

## CURRICULUM VITAE of RENE VANDENBOOM (PhD)

### PERSONAL DATA

POSITION: Associate Professor

ADDRESS: Department of Kinesiology  
Faculty of Applied Health Sciences  
Brock University  
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St. Catharine's, ON, Canada

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### EDUCATION

<u>Year</u>	<u>Institution and Location</u>	<u>Degree</u>
1989	University of Western Ontario (London, ON)	H.B.A.
1992	University of Waterloo (Waterloo, ON)	M.Sc.
1996	University of Waterloo (Waterloo, ON)	Ph.D.

### POSTDOCTORAL TRAINING:

<u>Year</u>	<u>Department</u>	<u>Institution</u>
1996 - 1998	Anesthesia Research	Brigham and Woman's Hospital Harvard Medical School Harvard University Boston MA Preceptor: Fred Julian MD
1998 – 2001	Anesthesia Research	St. Mary's Hospital Mayo Clinic and Foundation Rochester, MN Preceptor: Gary Sieck, PhD
2001-2004	Molecular & Integrative Physiology Assistant Research Scientist	University of Michigan Ann Arbor, MI

### ACADEMIC APPOINTMENTS:

<u>Year</u>	<u>Department/Appointment</u>	<u>Institution</u>
1992-1996	Physical Education Part-time faculty	Wilfrid Laurier University Waterloo, ON

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2001-2004	Molecular & Integrative Physiology Assistant Research Scientist	University of Michigan Ann Arbor, MI
2004 - 2006	Physical Education and Kinesiology Assistant Professor	Brock University St. Catharines, ON
2006 -	Kinesiology Associate Professor	Brock University St. Catharines, ON

### **HONORS AND AWARDS:**

<u>Year</u>	<u>Institution</u>	<u>Description</u>
1992 - 96	University of Waterloo	Graduate Scholarship
2005	Brock University	<i>BUAF Advancement Award (5,000)</i> Does Myosin Phosphorylation Blunt Fatigue?
2008	Brock University	<i>NSERC Operating Grant (100,000)</i> The Influence of Myosin Phosphorylation on the Mechanical and Metabolic Properties of Fast Twitch Skeletal Muscle
2012	Brock University	<i>BUAF Advancement Award (5,000)</i> The Influence of Potentiation on the Catch Like Property of Muscle
2013	Brock University	<i>BUAF Advancement Award (2,000)</i> The Influence of Myosin Phosphorylation on Skeletal Muscle Energetics, Mechanics and Function
2014	Brock University	<i>NSERC Operating Grant (130,000)</i> The Influence of Myosin Phosphorylation on Skeletal Muscle Energetics, Mechanics and Function (2014-05122)
2015	Brock University	<i>BUAF Advancement Award (5,000)</i> The Influence of Estrogen on Skeletal Muscle Function and Health

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### BIBLIOGRAPHY

#### PEER-REVIEWED PUBLICATIONS

1. **Vandenboom R**, Grange RW and Houston ME. Threshold For Force Potentiation Associated With Myosin Phosphorylation. *American Journal of Physiology (Cell Physiology 34)*, 265:C1456-C1462, 1993.
2. **Vandenboom R**, Grange RW and Houston ME. Myosin Phosphorylation Enhances Rate of Force Development of Mouse Fast Skeletal Muscle. *American Journal of Physiology (Cell Physiology 37)*, 268:C596-C603, 1995.
3. Grange RW, Cory B, **Vandenboom R** and Houston ME. Myosin Phosphorylation Augments Force-Displacement and Force-Velocity Relationships of Mouse Fast Muscle. *American Journal of Physiology (Cell Physiology 38)*, 269:C713-C724, 1995
4. **Vandenboom R** and Houston ME. Phosphorylation of Myosin and Twitch Potentiation in Fatigued Skeletal Muscle. *Canadian Journal of Physiology and Pharmacology*, 74:1315-1321, 1996.
5. Tiidus PM, Bombardier E, Xeni J, Bestic M, **Vandenboom R**, Rudnicki MA and Houston ME. Elevated Catalase Activity in Red and White Muscles of MyoD Gene-Inactivated Mice. *Biochemistry Molecular Biology International*, 39:1029-1035,1996.
6. **Vandenboom R**, Xeni J, Bestic M and Houston ME. Increased Force Development Rates of Fatigued Skeletal Muscle Graded to Myosin Light Chain Phosphate Content. *American Journal of Physiology (Regulatory, Integrative and Comparative 272(6))*: R1980-R1984, 1997.
7. Grange RW, **Vandenboom R**, Xeni J and Houston ME. Potentiation of In Vitro Concentric Work in Mouse Fast Muscle. *Journal of Applied Physiology*, 84: 236-243, 1998.
8. **Vandenboom R**, Claflin DR and Julian FJ. The Effects of Rapid Shortening on Rate of Force Regeneration and Myoplasmic  $[Ca^{2+}]$  in Intact Frog Skeletal Muscle Fibers. *Journal of Physiology (London)*, 511: 171-180, 1998.
9. Ameredes BT, Zhan WZ, Prakash YS, **Vandenboom R** and Sieck GC. Power Fatigue of the Rat Diaphragm Muscle. *Journal of Applied Physiology*, 89: 2215-2219, 2000.
10. **Vandenboom R**, Hannon JD and Sieck GC. Isotonic Force Modulates Force Redevelopment Rate of Intact Frog Skeletal Muscle Fibers: Evidence for Cross-Bridge Induced Thin Filament Activation. *Journal of Physiology*, 543: 555-566, 2002.
11. **Vandenboom R**, Weihe E and Hannon JD. Dynamics of Crossbridge-Mediated Activation in the Heart. *Journal Muscle Research Cell Motility*, 26: 247 - 257, 2005.

## CURRICULUM VITAE of RENE VANDENBOOM (PhD)

12. Herron TJ, **Vandenboom R**, Fomicheva E, Mundada L, Edwards T and Metzger JM. Calcium-Independent Negative Inotropy by  $\beta$  - Myosin Heavy Chain Gene Transfer in Cardiac Myocytes. *Circulation Research* 100(8): 1182 - 1190, 2007.
13. Cermak NM, LeBlanc PJ, Peters SJ, **Vandenboom R** and Roy BD. Effect of Extracellular Osmolality on Basic Metabolism in Contracting Mammalian Skeletal Muscle. *Journal of Applied Physiology, Nutrition and Metabolism*; 34(6): 1055 – 1064, 2009.
14. Smith IC, Huang, J, Quadrilatero J, Tupling AR and **Vandenboom R**. Force Potentiation in the MDX mouse. *Journal of Muscle Research and Cell Motility* 31(4): 267-277, 2010.
15. **Vandenboom R**, Herron T, Favre E, Albaya F and Metzger JM. Gene Transfer, Expression and Sarcomeric Incorporation of a Headless Myosin Molecule in Cardiac Myocytes: Evidence for a Reserve in Myofilament Motor Function. *American Journal of Physiology (Heart and Circulation)* 300(2): H574-H582, 2011.
16. Gittings W, Huang J, Smith I, Quadrilatero J and **Vandenboom R**. The Effect of Myosin Light Chain Kinase Gene Ablation on the Fatigability of Mouse Fast Muscle. *Journal of Muscle Research and Cell Motility* 31(5-6): 337-348, 2011.
17. Inglis G, Howard J, Gabriel DG and **Vandenboom R**. Decreased Motor Unit Firing Rates in the Potentiated Human Tibialis Anterior Muscle. *Acta Physiologica* 201: 483-492, 2011.
18. Dunford E, Herbst E, Jeoung NH, Gittings B, Inglis G, **Vandenboom R**, LeBlanc P, Harris R and SJ Peters. The Effect of Pyruvate Dehydrogenase (PDH) Kinase 2 Ablation on PDH Activation During Muscle Contraction: The Effect of PDH Kinase 1 Compensation. *American Journal of Physiology (Regulatory, Integrative and Comparative)* 300(6): R1487-1493, 2011.
19. Xenj J, Gittings B, Caterini D, Huang J, Houston ME, Grange RW and **Vandenboom, R**. Myosin Light Chain Phosphorylation and Potentiation of Dynamic Function in Mouse Fast Muscle. *Pflugers Archive European Journal of Physiology* 469(2): 349-358, 2011.
20. Caterini D, Gittings B, Huang J and **Vandenboom, R**. The Effect of Work Cycle Frequency on the Potentiation of Dynamic Forces in Mouse Fast Twitch Skeletal Muscle. *Journal of Experimental Biology* 214: 3915 - 3923, 2011.
21. MacPherson REK, Herbst EAF, Reynolds EJ, **Vandenboom R**, Roy B and Peters SJ. Subcellular Location and Colocalization of Lipid Droplet Proteins, ADRP and OXPAT, in Resting and Stimulated Rat Soleus. *American Journal of Physiology (Regulatory, Integrative and Comparative)* 302(1): R29-36, 2012.
22. Herbst EAF, Dunford ECE, Harris RA, **Vandenboom R**, LeBlanc PJ, Roy BD, Jeoung NH and Peters SJ. Role of Pyruvate Dehydrogenase Kinase 4 in Regulating PDH Activation During Acute Muscle Contraction. *Appl Physiol, Nutrition Metablism* 37(1): 48-52, 2012.

## CURRICULUM VITAE of RENE VANDENBOOM (PhD)

23. Gittings W, Huang J. and **Vandenboom, R.** Tetanic Force Potentiation of Mouse Fast Muscle is Shortening Speed Dependent. *Journal of Muscle Research and Cell Motility* 33(5): 359-368, 2012.
24. Smith I, Gittings W, Bloemberg D, Huang J, Quadrialtero J, Tupling AR and **Vandenboom R.** Potentiation in Mouse Lumbrical Muscle Without Myosin Light Chain Phosphorylation: Is Resting Calcium Responsible? *Journal of General Physiology* 141(3): 297-308, 2013.
25. MacPherson REK, Ramos S, **Vandenboom R,** Roy BD and Peters SJ. Skeletal Muscle PLIN Proteins, ATGL and CGI-58, Interactions at Rest and Following Stimulated Contraction. *American Journal of Physiology (Regulatory, Integrative and Comparative)*, 304(8): R644-650, 2013.
26. Inglis G, **Vandenboom R** and Gabriel DG. Sex-Based Differences in Muscle Activation at Onset of Maximal Voluntary Contractions of Human Biceps Femoris Muscle. *Journal of Clinical Biomechanics*, 23: 1289-1294, 2013.
27. MacPherson REK, **Vandenboom R,** Roy BD and Peters SJ. Skeletal Muscle PLIN Phosphorylation May Not Be Required For Lipolysis With Either Adrenergic or Contractile Stimulation. *Physiological Reports* 1(4): e00084, 2013.
28. Smith IC, **Vandenboom R** and Tupling R. Juxtaposition of the Changes in Intracellular Calcium and Force During Staircase Potentiation at 30 and 37°C. *Journal of General Physiology* 144(6):561-570, 2014.
29. Gittings W, Aggarwal H, Stull JT and **Vandenboom R.** The Force Dependence of Isometric and Concentric Potentiation in Mouse Muscles With and Without Myosin Light Chain Kinase. *Canadian Journal of Physiology and Pharmacology* 93(1):23-32, 2015.
30. Gittings W, Stull JT and **Vandenboom R.** Interactions Between the The Catch Like Property and Posttetanic Potentiation of Mouse Skeletal Muscle. *Muscle and Nerve* 54(2): 308-316, 2016.
31. Bowslaugh JJ, Gittings W and **Vandenboom R.** Myosin Phosphorylation is Required for Peak Power of Mouse Fast Muscle In Vitro. *Pflugers Archive: European Journal of Physiology* 468(11): 2007-2016, 2016
32. Gittings W, Bunda, JB and **Vandenboom R.** Shortening Speed Dependent Force Potentiation is Attenuated but not Eliminated in Skeletal Muscles Without Myosin Phosphorylation. *Journal of Muscle Research and Cell Motility* doi: 10.1007/s10974-017-9465-9, 2017.

## CURRICULUM VITAE of RENE VANDENBOOM (PhD)

33. Smith IC, **Vandenboom R** and Tupling AR. Contraction-Induced Enhancement of Relaxation During Repeated High Force Contractions. *Journal of Experimental Biology* doi: 10.1242/jeb.158998, 2017.
33. Bott K, Gittings W, Fajardo VA, Baranowski B, **Vandenboom R**, Leblanc PJ, Ward WE and Peters S. Musculoskeletal structure and function in response to the combined effect of an obesogenic diet and age in male C57BL/6J mice. *Applied Physiology, Nutrition and Metabolism* (Accepted in Principal) (2017)
34. Mikhaeil JS, Sacco SM, Saint C, Gittings W, Bunda J, Giles CR, Fajardo V, **Vandenboom R**, Ward WE and LeBlanc PJ. Influence of longitudinal micro-CT radiation on contractility and metabolic activity in mouse skeletal muscle. Submitted to *Applied Physiology, Nutrition and Metabolism* (Accepted in Principal) (2017)
38. Bunda JB, Gittings W and **Vandenboom R**. Staircase Potentiation Increases Economy in Muscles With Myosin Phosphorylation. Submitted to *Experimental Biology* (Under Review) (2017).
39. Gittings W, Bunda, J. and **Vandenboom R**. Myosin Phosphorylation Mediated Potentiation Does Not Alter the Economy of Isovelocity Contractions in Mouse Fast Skeletal Muscle *In Vitro*. Submitted to *Experimental Biology* (Under Review) (2017).
40. Morris S and **Vandenboom R**. Epenephrine Increases Posttetanic Potentiation of Mouse Muscles With and Without Myosin Phosphorylation. Submitted to *Physiological Reports* (Under Review) (2017).

### REVIEWS

1. Grange RW, **Vandenboom R** and Houston ME. Physiological Significance of Myosin Phosphorylation in Skeletal Muscle. *Canadian Journal Applied Physiology*, 18:229-242, 1993.
2. **Vandenboom R** and Metzger JM. A “Wringing” Endorsement for Myosin Phosphorylation in the Heart. *Molecular Interventions*, 2: 422- 424, 2002.
3. **Vandenboom R**. The Myofibrillar Complex and Fatigue: A Review. *Canadian Journal of Applied Physiology*, 29(3): 330-356, 2004.
4. Stull JT, Kamm, C and **Vandenboom, R**. Myosin Light Chain Kinase and the Role of Myosin Light Chain Phosphorylation in Skeletal Muscle. *Archives of Biochemistry and Biophysics* 510(2): 120-128, 2011.
5. **Vandenboom R**, Gittings W, Smith IC, Grange RW and JT Stull. Myosin Phosphorylation and Force Potentiation in Skeletal Muscle: Evidence from Animal Models. *Journal of Muscle Research and Cell Motility* 34(5-6): 317-332, 2013.

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### BOOKS AND BOOK CHAPTERS

1. Sieck GC, **Vandenboom R**, Mantilla C and Bailey J. Structural and Functional Development of Respiratory Muscle. In: Haddad GG, Abman SH, and Chernick V (Eds). *Basic Mechanisms of Pediatric Respiratory Disease*. Second Edition. B.C. Decker Inc., Hamilton, Canada, 2001 (pp. 139-154).
2. **Vandenboom R**. Force Potentiation in Skeletal Muscle. In: Heckman CJ (Ed). *Encyclopedic Reference of Neuroscience: Muscle*. Springer Verlag Publishing, NY 2008 (pp. 1603 – 1607).
3. **Vandenboom R**. Force Modulation in Skeletal Muscle by Myosin Phosphorylation. In: Pollack D (Ed) American Physiological Society. *Comprehensive Physiology* 7:171-212, 2017.

### ABSTRACTS AND PRESENTATIONS (REFEREED)

1. **Vandenboom R**, Grange RW and Houston ME. Threshold for Force Potentiation in Vitro. *Medicine Science Sports Exercise* 24, 169a, 1992.
2. **Vandenboom R**, Grange RW and Houston ME. Enhanced Force Output in Mouse EDL Muscle Following Myosin Phosphorylation. *Canadian Journal of Applied Physiology* 18, 44a, 1993.
3. **Vandenboom R**, Grange RW and Houston ME. Enhanced Force Output in Mouse EDL Muscle Following Myosin Phosphorylation. *Canadian Journal of Applied Physiology* 18, 44a, 1993.
4. **Vandenboom R** and Houston ME. Isometric Contractile Properties of MyoD Deficient Mice. *Canadian Journal of Applied Physiology* 19, 50a, 1994.
5. **Vandenboom R**, Bestic M and Houston ME. Myosin Phosphate and Increased Rate of Force Development with Different Conditioning Stimuli. *FASEB Journal*, (1), 350a, 1995.
6. **Vandenboom R**, Bestic M and Houston ME. Myosin Phosphate Content is Increased During Fatigue of Fast and Slow Mouse Skeletal Muscle. *Medicine Science Sports Exercise* 27 (5), 801a, 1995.
7. **Vandenboom R**, Bestic M and Houston ME. Does Phosphorylation of Skeletal Myosin Resist Low-Frequency Fatigue on Fast Twitch Muscle? *Canadian Journal of Applied Physiology* 20, 55a, 1995
8. **Vandenboom R**, Claflin D and Julian FJ. Neither Mag-Fura-2 nor CPA Alters Maximum Unloaded Shortening Velocity of Frog Skeletal Muscle Fibers. *Canadian Journal of Applied Physiology* 21, 351a, 1996.

## CURRICULUM VITAE of RENE VANDENBOOM (PhD)

9. Tiidus PM, Bombardier E, Xeni J, Bestic M, **Vandenboom R**, Rudnicki MA and Houston ME. Antioxidant Enzyme Status of Soleus and EDL Muscles in MyoD Deficient Mice. *Biochemistry Society Transactions* 24a, 1996.
10. **Vandenboom R**, Claflin DR and Julian FJ. Effects of Unloaded Shortening and Force Regeneration on Free Myoplasmic  $[Ca^{2+}]$  in Intact Frog Skeletal Muscle Fibers. *Canadian Journal of Applied Physiology* 22, 62a, 1997.
11. **Vandenboom R**, Claflin DR and Julian FJ. Plateau in Shortening-Induced Reduction of Force Redevelopment Rate in Frog Skeletal Muscle Fibers. *Biophysical Journal* 72 (2): 381a, 1997.
12. Claflin DR, **Vandenboom R** and Julian FJ. The Duration of the Intracellular  $Ca^{2+}$  Transient Increases with Increased Sarcomere Length in Intact Frog Skeletal Muscle Fibers. *Biophysical Journal* 72 (2), 274a, 1997.
13. **Vandenboom R**, Hannon JD and Sieck GC. Effect of Release Rate on Tension Redevelopment Rate After Shortening ( $+dP/dt_R$ ) in Frog Muscle Fibers. *Biophysical Journal*, 80 (2), 272a, 2001.
14. Zhan WZ, **Vandenboom R**, Fang YH and Sieck GC. Factors Influencing Force Generation in Mouse Diaphragm Muscle During Embryonic Development. *American Journal Respiratory Critical Care Medicine* 163, 512a, 2001.
15. **Vandenboom R**, Hannon JD and Sieck GC. Pre-existing Isotonic Force Does Not Modulate Unloaded Shortening Velocity of Intact Frog Skeletal Muscle Fibers. *Biophysical Journal*, 82(1), 363a, 2002.
16. Weihe E, **Vandenboom R**, Sieck GC and Hannon JD. Shortening Decreases the Rate of Force Redevelopment in Isolated Papillary Muscles. *FASEB Journal* 16(4): A34, 2002.
17. Weihe E, **Vandenboom R** and Hannon JD. Maximal Shortening Velocity in the Heart is Influenced by Preceding Level of Cross-Bridge Attachment. *Anesthesiology* 96:617a, 2002.
18. **Vandenboom R**, Favre E, Albayya FP and Metzger JM. Headless Myosin Expression in Striated Muscle. *Biophysical Journal* 84(2): 672a, 2003.
19. **Vandenboom R**, Formichava E and Metzger JM. Beta-Myosin Heavy Chain Gene Transfer Attenuates Shortening of Adult Rat Cardiac Myocytes. *Biophysical Journal* 86(1): 184a, 2004.
20. **Vandenboom R** and Sieck GC. The Intracellular Calcium Transient is Prolonged During Posttetanic Potentiation of Intact Frog Skeletal Muscle Fibers. *Canadian Federation of Biological Sciences* 2005.



## CURRICULUM VITAE of RENE VANDENBOOM (PhD)

21. **Vandenboom R**, Xenj J, Houston ME and Grange RW. Stimulation-Induced Potentiation of Concentric Power Output of Isolated Mouse Fast Muscle Graded to Myosin Light Chain Phosphate Content. *Canadian Journal of Applied Physiology* Vol 30 (Suppl.); 82a, 2005.
22. Herron TJ, Fomicheva E, **Vandenboom R** and Metzger JM. Human  $\beta$ -myosin Heavy Chain Gene Expression Directly Attenuates Cardiac Contractility in  $\alpha$ -Myosin Heavy Chain Dominant Single Myocytes. *Circulation* 2005; 112(2): 185, 2005.
23. Herron TJ, Fomicheva E, **Vandenboom R**, Edwards T. and Metzger JM. Increased Relative  $\beta$ -Myosin Heavy Chain Gene Expression Directly Attenuates Contractility in Rodent Cardiac Myocytes *Biophysical Journal* 86(1): 261a, 2006.
24. Cermak N, Peters SJ, Leblanc PJ, **Vandenboom R**, and Roy BD. Changes in Skeletal Muscle Cell Volume Alters Carbohydrate Metabolism in Contracting Skeletal Muscle. *Canadian Journal of Applied Physiology, Nutrition and Metabolism* (Supplement 2006).
25. Martin DM, Harris RA, **Vandenboom R**, Roy BD, LeBlanc PJ, Jeoung NH and Peters SJ. Pyruvate - Dehydrogenase (PDH) Activity in Response to Skeletal Muscle Contraction in PDH - kinase 4 knockout mice. *FASEB Journal* 56, S800, 2007.
26. Martin D M, Harris RA, **Vandenboom R**, Roy B, LeBlanc PJ, Jeoung NH and Peters SJ. Pyruvate - Dehydrogenase (PDH) Activity in Response to Skeletal Muscle Contraction in PDH - Kinase 4 Knockout Mice. *Canadian Journal of Applied Physiology, Nutrition and Metabolism*, 32, S59, 2007.
27. **Vandenboom R**, Ditor D and Gabriel D. Gender Related Differences in the Maximal Rate of Isometric Force Development are Mediated by Neural Mechanisms. *Canadian Journal of Applied Physiology, Nutrition and Metabolism*, 32, S88, 2007.
28. Smith IC, Tupling AR and **Vandenboom R**. Force Potentiation in the MDX Mouse. *Canadian Journal of Applied Physiology, Nutrition and Metabolism*, 33, S89, 2008.
29. Gittings B, Stull JT and **Vandenboom R**. Coexistence of Force Potentiation and Fatigue in Mouse Fast Muscle In Vitro. *Medicine Science Sports Exercise* , 2009.
30. Inglis G, Howard J, MaCintosh K, Gabriel DG and **Vandenboom R**. Postactivation Potentiation and Decreased Motor Unit Discharge Rate During Submaximal Contractions of Human Skeletal Muscle. *American Biomechanical Society* 42, S5. 2009.
31. Poleksic G and **Vandenboom R**. Influence of Recreational Ball Hockey Participation on Selected Coronary Risk Factors in Sedentary Adult Males. *Applied Physiology, Nutrition and Metabolism* 35, S82. 2010.
31. Dunford EA, Herbst EAF, Gittings WJ, **Vandenboom R**, LeBlanc PJ, Roy BD, Jeoung NH, Harris RA and Peters SJ. PDH Kinase 2 Ablation Causes Upregulation of PDH kinase

## CURRICULUM VITAE of RENE VANDENBOOM (PhD)

- 1 Mediated by Hypoxia Inducible Factor (HIF)-1. *Applied Physiology, Nutrition and Metabolism* 35, S2, 2010.
32. Caterini DC, Gittings B and **Vandenboom R**. The Potentiation of Dynamic Forces During Work Cycles is Speed Dependent in Mouse Fast Muscle. *Applied Physiology, Nutrition and Metabolism* 35, S22, 2010.
33. MacPherson REK, Herbst EAF, Reynolds EJ, **Vandenboom R**, Roy B and SJ Peters. Subcellular Location and Colocalization of Lipid Droplet Proteins, ADRP and OXPAT, in Resting and Stimulated Rat Soleus. *FASEB* 25, S1104, 2011.
34. Smith I, Gittings W, Tupling AR and **Vandenboom R**. The Intracellular Calcium Transient is Not Altered During Posttetanic Potentiation of Mouse Lumbrical Muscle. *Applied Physiology, Nutrition and Metabolism* 36, S352, 2011.
35. Gittings W and **Vandenboom R**. Stimulation Frequency Threshold for Concentric Force Potentiation of Unfatigued Mouse Fast Twitch Skeletal Muscle In Vitro. *Applied Physiology, Nutrition and Metabolism* 36, S322, 2011.
36. Wight R, Inglis G, Gabriel DG and **Vandenboom R**. Co-existence of Fatigue and Potentiation Obviates the Influence of the Catch - Like Property in Human Tibialis Anterior Skeletal Muscle. *Applied Physiology, Nutrition and Metabolism* 36, S358, 2011.
37. MacPherson REK, Turnbull P, **Vandenboom R**, Roy BD and Peters SJ. Muscle ontraction ncouples nteractions Between Skeletal Muscle ATGL and Lipid Droplet Protein PLIN2. *FASEB J*, 26: 1144.17, 2012.
38. Smith I, Gittings W, Tupling R and **Vandenboom R**. Assessment of the Intracellular Calcium Transient Using High and Low Affinity Fluorescent Indicators in Potentiated Mouse Lumbrical Muscle. *American Physiological Society: Integrative Biology of Exercise* VI 25 (7.15), 2012.
39. Gittings W, Huang J, Stull JT and **Vandenboom R**. Does The Time-Course of Post-tetanic Potentiation in Wildtype and Myosin Light Chain Kinase Knockout Muscles Reveal Divergent Mechanisms? *Applied Physiology, Nutrition and Metabolism* 38, S82, 2013.
40. MacPherson REK, **Vandenboom R**, Roy BD and Peters SJ. Skeletal Muscle PLIN Phosphorylation May Not Be Required for Lipolysis with Either Adrenergic or Contractile Stimulation. *Applied Physiology, Nutrition and Metabolism* 38, S424, 2013.
41. Gittings W, Aggarwal H, Stull J and **Vandenboom R**. The Force Dependency of Potentiation in Mouse Skeletal Muscle With and Without Myosin Light Chain Kinase (skMLCK). *FASEB J*, 29, 946.28, 2015.

## **CURRICULUM VITAE of RENE VANDENBOOM (PhD)**

42. Bowslaugh JJ, Gittings W and **Vandenboom R**. The Catchlike Property in Skeletal Muscle: Influence of Contraction and Muscle-Type on Augmented Contractile Function. *FASEB J* 29, 947.25, 2015.
43. Bunda J, Gittings W and **Vandenboom R**. Shortening speed dependence of concentric force potentiation in the absence of myosin phosphorylation. *FASEB J*. 29, 947.25, 2015.
44. Morris S, Stull JT and **Vandenboom R**. The Influence of Adrenaline Administration on Myosin Phosphorylation and Potentiation in Mouse Fast Muscles With and Without skMLCK. *Ontario Exercise Physiology*, 2015.
45. Saint C, Zibamanzarmofrad M, Sacco S, Gittings W, **Vandenboom R**, Salmon P, Ward WE and LeBlanc PJ. Tibial Geomorphometry Indicate Stronger Bones in *mdx* Mice at 10 and 20 Weeks of Age. *American Society of Bone and Mineral Research*, 2015.
46. Bott KN, Gittings W, Fajardo VA, **Vandenboom R**, LeBlanc PJ, Ward WE, Peters SJ. Synergistic effect of a high fat diet and aging on muscle function in male C57BL/6J mice. *Applied Physiology, Nutrition and Metabolism* 36, S358, 2016.
47. Gittings W, Bunda, J. and **Vandenboom R**. Concentric Potentiation Without Alteration to Economy in Wildtype But Not skMLCK Devoid Mouse Muscle. *Experimental Biology* 2017
48. Bott KN, Gittings W, Fajardo VA, **Vandenboom R**, LeBlanc PJ, Ward WE and Peters SJ. Musculoskeletal health in response to the combined effect of obesogenic diet and age in male C57BL/6J mice. *Experimental Biology* 2017.

### **PROFESSIONAL AFFILIATIONS (Past and Present)**

Transitional College of Kinesiologists of Ontario  
College of Kinesiology of Ontario  
Canadian Society for Exercise Physiology (CSEP)  
American College of Sports Medicine (ACSM)  
Biophysical Society

### **PATENTS**

Application for the “Muscle Bath Insert” is in progress.

### **Related Activities**

Fitness Director  
Canadian National Ball Hockey Team (Mens and Womens)  
2007 – 2013

## **CURRICULUM VITAE of RENE VANDENBOOM (PhD)**

### **NON – SCIENTIFIC PUBLICATIONS and PRESENTATIONS**

1. **Vandenboom, R.** and Martin F. “Training For Ball Hockey: A Players Guide to Exercise and Fitness”. (2006) (cbha.com)
2. **Vandenboom, R.** Team Canada High Performance Training (2009-2011) (cbha.com)