

Jason R. Boynton, Ph.D.

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Citizenship: United States of America

EDUCATION

Edith Cowan University, Perth, Western Australia

Ph.D. in Exercise and Sport Science, July 2020

Eastern Michigan University, Ypsilanti, Michigan

M.S. in Exercise Physiology, April 2013

University of Wisconsin-Whitewater, Whitewater, Wisconsin

B.S. in Cell Biology and Physiology with an honors emphasis, December 2005

PROFESSIONAL EXPERIENCE

Cycling Coach: Self-Employed, 2007-present

- Level 1 USA Cycling certified cycling coach (highest accreditation)
- Instruct athletes how to train and explain relevant physiology
- Conduct regular discussions with athletes about goals and progress
- Analyze qualitative and quantitative athlete data
- Prescribe weekly, individualized workouts based on athlete data and feedback
- Deliver presentations on exercise physiology to endurance athletes
- Write science-based blogs on endurance sport topics for websites

Teaching Assistant: Edith Cowan University, 2016-2017

- Taught Exercise Physiology I & II laboratory sections for three semesters

Personal Trainer: Contracted and Self-Employed, 2010-2015

- AFAA certified personal fitness trainer
- Instructed clients how to exercise
- Held regular workout sessions with clients
- Discussed health and fitness goals with clients

Associate Research Specialist: University of Wisconsin School of Medicine and Public Health, 2014-2015

- Compiled and analyzed health data from cardiac ablation studies
- Completed ethics applications for review by the local institutional review board
- Assisted in study design
- Supervised undergraduate researchers

Human Performance Research Consultant: Contracted, 2013

- Managed human performance/supplement research studies
- Recruited human subjects for research studies
- Delegated work to lab staff
- Scheduled lab sessions and procedures
- Recorded and managed study data
- Maintained adherence to IRB approved protocol

Teaching Assistant: Eastern Michigan University, 2008-2010

- Taught Human Anatomy and Physiology laboratory sections for two semesters
- Taught Introductory Biology laboratory sections for two semesters

RESEARCH EXPERIENCE

PhD Research: Edith Cowan University, 2015-2020 (primary supervisor: Chris Abbiss, Ph.D.)

- Thesis title: The Effects of Environmental Temperature on High-Intensity Interval Training
- Research focuses: high-intensity intervals, cycling performance, and environmental physiology
- Studied environmental temperature's effects on high-intensity interval training
- Studied passive and active methods of heat acclimation in trained cyclists
- Designed research to investigate elite and world-class cyclists before and during their competitive season

Medical Research: University of Wisconsin-Madison, 2014-2015 (principle investigator: L. Lee Eckhardt, M.D.)

- Conducted retrospective research of cardiovascular ablation techniques
- Helped develop research to screen swimmers at risk for sudden cardiac death syndrome

Contracted Research: University of Wisconsin-Whitewater, 2013 (principle investigator: Steven J. Albrechtsen, Ph.D.)

- Researched the effects of beet supplement on maximal oxygen consumption in trained runners and cyclists

Masters Research: Eastern Michigan University, 2008-2011 (research advisor: Stephen J. McGregor, Ph.D.)

- Thesis title: Supra-maximal Exercise and Reactive Oxygen Species in Trained Cyclists
- Studied reactive oxygen species levels in trained cyclists and untrained individuals
- Studied power in trained cyclists and untrained individuals during consecutive bouts of anaerobic exercise
- Developed a method to predict 20-minute power in trained cyclists based on 5x 5 minute intervals; independent study with Steven J. Albrechtsen at UW-Whitewater

Interim Research: University of Wisconsin-Whitewater, 2007-2008 (advisor: Steven J. Albrechtsen, Ph.D.)

- Assisted with various summer research projects in the UW-Whitewater Human Performance Laboratory

Undergraduate Research: University of Wisconsin-Whitewater, 2005 (advisor: Steven J. Albrechtsen, Ph.D.)

- Thesis title: Relationships of ACE Gene Polymorphisms to Maximal Oxygen Consumption and Lactate Threshold in Collegiate Cyclists
- Studied ACE gene polymorphisms and how they related to maximal oxygen consumption and lactate threshold in trained cyclists

SCIENTIFIC PUBLICATIONS

In Preparation

Boynton, Jason R., Paolo Menaspà, and Chris R. Abbiss. Environmental temperature considerations for high-intensity interval training in endurance athletes. (Literature review in preparation for journal submission)

Boynton, Jason R., Paolo Menaspà, Jeremiah J. Peiffer, and Chris R. Abbiss. Effects of repeated hot and cool temperature exposure on high-intensity intervals. (Thesis chapter in preparation for journal submission)

Boynton, Jason R., Paolo Menaspà, Jeremiah J. Peiffer, and Chris R. Abbiss. Improvements in performance are not different between hot and cool HIIT despite differences in time near $\text{VO}_{2\text{max}}$. (Manuscript in final submission format)

Published Journal Articles

Boynton, Jason R., Fabian Danner, Paolo Menaspà, Jeremiah J. Peiffer, and Chris R. Abbiss. Effect of environmental temperature on high-intensity intervals in well-trained cyclists. *International Journal of Sports Physiology and Performance* 14: 1404-1407, 2019.

Kipp, Ryan T., ***Jason R. Boynton**, Michael E. Field, Jesse F. Wang, Anton Bares, Miguel A. Leal, Nicholas H. Von Bergen, and Lee L. Eckhardt. Outcomes during intended fluoroscopy-free ablation in adults and children. *Cardiac Rhythm Management* 9: 3305-3311, 2018.

Published Abstracts

Boynton, Jason R., Tyler D. Stein, John G. Wuenstel, Kelsey A. Fitzgerald, Donovan M. Gregoire and Steven J. Albrechtsen. Beet shot supplements to improve endurance performance in cyclists and runners. *Medicine and Science in Sports and Exercise* 46(Supplement): S132, 2014.

Boynton, Jason R., Stephen J. McGregor, Lynn Shetron-Rama, Chris Herman, Andrea D. Workman, Tim Muth, Josh Gordon, Ian Ratz, and Zack Maino. Reactive oxygen

species markers after multiple wingate bouts in trained and untrained subjects. *Medicine and Science in Sports and Exercise* 44(Supplement): S350, 2012.

McGregor, Stephen J., ***Jason R. Boynton**, Chris Herman, Andrea D. Workman, Tim Muth, Josh Gordon, Ian Ratz, and Zack Maino. Power and oxygen consumption during three consecutive wingates in untrained individuals compared to trained cyclists. *Medicine and Science in Sports and Exercise* 44(Supplement): S559, 2012.

Albrechtsen, Steven J., and ***Jason R. Boynton**. Predicting twenty-minute power from five five-minute intervals in competitive cyclists. *Medicine and Science in Sports and Exercise* 44(Supplement): S756, 2012.

Harder, Rachel E., Kale M. Olson, Lauren E. Koth, Holly E. Felter, Allison L. Annala, **Jason R. Boynton**, Steven J. Albrechtsen, and Kirsten Crossgrove. Relationships of ACE gene polymorphisms to experience and physiological parameters in cross country runners. *Medicine and Science in Sports and Exercise* 41(Supplement): S585-S586, 2009.

Boynton, Jason R., and Steven J. Albrechtsen. Relationships of ACE gene polymorphisms to maximal oxygen consumption and lactate thresholds in collegiate cyclists. *Medicine and Science in Sports and Exercise* 40(Supplement): S186, 2008.

*Authors contributed equally to this work as first authors.

PRESENTATIONS, POSTERS, WEBINARS & PODCAST INTERVIEWS

Boynton, Jason R. (guest), & Christopher Jones (host). (2021). *Interview with Jason Boynton, PhD* [Audio podcast]. Next Level Podcast. <https://corebodytemp.com/blogs/news/next-level-podcast-interview-with-jason-boynton>

Boynton, Jason R. (2021, March 11). *The effects of environmental temperature on cycling performance: New research, new insights* [Zoom presentation]. Team Bike Exchange (aka GreenEDGE) Performance Group.

Boynton, Jason R. (guest), & Damian Ruse (host). (2021). *Heat and performance* [Audio podcast]. Semi-Pro Cycling Podcast. <https://podcasts.apple.com/sn/podcast/heat-intervals-and-performance-with-jason-boynton-ph-d/id541555808?i=1000510669201>

Boynton, Jason R. (2020, June 9 & 10). *Temperature doping: Improving indoor training by manipulating room conditions* [Webinar]. Boynton Coaching. <https://www.boyntoncoaching.com/2020/05/26/webinar-temperature-doping-improving-indoor-training-by-manipulating-room-conditions/>

Boynton, Jason R., Fabian Danner, Paolo Menaspà, Jeremiah J. Peiffer, and Chris R. Abbiss. (2018, July 5). *Effect of environmental temperature on high intensity intervals in*

well-trained cyclists [Conference poster]. The 23rd Annual Congress of the European College of Sport Science, Dublin, Ireland.

Boynton, Jason R. (guest), & Zachary Schuster (host). (2017). *Wiscrossin' #17- Jason Boynton Part I* [Audio podcast]. Wiscrossin Podcast. <https://podcasts.apple.com/au/podcast/wiscrossin-17-jason-boynton-part-i/id1175547187?i=1000392101180>

Boynton, Jason R. (2016, July 8). *Cycling in the heat* [Webinar]. USA Cycling Coaching Webinars. Retrieve from usacycling.org

Boynton, Jason R. (2016, February 11). *Endurance competition in the cold* [Presentation]. Cycling Australia's U23 Men's Road Program (aka World Tour Academy) 2016 Departure Camp, Adelaide, South Australia, Australia.

Boynton, Jason R. (2016, February 11). *Training with power* [Presentation]. Cycling Australia's U23 Men's Road Program (aka World Tour Academy) 2016 Departure Camp, Adelaide, South Australia, Australia.

Boynton, Jason R. (guest), & Damian Ruse (host). (2015). *SPC126- How to apply science to your cycling* [Audio podcast]. Semi-Pro Cycling Podcast. <https://podcasts.apple.com/gb/podcast/spc126-how-to-apply-science-to-your-cycling-jason-boynton/id541555808?i=100035442818>

Boynton, Jason R. (2014, January 13th). *Finding truth in endurance sport* [Presentation]. Speed Cycling, Madison, Wisconsin, United States. <https://www.youtube.com/watch?v=zCsW4auSbCQ>

Boynton, Jason R., Tyler D. Stein, John G. Wuenstel, Kelsey A. Fitzgerald, Donovan M. Gregoire and Steven J. Albrechtsen. (2014, May 28). *Beet shot supplements to improve endurance performance in runners* [Conference presentation]. The 61st Annual Meeting of the American College of Sports Medicine, Orlando, Florida, United States.

Boynton, Jason R. (2013, November 14). *A critical analysis of compression garments as a recovery modality* [Webinar]. USA Cycling Coaching Webinars. Retrieve from usacycling.org

Boynton, Jason R. (2013, October 31). *A critical analysis of blood lactate testing for cyclists* [Webinar]. USA Cycling Coaching Webinars. Retrieve from usacycling.org

Boynton, Jason R. (2013, October 17). *A critical analysis of anti-oxidants in recovery supplements* [Webinar]. USA Cycling Coaching Webinars. Retrieve from usacycling.org

Boynton, Jason R. (2013, October 3) *Applied skepticism in cycling: A methodology for an improved sport* [Webinar]. USA Cycling Coaching Webinars. Retrieve from usacycling.org

Albrechtsen, Steven J., and **Jason R. Boynton**. (2012, June 1). *Predicting twenty-minute power from five five-minute intervals in competitive cyclists* [Conference poster]. The 56th Annual Meeting of the American College of Sports Medicine, San Francisco, California, United States.

McGregor, Stephen J., **Jason R. Boynton**, Chris Herman, Andrea D. Workman, Tim Muth, Josh Gordon, Ian Ratz, Zack Maino. (2012, May 2012). *Power and oxygen consumption during three consecutive wingates in untrained individuals compared to trained cyclists* [Conference poster]. The 56th Annual Meeting of the American College of Sports Medicine, San Francisco, California, United States.

Boynton, Jason R., Stephen J. McGregor, Lynn Shetron-Rama, Chris Herman, Andrea D. Workman, Tim Muth, Josh Gordon, Ian Ratz, Zack Maino. (2012, May 30). *Reactive oxygen species markers after multiple wingate bouts in trained and untrained subjects* [Conference poster]. The 56th Annual Meeting of the American College of Sports Medicine, San Francisco, California, United States.

CONFERENCES, SYMPOSIUMS, & CLINICS

The 23rd Annual Congress of the European College of Sport Science. Dublin, Ireland. July 5th-7th, 2018.

The 62nd American College of Sports Medicine Annual Meeting. San Diego, California. May 26th-30th, 2015.

The 61st American College of Sports Medicine Annual Meeting. Orlando, Florida. May 27th-31st, 2014.

University of Wisconsin-Madison School of Medicine and Public Health Sixth Annual Bioethics Symposium; "Sex, Drugs, and Sports: Ethical Controversies in Athletics". Madison, Wisconsin. April 4th, 2014.

USA Cycling Level One Coaching Clinic. Colorado Springs, Colorado. November 14th-17th, 2013.

The 60th American College of Sports Medicine Annual Meeting. Indianapolis, Indiana. May 28th-June 1st, 2013.

The 59th American College of Sports Medicine Annual Meeting. San Francisco, California. May 29th-June 2nd, 2012.

USA Cycling Power Certification Clinic. Ypsilanti, Michigan. November 12th-13th, 2011.

Aerobics and Fitness Association of America Personal Trainer Certification Workshop. Milwaukee, Wisconsin. August 13th-15th, 2010.

The 56th American College of Sports Medicine Annual Meeting. Seattle, Washington. May 26th-30th, 2009.

USA Cycling Level Two Coaching Clinic. Ypsilanti, Michigan. October 3rd-5th, 2008.

ONLINE PUBLICATIONS

Boynton, Jason R. (2020, November 18). Can heat acclimation really improve endurance performance?. CyclingTips. Retrieve from <https://cyclingtips.com/2020/11/can-heat-acclimation-really-improve-endurance-performance/>

Boynton, Jason R. (2020, May 25). Temperature doping: are there optimal conditions for indoor training?. CyclingTips. Retrieve from <https://cyclingtips.com/2020/05/temperature-doping-are-there-optimal-conditions-for-indoor-training/>

Boynton, Jason R. (2016, March 14). Mastering load 3: training load and injury- a cycling coach perspective [Blog post]. Retrieve from <http://physiosports.com.au/blog/mastering-load-3-training-load-and-injury-a-cycling-coach-perspective/>

Boynton, Jason R., (2014, December 17). Racing cyclocross in the cold part 3 [Blog post]. Retrieve from <https://www.trainingpeaks.com/blog/racing-cyclocross-in-the-cold-part-3/>

Boynton, Jason R., (2014, December 16). Racing cyclocross in the cold part 2 [Blog post]. Retrieve from <https://www.trainingpeaks.com/blog/racing-cyclocross-in-the-cold-part-2/>

Boynton, Jason R., (2014, November 28). Racing cyclocross in the cold: the basics of thermoregulation [Blog post]. Retrieve from <https://www.trainingpeaks.com/blog/racing-cyclocross-in-the-cold-the-basics-of-thermoregulation/>

Boynton, Jason R., (2014, November 13). Exercise metabolism for cyclists [Blog post]. Retrieve from <https://www.trainingpeaks.com/blog/exercise-metabolism-for-cyclists/>

Boynton, Jason R., (2013, August 27). Three steps to becoming a better cyclist [Blog post]. Retrieve from <https://trainingpeaks.com/blog/three-steps-to-becoming-a-better-cyclist/>

Boynton, Jason R., (2013, April 10). Busting the “big lungs” myth [Blog post]. Retrieve from <https://www.trainingpeaks.com/blog/busting-the-big-lungs-myth/>

Boynton, Jason R., (2013, March 12). What is your power user category? [Blog post]. Retrieve from <https://www.trainingpeaks.com/blog/what-s-your-power-user-category/>

Boynton, Jason R. (2012, September 26). Cyclist testing: an introduction to performance testing [Blog post]. Retrieve from <http://www.boyntoncoaching.com/2012/09/26/cyclist-testing-an-introduction-to-performance-testing/>

Boynton, Jason R. (2012, September 12). An introduction to cyclist testing [Blog post]. Retrieve from <http://www.boyntoncoaching.com/2012/09/12/introduction-to-cyclist-testing/>

GRANTS, AWARDS, AND SCHOLARSHIPS

Scholarships

Edith Cowan University Postgraduate Research Scholarship (International), 2015-2019

Eastern Michigan University Graduate Assistantship, 2008-2010

Grants

Standard Process Inc.

Title: Beet Shot Supplements to Improve Performance in Distance Runners, 2013

Funds provided: \$15,544

Role: study coordinator

Standard Process Inc.

Title: Beet Shot Supplements to Improve Human Performance, 2013

Funds provided: \$15,687

Role: study coordinator

Beta Beta Beta National Biological Honor Society

Undergraduate Research Grant, 2005

Funds provided: \$410

Role: undergraduate researcher

JOURNAL REVIEWER

Biology of Sport

International Journal of Sports Physiology and Performance

REFERENCES

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