



SAN DIEGO STATE  
UNIVERSITY

## ***CURRICULUM VITAE***

January 2020

Daniel Cannon  
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### **EDUCATION/TRAINING**

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<b>Los Angeles Biomedical Research Institute Harbor-UCLA Medical Center</b> Postdoctoral Fellowship	05/2012 - 12/2014 Physiology & Medicine
<b>University of Leeds</b> PhD	08/2008 - 05/2012 Physiology
<b>San Diego State University</b> MS	01/2006 - 05/2008 Exercise Physiology
<b>San Diego State University</b> BS	08/2002 - 05/2006 Kinesiology

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### **ACADEMIC POSITIONS**

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<b>Associate Professor, Physiology</b> San Diego State University	08/2019 - present
<b>Assistant Professor, Physiology</b> San Diego State University	01/2015 – 08/2019

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## PROFESSIONAL GROWTH

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**Refereed Journal Articles** (h-index<sup>1</sup>=14; citations=644<sup>2</sup>; \*co-first authors; student authors underlined)

1. Davies MJ, Lyall GK, Benson AP, **Cannon DT**, Birch KM, Rossiter HB, Ferguson C. Power reserve at intolerance in ramp-incremental exercise is dependent on ramp incrementation rate. *J Appl Physiol* (submitted)
2. Sadler C, Brett K, Heerboth A, Swisher A, Mehregani N, Touriel R, **Cannon DT**. Breath-hold time limit recommendations for free diving do not consider the metabolic-rate dependence of oxygen stores depletion. *Diving Hyperb Med* (revision submitted).
3. Leslie E, Erram J, **Cannon DT**. Heat stress and the velocity-duration relationship: implications for running performance. *Appl Physiol Nutr Metab* (submitted)
4. **Cannon DT**, Rodewohl L, Adams V, Breen EC, Bowen TS. Skeletal myofiber VEGF deficiency leads to mitochondrial, structural and contractile alterations in mouse diaphragm. *J Appl Physiol* 127(5): 1360-1369, 2019. Thomson Reuters JCR Ranking 8/81 Sports Science, Acceptance rate 24%, Impact 3.519
5. \*Yong S, \*Swisher AR, Ferguson C, **Cannon DT**. Maximal sustained isokinetic power at exercise intolerance is not critical power. *Int J Sports Med* 40(10): 631-638, 2019. Thomson Reuters JCR Ranking 36/83 Sports Sciences, Acceptance rate not disclosed, Impact 2.132
6. \*Swisher AR, \*Koehn B, Yong S, Cunha J, Ferguson C, **Cannon DT**. Dynamics of locomotor fatigue during supra-critical power exercise. *Med Sci Sports Exerc* 51(8):1720-1726, 2019. Thomson Reuters JCR Ranking 7/81 Sports Sciences, Acceptance rate 23%, Impact 4.291
7. Gnaiger E *et al.* MitoEAGLE Task Group. Mitochondrial respiratory states and rate. COST Action CA15203 MitoEAGLE, 2019.
8. Davies MJ, Benson AP, **Cannon DT**, Marwood S, Kemp GJ, Rossiter HB, Ferguson C. Dissociating external power from intramuscular exercise intensity during intermittent bilateral knee-extension in humans. *J Physiol* 595(21): 6673-6686, 2017. Contributions: Design, data interpretation, critical revision. Thomson Reuters JCR Ranking 9/84 Physiology, Acceptance rate 28%, Impact 4.898
9. \***Cannon DT**, \*Coelho AC, Cao R, Cheng A, Porszasz J, Casaburi R, Rossiter HB. Skeletal muscle power and fatigue at the tolerable limit of ramp-incremental exercise in COPD. *J Appl Physiol* 121(6): 1365-1373, 2016. Thomson Reuters JCR Ranking 8/81 Sports Science, Acceptance rate 24%, Impact 3.519
10. **Cannon DT**, Liu J, Sakurai R, Rossiter HB, Rehan VK. Impaired lung mitochondrial respiration following perinatal nicotine exposure in rats. *Lung* 194(2): 325-328, 2016. Thomson Reuters JCR Ranking 37/58 Respiratory, Acceptance rate not disclosed, Impact 2.000
11. Ferguson C, **Cannon DT**, Wylde LA, Benson AP, Rossiter HB. Power-velocity and power-efficiency implications in the limitation of ramp incremental cycle ergometry. *J Appl Physiol* 120(4): 477, 2016. Contributions: Design, data collection, data interpretation, manuscript drafting, critical revision. Thomson Reuters JCR Ranking 8/81 Sports Science, Acceptance rate 24%, Impact 3.519
12. Ferguson C, Wylde LA, Benson AP, **Cannon DT**, Rossiter HB. No reserve in maximal voluntary cycling power at the limit of tolerance using isokinetic ergometry. Design, data collection, data interpretation,

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<sup>1</sup>Hirsch JE. An index to quantify an individual's scientific research output. *Proc Natl Acad Sci* 102(46):16569-16572, 2005

<sup>2</sup>Source: Google Scholar (<http://scholar.google.com/citations?user=YdWnR78AAAAA>)

manuscript drafting, critical revision. *J Appl Physiol* 120(1): 70-77, 2016. Thomson Reuters JCR Ranking 8/81 Sports Science, Acceptance rate 24%, Impact 3.519

13. Buono MJ, Stone M, **Cannon DT**. Leaching from the stratum corneum does not explain the previously reported elevated potassium ion concentration in sweat. *J Basic Clin Physiol Pharmacol* 27(2): 171-173, 2016. Thomson Reuters JCR Ranking 224/329 Pharmacology, Acceptance rate not disclosed, Impact 1.44
14. Adami A, Koga S, Kondo N, **Cannon DT**, Kowalchuk JM, Amano T, Rossiter HB. Changes in whole tissue heme concentration dissociates muscle deoxygenation from muscle oxygen extraction during passive head-up tilt. *J Appl Physiol* 118(9): 1091-1099, 2015. Contributions: Design, data interpretation, critical revision. Thomson Reuters JCR Ranking 12/82 Sports Science, Acceptance rate 24%, Impact 3.421
15. \*Coelho AC, \***Cannon DT**, Cao R, Porszasz J, Casaburi R, Knorst MM, Rossiter HB. Instantaneous quantification of skeletal muscle activation, power production, and fatigue during cycle ergometry. *J Appl Physiol* 118(5): 646-654, 2015. Thomson Reuters JCR Ranking 12/82 Sports Science, Acceptance rate 24%, Impact 3.421
16. **Cannon DT**, Bimson WE, Hampson SA, Bowen TS, Murgatroyd SR, Marwood S, Kemp GJ, Rossiter HB. Skeletal muscle ATP turnover by <sup>31</sup>P magnetic resonance spectroscopy during moderate and heavy bilateral knee-extension. *J Physiol* 592(23): 5287-5300, 2014. Thomson Reuters JCR Ranking 5/83 Physiology, Acceptance rate 28%, Impact 5.113
17. Murgatroyd SR, Wylde LA, **Cannon DT**, Ward SA, Rossiter HB. A 'ramp-sprint' test characterizes the indices of aerobic function and exercise intensity domains in humans. *Eur J Appl Physiol* 114(9): 1863-1874, 2014. Contributions: Design, data collection, data interpretation, critical revision. Thomson Reuters JCR Ranking 21/81 Sports Science, Acceptance rate not disclosed, Impact 2.633
18. **Cannon DT**, Howe FA, Whipp BJ, Ward SA, McIntyre DJ, Ladroue C, Griffiths JR, Kemp GJ, Rossiter HB. Muscle metabolism and activation heterogeneity by combined <sup>31</sup>P chemical shift and T2 imaging, and pulmonary O<sub>2</sub> uptake during incremental knee-extensor exercise. *J Appl Physiol* 115(6): 839-849, 2013. Thomson Reuters JCR Ranking 7/81 Sports Science, Acceptance rate 24%, Impact 4.193
19. Bowen TS, **Cannon DT**, Begg G, Baliga V, Witte KK, Rossiter HB. A novel cardiopulmonary exercise test protocol and criterion to determine maximal oxygen uptake in chronic heart failure. *J Appl Physiol* 113(3): 451-458, 2012. Contributions: Design, data collection, data analysis, data interpretation, critical revision. Thomson Reuters JCR Ranking 7/84 Sports Science, Acceptance rate 24%, Impact 4.156
20. Bowen TS, **Cannon DT**, Murgatroyd SR, Birch KM, Witte KK, Rossiter HB. The intramuscular contribution to the slow oxygen uptake kinetics during exercise in chronic heart failure is related to the severity of the condition. *J Appl Physiol* 112(3): 378-387, 2012. Contributions: Design, data collection, data analysis, data interpretation, critical revision. Thomson Reuters JCR Ranking 7/84 Sports Science, Acceptance rate 24%, Impact 4.156
21. Makni E, Moalla W, Lac G, Aouichaoui C, **Cannon D**, Elloumi M, Tabka Z. The Homeostasis Model Assessment-adiponectin (HOMA-AD) is the most sensitive predictor of insulin resistance in obese children. *Ann Endocrinol* 73(1): 26-33, 2012. Contributions: Data interpretation, critical revision. Thomson Reuters JCR Ranking 107/122 Endocrinology and Metabolism, Acceptance rate not disclosed, Impact 1.022
22. Bowen TS, Murgatroyd SR, **Cannon DT**, Cuff TJ, Lainey AF, Marjerrison AD, Spencer MD, Benson AP, Paterson DH, Kowalchuk JM, Rossiter HB. A raised metabolic rate slows pulmonary O<sub>2</sub> uptake kinetics on transition to moderate-intensity exercise in humans independently of work rate. *Exp Physiol* 96(10):

- 1049-1061, 2011. Contributions: Design, data collection, data analysis, data interpretation, critical revision. Thomson Reuters JCR Ranking 24/79 Physiology, Acceptance rate 22%, Impact 3.180
23. **Cannon DT**, White AC, Andriano MF, Kolkhorst FW, Rossiter HB. Skeletal muscle fatigue precedes the slow component of oxygen uptake kinetics during exercise in humans. *J Physiol* 583(3): 727-739, 2011. Thomson Reuters JCR Ranking 7/79 Physiology, Acceptance rate 28%, Impact 4.988
  24. Cubbon RM, Murgatroyd SR, Ferguson C, Bowen TS, Rakobowchuk M, Baliga V, **Cannon D**, Rajwani A, Abbas A, Kahn M, Birch KM, Porter KE, Wheatcroft SB, Rossiter HB, Kearney MT. Human exercise-induced circulating progenitor cell mobilization is nitric oxide-dependent and is blunted in South Asian men. *Arterioscler Thromb Vasc Biol* 30(4): 878-884, 2010. Contributions: Data collection, data analysis, data interpretation, critical revision. Thomson Reuters JCR Ranking 3/68 Peripheral Vascular Disease, Acceptance rate 18%, Impact 7.544
  25. **Cannon DT**, Kolkhorst FW, Buono MJ. On the determination of ventilatory threshold and respiratory compensation point via respiratory frequency. *Int J Sports Med* 30(3): 157-162, 2009. Thomson Reuters JCR Ranking 27/73 Sports Science, Acceptance rate not disclosed, Impact 1.974
  26. Cheng MH, Bushnell D, **Cannon DT**, Kern M. Appetite regulation via exercise prior or subsequent to meal consumption. *Appetite* 52(1): 193-198, 2009. Contributions: Data analysis, data interpretation, manuscript drafting, critical revision. Thomson Reuters JCR Ranking 24/66 Nutrition and Dietetics, Acceptance rate not disclosed, Impact 2.966
  27. Kern M, Broder HD, Edmondson JI, **Cannon DT**. Diet composition does not alter energy expenditure, substrate metabolism or excess post-exercise oxygen consumption in healthy, non-exercise trained women. *Nutr Res* 27(11): 665-671, 2007. Thomson Reuters JCR Ranking 51/56 Nutrition and Dietetics, Acceptance rate not disclosed, Impact 0.950
  28. **Cannon DT**, Kolkhorst FW, Cipriani DJ. Electromyographic data do not support a progressive recruitment of muscle fibres during exercise exhibiting a VO<sub>2</sub> slow component. *J Physiol Anthropol* 26(5): 541-546, 2007. Thomson Reuters JCR Ranking 83/288 Anthropology, Acceptance rate not disclosed, Impact 1.694
  29. **Cannon DT**, Grout SL, May CA, Strom SD, Wyckoff KG, Cipriani DJ, Buono MJ. Recruitment of the serratus anterior as an accessory muscle of ventilation during graded exercise. *J Physiol Sci* 57(2): 127-131, 2007. Thomson Reuters JCR Ranking 69/78 Physiology, Acceptance rate not disclosed, Impact 0.742
  30. **Cannon DT**, Kolkhorst FW, Cipriani DJ. Effect of pedaling technique on muscle activity and cycling efficiency. *Eur J Appl Physiol* 99(6): 659-664, 2007. Thomson Reuters JCR Ranking 14/72 Sports Science, Acceptance rate not disclosed, Impact 2.103

### Invited Presentations

1. *Carbon monoxide releasing molecules to target skeletal myofiber function in PAH*. Center for Physiological Genomics of Low Oxygen (CPGLO) Summit, Scripps Institute & UCSD School of Medicine. 03/2017
2. *Tumid lungs to timid legs: from Morgagni to muscle fatigue*. Physiology Division Seminar Series. School of Medicine, University of California, San Diego. 01/2016
3. *Skunk Works, a slide rule, and the CIA: Human physiology at Mach 3.2 and 90,000 ft*. Division Seminar Series. Harbor-UCLA Medical Center. 12/2014

4. *Magnetic resonance spectroscopy of skeletal muscle bioenergetics* In: The Task and the Toil: Exercise Intolerance in Health and COPD (invited symposium). Annual Meeting of the Southwest Chapter, American College of Sports Medicine. 10/2014
5. *Measurement of central and peripheral fatigue during whole-body exercise: an update*. Division Seminar Series. Harbor-UCLA Medical Center. 08/2014
6. *Bioenergetics and exercise intolerance in health and chronic disease: From organism to organelle*. San Diego State University. 12/2013
7. *Skeletal muscle mitochondrial function and rehabilitation in pulmonary arterial hypertension*. Division Seminar Series, Harbor-UCLA Medical Center. 07/2013
8. *Skeletal muscle function in pulmonary arterial hypertension*. Pulmonary Grand Rounds, Harbor-UCLA Medical Center. 07/2013
9. *The dynamics of skeletal muscle fatigue and ATP turnover during high-intensity exercise*. Pulmonary Grand Rounds, Harbor-UCLA Medical Center. 09/2012
10. *Skeletal muscle fatigue precedes the slow component of oxygen uptake kinetics during exercise in humans*. Oxygen uptake kinetics: Systems integration and future directions. University of Leeds. 08/2012
11. *The precipitation of exercise intolerance: What can the dynamics of energy turnover and skeletal muscle heterogeneity do for you?!* San Diego State University. 11/2009
12. *Host Institution Presentation*. Annual Meeting of the Southwest Chapter, American College of Sports Medicine. 11/2006

#### **Refereed Proceedings**

1. Erram J, Bari M, Cannon DT. Measuring airway resistance and characterizing the flow-volume envelope with external expiratory loading in healthy adults. *FASEB J (submitted)*
2. Bari M, Erram J, Cannon DT. Imposed expiratory resistance and pulmonary function in young healthy volunteers. *FASEB J (submitted)*
3. Bari M, Erram J, Cannon DT. Imposed expiratory resistance and pulmonary function in young healthy volunteers. *Proc Physiol Soc 43*, PC131, 2019.
4. Leslie E, Erram J, Cannon DT. Heat stress and the velocity-duration relationship: implications for middle distance and endurance running performance. *Integrative Physiology of Exercise 2018*.
5. Sadler C, Brett K, Heerboth A, Swisher A, Mehregani N, Touriel R, Cannon DT. Hypoxia is not reliably prevented by setting a 60 second apnea limit during exercise: the failure of the "one minute rule" for free diving. *Second Tricontinental Conference on Diving and Hyperbaric Medicine*.
6. Davies MJ, Benson AP, Birch KM, Cannon DT, Ferguson C. Limitations to high-intensity exercise tolerance: implications of the task demands. *Proc Physiol Soc 41*, C053, 2018.
7. **Cannon DT, Rodewohl L, Adams V, Breen EC, Bowen TS**. Skeletal myofiber VEGF-A-targeted gene deletion induces mitochondrial, structural and contractile alterations in mouse diaphragm. *FASEB J 32(S1)*: 589.10, 2018.

8. Adami A, **Cannon DT**, Kwan DJ, Calmelat RA, Coelho AC, Porszasz J, Casaburi R, Rossiter HB. Whole-body aerobic capacity is associated with locomotor muscle oxidative capacity across a wide range of function from COPD patients to young healthy controls. *Am J Respir Crit Care Med* 197: A4325, 2018.
9. van der Vaart H, Adami A, Barsingerhorn M, Gorek-Dilektasli A, Oenema B, Cao R, Calmelat R, Rossiter HB, **Cannon DT**, Casaburi R, Porszasz J. Sinusoidal high intensity exercise training in patients with COPD and healthy controls. *Am J Respir Crit Care Med* 197: A2454, 2018.
10. Tiffany C, Gutierrez-Gonzales A, Tsui T, Lerner AD, Bigby TD, Breen EC, **Cannon DT**. Skeletal muscle mitochondrial dysfunction and IL-33 receptor (ST2) gene deletion in a mouse model of pulmonary hypertension. *The Physiologist* 60(6): 463, 2017.
11. Wickman BE, Sasaki KG, Torrecillas-Sanchez E, **Cannon DT**. Imposed expiratory resistance, hyperinflation, and dyspnea are dissociated from locomotor fatigue during moderate exercise. *FASEB J* 31(S1): 909.9, 2017.
12. Yong S, Swisher A, Ferguson C, **Cannon DT**. Does maximal isokinetic power at exercise intolerance approximate critical power? *FASEB J* 31(S1): 707.15, 2017.
13. Swisher A, Koehn B, Yong S, Cunha J, Ferguson C, **Cannon DT**. Dynamics of locomotor fatigue during supra-critical power exercise in humans. *FASEB J* 31(S1): 707.11, 2017.
14. Gutierrez-Gonzalez AK, Lerner AD, Tsui C, Lee J, **Cannon DT**, Bigby TD, Breen EC. Role of the interleukin-33-ST2 pathway in the development of mouse Sugen/hypoxia-induced pulmonary hypertension. Center for Physiological Genomics of Low Oxygen (CPGLO) Summit, Scripps Institute and UCSD, March 2017.
15. Rossiter HB, Coelho AC, **Cannon DT**, Cao R, Casaburi R, Porszasz J. Greater loss of peak aerobic power than peak power in COPD: Implications for rehabilitation. *Am J Respir Crit Care Med* 193: A2622, 2016.
16. Cheng A, **Cannon DT**, Coelho AC, Cao R, Porszasz J, Casaburi R, Rossiter HB. Peak aerobic power in COPD is predominantly constrained by central fatigue. *Am J Respir Crit Care Med* 193: A2624, 2016.
17. **Cannon DT**, Gutierrez A, Tsui T, Lerner AD, Breen EC, Bigby TD. IL-33 receptor gene deletion and skeletal muscle abnormalities in a mouse model of pulmonary arterial hypertension. Center for Physiological Genomics of Low Oxygen (CPGLO) Summit, UCSD, May 2016.
18. Gutierrez A, Lerner AD, Tsui T, **Cannon DT**, Breen EC, Bigby TD. Interleukin 33 and Myd88 participate in the development of pulmonary arterial hypertension in a mouse model. Center for Physiological Genomics of Low Oxygen (CPGLO) Summit, UCSD, May 2016.
19. Witte T, Wong F, Lee J, Fine J, Gutierrez A, Bigby TD, **Cannon DT**, Breen EC. Locomotor and diaphragm muscle mitochondrial oxidative capacity in lung-targeted VEGF gene deleted mice exposed to cigarette smoke. *FASEB J* 30(S1): 724.9, 2016.
20. **Cannon DT**, Gutierrez A, Tsui T, Lerner AD, Breen EC, Bigby TD. IL-33 receptor gene deletion and skeletal muscle abnormalities in a mouse model of pulmonary arterial hypertension. *FASEB J* 30(S1): 1245.16, 2016.
21. Cunha J, Benedict P, Domingo A, Kolkhorst FW, Rossiter HB, **Cannon DT**. Expiratory flow limitation, dynamic hyperinflation, and locomotor power and fatigue. *FASEB J* 30(S1): 761.17, 2016.

22. Rossiter HB, Coelho AC, Cao R, Porszasz J, Casaburi R, **Cannon DT**. Muscle fatigue does not limit cycling exercise performance in chronic obstructive pulmonary disease. *Med Sci Sports Exerc* 47(5): S266, 2015.
23. Adami A, Cao R, Diaz N, **Cannon DT**, Porszasz J, Casaburi R, Rossiter HB. Deconditioning or myopathy? Inactivity is the predominant cause of low muscle oxidative capacity in COPD. *Med Sci Sports Exerc* 47(5): S2684, 2015.
24. **Cannon DT**, Phung TT, Lee C, Nguyen K, Parziale NJ, Chen R, Rossiter HB, Roberts CK. Effects of resistance training on skeletal muscle mitochondrial oxidative capacity in sedentary, obese young adults. *Med Sci Sports Exerc* 47(5): S1518, 2015.
25. Ferguson C, Davies MJ, Benson AP, Bimson WE, **Cannon DT**, Marwood S, Kemp GJ, Rossiter HB. Dissociation between external power and muscle metabolism during intermittent bi-lateral knee-extensor exercise. *Med Sci Sports Exerc* 47(5): S818, 2015.
26. **Cannon DT**, Coelho AC, Cao R, Porszasz J, Casaburi R, Rossiter HB. Supplemental oxygen improves exercise tolerance without affecting muscle fatigue in moderate to severe COPD. *Am J Respir Crit Care Med* 191: A5301, 2015.
27. Adami A, Cao R, Diaz N, **Cannon DT**, Porszasz J, Casaburi R, Rossiter HB. Low skeletal muscle oxidative capacity in COPD is better explained by physical inactivity than disease severity. *Am J Respir Crit Care Med* 191: A5298, 2015.
28. **Cannon DT**, Bimson WE, Hampson SA, Bowen TS, Murgatroyd SR, Marwood S, Kemp GJ, Rossiter HB. Skeletal muscle ATP turnover by <sup>31</sup>P magnetic resonance spectroscopy during moderate and heavy bilateral knee-extension. *Proc Physiol Soc* 31, PCA143, 2014.
29. Coelho AC, **Cannon DT**, Cao R, Ferguson C, Casaburi R, Porszasz J, Rossiter HB. A new method for instantaneous quantification of leg muscle fatigue during cycle ergometry. *FASEB J* 28(S1): LB797, 2014.
30. **Cannon DT**, Liu J, Sakurai R, Rossiter HB, Rehan VK. Impaired lung mitochondrial oxidative capacity following perinatal nicotine exposure in rats. *FASEB J* 28(S1): 1159.2, 2014.
31. **Cannon DT**, Cao R, Kiledjian R, Porszasz J, Casaburi R, Rossiter HB. Non-invasive assessment of skeletal muscle oxidative capacity and vasoreactivity in COPD by near-infrared spectroscopy. *Am J Respir Crit Care Med* 189: A4151, 2014.
32. Adami A, Koga S, Kondo N, **Cannon DT**, Kowalchuk JM, Amano T, Rossiter HB. Relationships among muscle deoxygenation, total heme concentration by TRS-NIRS, and blood flow during head-up tilt. *Med Sci Sports Exerc* 46(5): S2775, 2014.
33. Ferguson C, Wylde LA, **Cannon DT**, Benson AP, Rossiter HB. No reserve in maximal voluntary cycling power at the limit of tolerance using isokinetic ergometry. *Med Sci Sports Exerc* 45(5): S598, 2013.
34. **Cannon DT**, Bowen TS, Murgatroyd SR, Bimson WE, Rossiter HB, Kemp GJ. ATP turnover and the coupling of mitochondrial oxidative phosphorylation during dynamic exercise in humans: a study combining skeletal muscle <sup>31</sup>P MRS and breath-by-breath gas exchange measurements. *MAGMA* 25(S1), 2012.
35. **Cannon DT**, Bowen TS, Murgatroyd SR, Bimson WE, Kemp GJ, Rossiter HB. ATP turnover and the coupling of mitochondrial oxidative phosphorylation during dynamic exercise in humans. *Med Sci Sports Exerc* 44(5): S2206, 2012.

36. Murgatroyd SR, Ferguson C, **Cannon DT**, Bowen TS, Wylde LA, Porszasz J, Rossiter HB. Quantifying physiological benefit from improvements in exercise tolerance. *Med Sci Sports Exerc* 44(5): S2367, 2012.
37. Bowen TS, **Cannon DT**, Begg G, Baliga V, Rossiter HB, Witte KK. A novel cardiopulmonary exercise test protocol and criterion to determine maximal oxygen uptake in chronic heart failure patients. *Eur Heart J* 32: S1033, 2011.
38. Murgatroyd SR, Wylde LA, **Cannon DT**, Rossiter HB. An exercise test to characterise the domains of aerobic function in humans. *Proc Physiol Soc* 23, PC200, 2010. *Runner-up, The Physiological Society Poster Prize*
39. Bowen TS, **Cannon DT**, Begg G, Baliga V, Witte KK, Rossiter HB. A test to confirm maximal oxygen uptake in chronic heart failure patients without the need for secondary criteria. *Heart* 97, A56, 2011.
40. Bowen TS, **Cannon DT**, Murgatroyd SR, Witte KK, Rossiter HB. Increasing skeletal muscle oxygenation by prior moderate-intensity exercise increases aerobic energy provision in chronic heart failure. *Heart* 97, A56, 2011.
41. **Cannon DT**, Bowen TS, Murgatroyd SR, Witte KK, Koga S, Rossiter HB. Inferences from skeletal muscle deoxygenation kinetics during constant and incremental exercise in heart failure. *Med Sci Sports Exerc* 43(5): S889, 2011.
42. **Cannon DT**, White AC, Andriano MF, Kolkhorst FW, Rossiter HB. Skeletal muscle fatigue precedes the slow component of oxygen uptake kinetics during exercise in humans. *Proc Physiol Soc* 19, PC159, 2010.
43. Bowen TS, **Cannon DT**, Begg G, Baliga V, Witte KK, Rossiter HB. A novel criterion for the determination of maximal oxygen uptake in patients with chronic heart failure. *Proc Physiol Soc* 19, C37, 2010.
44. Murgatroyd SR, Ferguson C, **Cannon DT**, Cubbon RM, Bowen TS, Ward SA, Rossiter HB. An examination of single exercise protocols characterising high intensity exercise tolerance in humans. *Proc Physiol Soc* 19, C36, 2010.
45. Cubbon RM, Murgatroyd SR, Ferguson C, Bowen TS, Rakobowchuk M, Baliga V, **Cannon D**, Rajwani A, Abbas A, Kahn M, Birch KM, Porter KE, Wheatcroft SB, Rossiter HB, Kearney MT. Human exercise induced circulating progenitor cell mobilisation is nitric oxide dependent and is blunted in South Asian men. *Heart* 96: A14, 2010.
46. **Cannon DT**, Bowen TS, Witte KK, Rossiter HB. Dissociating the attainment of maximal oxygen uptake from symptom limitation during exercise in heart failure. *Med Sci Sports Exerc* 42(5): S823, 2010.
47. Bowen TS, **Cannon DT**, Murgatroyd SR, Witte KK, Rossiter HB. Moderate-intensity exercise increases subsequent muscle oxygenation and speeds  $VO_2$  kinetics in heart failure. *Med Sci Sports Exerc* 42(5): S659, 2010.
48. **Cannon DT**, Ehlen KA, Kolkhorst FW, Miller PW, Buono MJ. Cerebral oxygenation during incremental ramp exercise under acute acetazolamide administration. *Med Sci Sports Exerc* 41(5): S2549, 2009.
49. Ehlen KA, Buono MJ, Kolkhorst FW, Miller PW, **Cannon DT**. Pulmonary ventilation during incremental ramp exercise under acute acetazolamide administration. *Med Sci Sports Exerc* 41(5): S2548, 2009.



50. Cubbon RM, Murgatroyd SR, Ferguson C, **Cannon D**, Bowen TS, Rajwani A, Abbas A, Kahn M, Porter KE, Wheatcroft SB, Rossiter HB, Kearney MT. Impaired exercise induced endothelial progenitor cell mobilisation in South Asian men is nitric oxide dependent. British Atherosclerosis Society and British Society for Cardiovascular Research Joint Meeting, Medical Sciences Teaching Centre and St. Catherine's College, Oxford, UK, April 2009.
51. **Cannon DT**, Murgatroyd SR, Bowen TS, Kowalchuk JM, Rossiter HB. Muscle O<sub>2</sub> delivery-to-consumption matching at the limit of tolerance during ramp incremental exercise in men exhibiting a plateau in O<sub>2</sub> uptake. *Proc Physiol Soc 14*: PC20, 2009. *Third place, Blue Riband Competition*
52. Bowen TS, Murgatroyd SR, **Cannon DT**, Cuff TJ, Lainey AF, Marjerrison AD, Kowalchuk JM, Rossiter HB. The kinetics of pulmonary oxygen uptake during the transition to moderate intensity exercise from a raised metabolic rate in humans. *Proc Physiol Soc 14*: PC8, 2009. *First place, Blue Riband Competition*
53. **Cannon DT**, Kolkhorst FW. Creatine monohydrate supplementation does not alter oxygen uptake kinetics during heavy exercise. *Med Sci Sports Exerc 40*(5): S1756, 2008.
54. **Cannon DT**, Schenone AD, Kolkhorst FW. On the reproducibility of oxygen uptake kinetics during heavy exercise. *FASEB J 22*: 1176.8, 2008.
55. **Cannon DT**, Grout SL, May CA, Strom SD, Wyckoff KG, Cipriani DJ, Buono MJ. Recruitment of the serratus anterior as an accessory muscle of ventilation during graded exercise. *Med Sci Sports Exerc 39*(5): S1985, 2007.

#### Funded Research Grants

1. \$495,000 – *Collaborative Research: Role of endogenous carbon monoxide (CO) in hypoxia tolerant species*. National Science Foundation (NSF), *Integrative Organismal Systems*, Co-PI.
2. \$10,000 – *Myofiber VEGF gene deletion and diaphragm muscle structure and function*. SDSU University Grants Program, PI, 2018-2019
3. \$10,000 – *Does the IL-33 inflammatory axis mediate skeletal muscle abnormalities in pulmonary arterial hypertension?* SDSU University Grants Program, PI, 2016-2017
4. \$33,000 – *Skeletal muscle structure and function in patients with pulmonary arterial hypertension*, LA Biomed at Harbor-UCLA Seed Grant, Co-I, 2014-2015
5. \$7,000 – Pulmonary Education & Research Foundation Project Grant, Co-I, 2013-2014

#### Funded Training Grants

1. \$3,000 – *Sweat gland function in split thickness skin graft*, SDSU Summer Undergraduate Research Program, PI, 05/2019 – 08/2019
2. \$3,000 – *Arterial and tissue oxygenation during 60 s apneic rest and exercise*, SDSU Summer Undergraduate Research Program, PI, 05/2018 – 08/2018
3. \$5,000 – *Dynamics of skeletal muscle fatigue during high-intensity exercise*, SDSU Summer Undergraduate Research Program, PI, 05/2016 – 08/2016
4. \$142,000 – *The dynamics of skeletal muscle metabolism, oxygenation, and fatigue during high-intensity exercise in humans*, ORSAS UK, PhD Studentship, 09/2008 – 08/2011

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## TEACHING EFFECTIVENESS

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### Students and Scientists Mentored

#### Masters Theses (chair)

2019-           Tori Simon  
                   School of Exercise & Nutritional Sciences

SDSU

*Fast-start pacing strategy and locomotor fatigue dynamics during supra-critical power tasks*

2018-

Jo Erram

School of Exercise & Nutritional Sciences

SDSU

*Airway resistance and the rectangular area ratio with imposed external expiratory resistance*

2018-

Monica Bari

School of Exercise & Nutritional Sciences

SDSU

*Imposed expiratory resistance and pulmonary function in young healthy volunteers*

2018-

Sean Swenson

School of Exercise & Nutritional Sciences

SDSU

*Eccrine sweat gland function and thermoregulation following burn injury and split-thickness graft*

2015-2017

Brandon Howland

School of Exercise & Nutritional Sciences

SDSU

*Diaphragm Abnormalities in the SuHx Model of Pulmonary Hypertension: The Role of the IL-33 Signaling Pathway*

Current Position: Assistant Professor, Los Rios Community College District

2017

Eric Leslie

School of Exercise & Nutritional Sciences

SDSU

*Thermoregulatory stress from heat indices up to 34°C does not affect elite running performance in 400 – 10,000 m events*

Current Position: PhD student at University of New Mexico

2015-2017

Caitlin Tiffany

School of Exercise & Nutritional Sciences

SDSU

*Skeletal muscle abnormalities in a mouse model of pulmonary arterial hypertension*

Current Positions: Adjunct Faculty, Life Sciences Department, San Diego City College; Research Associate, The Scripps Research Institute

2014-2016

Jonathan Cunha

School of Exercise & Nutritional Sciences

SDSU

*Expiratory resistance and skeletal muscle fatigue during high-intensity exercise*

Current Position: Medical student, UCSD School of Medicine

2015-2016

Blake Koehn

School of Exercise & Nutritional Sciences

SDSU

*Dynamics of locomotor fatigue at the onset of high-intensity exercise*

Current position: Physiologist at Naval Health Research Center, San Diego

Masters Theses (committee member)

2019-

Kayleigh Marsh

Department of Biology

SDSU

- 2019- Tak Cheung  
Department of Biology  
SDSU  
*ATF6 $\beta$  is an adaptive transcription factor in cardiac myocytes*
- 2017- Kelli Ilves  
Department of Biology  
SDSU
- 2016-2018 Kimberley Manalo  
Department of Biology  
SDSU  
*The effects of protein expression manipulation on muscle structure and function in inclusion body myopathy-3*
- 2016-2018 Jesus E. Villanueva  
Department of Biology  
SDSU  
*Molecular basis of Metabolic Diseases and Rare Muscular Dystrophies in Drosophila and Cell Models*
- 2015- Erik Blackwood  
Department of Biology  
SDSU
- 2015-2016 Amber Pentoney  
Department of Biology  
SDSU  
*SR/ER calcium dysregulation confers cytoprotective effects to cell culture media that inhibits apoptotic and necrotic cell death*  
Current position: Veterinary medical student, Western University College of Veterinary Medicine
- 2015-2016 Khalid Azizi  
Department of Biology  
SDSU  
*Roles for the ER stress-activated transcription factor 6, ATF6, in the hearts of mice subjected to myocardial ischemia*  
Current position: Senior Associate Scientist, Amgen
- 2015-2017 Christopher R. Livel  
Department of Biology  
SDSU  
*Obesity, circadian rhythm, and skeletal muscle metabolism in Drosophila*  
Current position: Associate Scientist, Illumina

#### Senior Honors Theses

- 2015 Andrew Gehr (co-mentor)  
School of Exercise & Nutritional Sciences  
SDSU  
*Dietary nitrate supplementation, exercise tolerance, and time trial performance*  
Current position: Registered Dietician

2007-2008 Kellie A. Walters  
School of Exercise & Nutritional Sciences  
SDSU  
*Ventilation during incremental ramp exercise under acute acetazolamide administration*  
Current position: Assistant Professor, CSULA

Special Studies Projects (chair)

2018 Austin Swisher  
Nader Mehregani  
School of Exercise & Nutritional Sciences  
SDSU  
*Arterial and tissue oxygenation during 60 s apneic rest and exercise*

2017-2018 Eric Leslie  
Jo Erram  
Josiah Hella  
School of Exercise & Nutritional Sciences  
SDSU  
*Heat stress and the velocity-tolerable duration relationship*

2017-2018 Monica Bari  
Jyotika Erram  
Santi Ortega  
Seth Weeks  
Cameron Vinoskey  
School of Exercise & Nutritional Sciences  
SDSU  
*Pulmonary function with and without imposed expiratory resistance*

2017 Abby Villacarlos  
Alex Cost  
Alex Preciado  
School of Exercise & Nutritional Sciences  
SDSU  
*Pacing strategy and locomotor fatigue dynamics*

2016 Evan Glasheen  
Joshua Beidler  
School of Exercise & Nutritional Sciences  
SDSU  
*Circulating heme oxygenase-1 in the northern elephant seal*

2016 Cathrine Gennert  
Shane Adamos  
Lupe Celedon  
School of Exercise & Nutritional Sciences  
SDSU  
*Dynamics of hyperinflation, dyspnea, and locomotor fatigue during heavy exercise with expiratory resistance*

2016-2017 Vishakha Vijaykumar  
Department of Engineering  
SDSU

*A computational model for teaching the interaction of convective and diffusive components of oxygen transport in humans*  
*An automated imaging-processing program for muscle histology*

- 2016-2017 Austin Swisher  
Stanley Yong  
School of Exercise & Nutritional Sciences  
SDSU  
*Sustainability of maximal isokinetic power following the limit of tolerance to constant power exercise*
- 2015-2017 Caitlin Tiffany  
Katharine Dizaye  
Brandon Howland  
School of Exercise & Nutritional Sciences  
SDSU  
*Skeletal muscle abnormalities in a mouse model of pulmonary arterial hypertension*
- 2015-2016 Katelynn Sasaki  
Brooke Wickman  
Eduardo Torrecillas Sanchez  
School of Exercise & Nutritional Sciences  
SDSU  
*Imposed expiratory flow limitation, hyperinflation, and dyspnea are dissociated from locomotor fatigue during moderate exercise*
- 2015 Adam Church  
School of Exercise & Nutritional Sciences  
SDSU  
*Skeletal muscle abnormalities in pulmonary arterial hypertension*  
Current position: LTJG, USN Aerospace Physiologist
- 2015- Alma Gutierrez  
Fiona Wong  
Tyler Witte  
Taha Taka  
Steven Vittorina  
Leo Kang  
Biology  
UCSD  
*Role of IL-33 in the development of pulmonary arterial hypertension in a mouse model*
- 2015 Patricia Benedict (ENS798)  
School of Exercise & Nutritional Sciences  
SDSU  
*Expiratory resistance and skeletal muscle fatigue during high-intensity exercise*

#### Undergraduate Researchers

KA Walters(SDSU - Honors Thesis), CC Johnson(SDSU), TA Remmers(SDSU), JZ Boehm(SDSU), DT Sparks(SDSU), TM Gillespie(SDSU), JL Branham(SDSU), L Waters (SDSU), C Arthur(Leeds), H MacLachlan(Leeds), D Paterson(Leeds), P Shawcross(Leeds), J Sylvester(Leeds), A Young(Leeds), B Hylton(Leeds), S Cassidy(Leeds), C Lancaster(Leeds), SA Hampson (Liverpool), MJ Davies (Leeds), N Diaz(Harbor-UCLA), A Gehr(SDSU – Honors Thesis), FL Wong(UCSD), A Swisher(SDSU – ENS499), TS Witte(UCSD), S Yong(SDSU – ENS499), A Gutierrez(UCSD), J Moore (SDSU), C Sheehey (SDSU), T Janisse

(SDSU), L Kang (UCSD), S Vittorino (UCSD), T Taka (UCSD), J Mueller (SDSU – ENS499), J Passot (SDSU), J Castanho (SDSU), J Erram (SDSU), J Hella (SDSU), N Mehregani (SDSU), C Hogg (SDSU – ENS499), Madriaga R (SDSU), Faria J (SDSU), Ortiz S (SDSU), Khaleq E (SDSU), Kleis C (SDSU – ENS499), Vlassis N (SDSU), Arroyo Hernandez D (SDSU), Ramirez B (SDSU), Satnick M (SDSU), Garcia J (SDSU), Morales R (SDSU), Hakimi K (SDSU)

SDSU Student Research Symposium presentations (student authors underlined)

- 03/2019 Erram J, Bari M, Cannon DT. Imposed expiratory resistance and pulmonary function in young healthy volunteers.
- 03/2019 Mehregani N, Swisher AR, Brett K, Heerboth A, Touriel R, Sadler C, **Cannon DT**. Breath-hold time limit recommendations do not consider the metabolic-rate dependence of oxygen stores depletion.
- 03/2018 Villacarlos A, Cost A, Preciado A, **Cannon DT**. Pacing strategy and locomotor fatigue dynamics.
- 03/2017 Yong S, Swisher A, Ferguson C, **Cannon DT**. Does maximal isokinetic power at exercise intolerance approximate critical power?
- 03/2017 Swisher A, Koehn B, Yong S, Cunha J, Ferguson C, **Cannon DT**. Dynamics of locomotor fatigue during supra-critical power exercise in humans.
- 03/2016 Wickman BE, Sasaki K, Torrecillas Sanchez E, **Cannon DT**. Imposed expiratory flow limitation, hyperinflation, and dyspnea are dissociated from locomotor fatigue during moderate exercise.
- 03/2016 Cunha J, Benedict P, Domingo A, Kolkhorst FW, Rossiter HB, **Cannon DT**. Expiratory flow limitation, dynamic hyperinflation, and locomotor power and fatigue.
- 03/2015 Gehr A, **Cannon DT**, Kern M. Dietary nitrate supplementation, exercise tolerance, and time trial performance.

**Courses taught**

<u>Years</u>	<u>Role</u>	<u>Degree</u>	<u>Course number and title</u>
San Diego State University			
2016-	Faculty	MS	ENS662 Advanced Exercise Physiology Laboratory
2016-	Faculty	BS	ENS332 Pathophysiology I
2016-	Faculty	BS	ENS333 Pathophysiology II
2016	Guest Lecturer	MS	ENS661 Seminar in Advanced Physiology of Exercise
2015-	Faculty	MS	ENS798 Special study
2015-	Faculty	BS	ENS499 Special study
University of Leeds			
2008-2012	TA	BSc	SPSC3061 Research Project in Exercise Physiology
2008-2012	TA & Lecturer	BSc	SPSC2302 Exercise Physiology in Sport, Health & Disease
2008-2012	TA	BSc	SPSC2170 Scientific Principles of Exercise Training
2008-2012	TA & Lecturer	BSc	SPSC2218 Research Skills - Statistics & SPSS
2008-2012	TA & Lecturer	BSc	BIOC2201 Exercise Biochemistry
San Diego State University			
2006-2008	TA	BS	ENS304L Exercise Physiology Laboratory

## Teaching Associates Supervised

2018-2019	Sean Swenson
2018-2019	Sarah Northway
2017	Jonathan Tran
2017	Anna Hunter
2017	Katelynn Sasaki

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## SERVICE

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### Service for the Department

1. Laboratory Director, School of ENS (2017 – present)
2. Faculty Hearing Committee, School of ENS (2017 – 2019)
3. Scholarship Committee, School of ENS (2017 – 2019)
4. Host and organizer of international symposium. *From Joseph Priestley to magnetic resonance spectroscopy: A rich tradition of physiology in Leeds*. Speakers include Sophie Hampson, Matt Davies, and Carrie Ferguson – all from the School of Biomedical Sciences, University of Leeds, UK. 2016
5. Presentation given at the first bi-monthly ENS Research Group Meeting. *Tumid lungs to timid legs: from Morgagni to muscle fatigue*. School of Exercise & Nutritional Sciences, San Diego State University. 2016
6. Search Committee: Director, School of Exercise & Nutritional Sciences. (2015-2016)

### Service for the University

1. Faculty Advisor, Aztec Gymnastics Club (2017 – present)
2. Faculty Interviewer, Fulbright Fellowship (2016 – present)
3. Faculty Judge, SDSU SRS (2015 – present)
4. Faculty Member, Area of Excellence Proposal (unsuccessful) (2015)

### Service for the Profession

1. Grant Reviewer (2016 – present)
  - a. VA Health Care System, Rehabilitation Research and Development SPiRE Program, Meeting Identifier: 2016/08 RRDS R
  - b. VA Health Care System, Rehabilitation Research and Development SPiRE Program, Meeting Identifier: 2017/01 RRDS R
  - c. VA Health Care System, Rehabilitation Research and Development SPiRE Program, Meeting Identifier: 2017/08 RRDS R
2. Journal Reviewer (2007 – present)
  - a. *Journal of Physiology*
  - b. *Journal of Applied Physiology*
  - c. *Experimental Physiology*
  - d. *Medicine and Science in Sports and Exercise*
  - e. *Acta Physiologica*
  - f. *Aging*
  - g. *Appetite*
  - h. *Applied Physiology, Nutrition, and Metabolism*
  - i. *British Journal of Sports Medicine*
  - j. *Clinical Medicine: Circulatory, Respiratory and Pulmonary Medicine*
  - k. *Clinical Science*
  - l. *Clinical Physiology and Functional Imaging*
  - m. *COPD: Journal of Chronic Obstructive Pulmonary Disease*
  - n. *Current Opinion in Physiology*

- o. *Experimental Gerontology*
- p. *International Journal of Sports Medicine*
- q. *Journal of Cachexia, Sarcopenia and Muscle*
- r. *Journal of Sports Science and Medicine*
- s. *Journal of Sports Sciences*
- t. *Journal of Visualized Experiments*
- u. *Nutrition Research*
- v. *Physiological Measurement*
- w. *Research Square*
- x. *Rubriq*
- y. *Scientific Reports*
- z. *Sports Medicine*

### **Service for the Community**

1. Guest lecture: *Exercise Physiology: The essence of the machine*, Hoover High School (November 2019)
2. Guest lecture and laboratory demonstration: *Exercise physiology and pulmonary gas exchange: The essence of the machine*, Scripps Ranch High School (May 2019)
3. Guest lecture: *Exercise intolerance and COPD: The Task and the Toil*, Scripps Ranch High School (May 2018)