2007: 12 Lectures (Instructor Rating: 4.1/5)

In 2008 I created a new version of this course, which changed to BME 410
2009: 24 Lectures (Instructor Rating – 4.7/5)
2010: 24 Lectures (Class size (4 students) too small for formal evaluation)
2012: 24 Lectures (Class size (5 students) too small for formal evaluation)

Due to changes in the undergraduate programs in the Faculty of Engineering, with each discipline offering distinct biomedical streams, this course was no longer offered after 2012.

2) Biomedical Engineering (BME) 320/321 - *Human Anatomy and Physiology Cells & Tissues* – Every year I teach guest lectures on cardiovascular imaging and function (Instructor: Dr. Monica Gorassini, Dept. of Biomedical Engineering or Dr. Marilee Stephens, Dept. of Biomedical Engineering)

2008-2022: 1-2 Lectures per year

3) Biomedical Engineering (BME) 600 – *Seminars in Biomedical Engineering* - I developed and hosted a student seminar series for all BME graduate students at the University of Alberta (~30 students).

2007-2011: 8 Seminars, 25-30 students per year. (Taken over by Dr. Chris Hanstock (Research Services Office in Biomedical Engineeing) in 2012).

4) Biomedical Engineering (BME) 564 - *Fundamentals of Magnetic Resonance Imaging* – I co-instruct this foundational course for graduate students with a research focus on MRI, in conjunction with Dr. Christian Beaulieu and Dr. Alan Wilman, Dept. of Biom edical Engineering, most recently teaching ~50% of lectures. This course is also required for all Medical Physics students from the Cross Cancer Institute.

2006: 1 Lecture

2007: 1 Lecture

2008: 17 Lectures (Instructor Rating: 4.6/5)

2009: 10 Lectures

2011: 2 Lectures

2013: 12 Lectures (Instructor Rating: 4.6/5)

2014: 12 Lectures (Instructor Rating: 4.6/5)

2015: 12 Lectures (Instructor Rating: 4.6/5)

5) BME 513 – *Imaging Methods in Medicine* – I co-instruct this course on the physics of medical imaging: Dr. Christian Beaulieu and Dr. Alan Wilman, Dept. of Biomedical Engineering, most recently teaching ~50% of lectures.

2006: 1 Lecture

2007: 2 Lectures

2008: 15 Lectures (Instructor Rating: 4.6/5)

2015: 11 Lectures (Instructor Rating: 4.0/5)

6) Radiology (RADDI) 512 – *Magnetic Resonance Imaging in Radiology* – Compulsory MRI theory course for all Radiology Residents at the University of Alberta (Co-Instructor: Dr. Alan Wilman, Dept. of Biomed. Eng.)

2005: 5 Hours (Instructors Rating: 4.8/5)

2007: 5 Hours (Instructors Rating: 4.7/5)

2008: 6 Hours

2011: 6 Hours

2012: 6 Hours

2013: 6 Hours

2014: 6 Hours

7) MDSC 751/INT D 602 (CIHR Bone/Joint Course)

2006: 2 Hours