

Curriculum Vitae Timothy Van Haitsma

Home Address:
850 Westmont Road
Santa Barbara, CA 93108
Phone: 616-308-6849

Westmont College
Kinesiology
955 La Paz Rd
Santa Barbara, CA 93108

Education

Doctorate of Philosophy in Exercise and Sport Science (2014)

Emphasis: Exercise Physiology

University of Utah

Dissertation topic: Ion channel gene expression as objective biomarkers of training-induced fatigue.

Advisor: Andrea T. White

Master of Science in Kinesiology (2009)

Major: Exercise Physiology

Indiana University

Thesis: The dose-response relationship of caffeine alone and combined with albuterol on pulmonary function in individuals with exercise-induced bronchoconstriction.

Advisor – Timothy D. Mickleborough

Bachelor of Science in Biology (2004)

Calvin College, Grand Rapids, MI

Undergraduate Research: Pre-clinical investigation of the efficacy of an artificial tear solution containing hydroxypropyl-guar as a gelling agent.

Teaching Experience

Westmont College: 2014-Present

KNS105 – Physiology of Exercise (4 cr) with lab

KNS110 – Cardiovascular Dynamics (3 cr)

KNS192 – Research (1-2 cr)

KNS012 – Human Physiology (4 cr) with lab

PEA032 – Fitness for Life (1 cr)

IS015 – First Year Sem: Multi-Sport Trip

PEA094 – Rock Climbing PE

Georgetown College: 2013-2014

KHS410 – Measurement and Evaluation in Kinesiology and Health Studies (3 cr) – 1 semester

KHS423 – Physiology of Exercise (3 cr) – 1 semester

KHS322 – Functional Anatomy and Biomechanics (3 cr) – 1 semester

KHS100 – Lifetime Fitness (1 cr) – 2 semesters

KHS111 – Conditioning Activities (1 cr) – 1 semester

University of Utah: 2008-2013

ESS 6350 Instructor: Exercise EKG and Stress Test (3 cr) – 1 semester

ESS 6301/7301 Instructor: Advanced Exercise Physiology Laboratory I (3 cr) – 2 semesters

ESS 6311/7311 Instructor: Advanced Exercise Physiology Laboratory II (3 cr) – 2 semesters

ESS 4301 Instructor: Exercise Physiology Laboratory (3 cr) – 9 semesters

ESSF 1043: Fitness and Jogging

ESSF 1065: Marathon Training

Associate Instructor: Indiana University: 2003-2008

E119 Lecture Instructor: Personal Fitness – 1 semester

P409 Laboratory Class: Basic Exercise Physiology – 2 semesters

E119 Lab Instructor: Personal Fitness

E219: Weight Control and Exercise

E181: Tennis

E133: Fitness and Jogging

E185: Volleyball

E135: Golf

E164: Sailing

E105: Badminton

R110: Introduction to Rock Climbing

R110: Introduction to Whitewater Kayaking

S370: Research Methods of Sociology (Guest Lecturer)

Research

My area of research is currently focused on the interplay between the mind and body. In particular, I am interested in examining the role that mental strength training and mindfulness training has in improving performance as well as in how they work to achieve those improvements. I am also still interested in the role of chronic fatigue syndrome and fibromyalgia on health and on how exercise may work to improve the health outcomes of those diseases. Finally, I am interested in the role of footwear design on the metabolic efficiency of movement, whether running or mountaineering.

Peer Reviewed Publications

Gabriano E., Swanson J., Luna V., Harris J., Shagena B., Banez N., Shaw T., Wong E., Clark J., **Van Haitsma T.A.**, (accepted – not yet published). Physiological and Psychological Differences Between Novice and Advanced Boulderers. *Journal of Kinesiology and Wellness Student Edition*

Van Haitsma T. A., Gonzalez S. P., Swider N. S., De Laura A. C., Costa D., Salinas T., & McGough S. (2019). An Examination of Short-Term Mental Conditioning or Mindfulness Training on Physiological, Psychological, and Performance Outcomes during a Cycling Task. *International Journal of Sports Science*, 9(2), 35–46.

Van Haitsma, T. A., Light, A. R., Light, K. C., Hughen, R. W., Yenchik, S., & White, A. T. (2016). Fatigue sensation and gene expression in trained cyclists following a 40 km time trial in the heat. *European journal of applied physiology*, 116(3), 541-552.

Van Haitsma TA, Light AR, Light KC, Hughen RW, White AT. A Comparison of short and long high intensity exercise on gene expression in trained cyclists. In preparation

White, A. T., Light, K. C., Bateman, L., Hughen, R. W., **Van Haitsma, T. A.**, & Light, A. R. (2015). Effect of Pregabalin on Cardiovascular Responses to Exercise and Postexercise Pain and Fatigue in Fibromyalgia: A Randomized, Double-Blind, Crossover Pilot Study. *Pain research and treatment*, 2015.

Iacob E, Tadler SC, Light KC, Weeks HR, Smith KW, White AT, Hughen RW, **Van Haitsma TA**, Bushnell LA, and Light AR. Leukocyte Gene Expression in Patients with Medication Refractory Depression before and after Treatment with ECT or Isoflurane Anesthesia: A Pilot Study. *Depress Res Treat* 2014: 582380, 2014.

Pollak KA, Swenson JD, **Van Haitsma TA**, Hughen RW, Jo D, Light KC, Schweinhardt P, Amann M, and Light AR. Exogenously Applied Muscle Metabolites Synergistically Evoke Sensations of Muscle Fatigue and Pain in Human Subjects. *Exp Physiol* 2013.

Iacob E, Light KC, Tadler SC, Weeks HR, White AT, Hughen RW, **Van Haitsma TA**, Bushnell L, and Light AR. Dysregulation of leukocyte gene expression in women with medication-refractory depression versus healthy non-depressed controls. *BMC Psychiatry* 13: 273, 2013.

Light KC, Agarwal N, Iacob E, White AT, Kinney AY, **Van Haitsma TA**, Aizad H, Hughen RW, Bateman L, and Light AR. Differing leukocyte gene expression profiles associated with fatigue in patients with prostate cancer versus chronic fatigue syndrome. *Psychoneuroendocrinology* 38: 2983-2995, 2013.

Elmer SJ, Marshall CS, McGinnis KR, **Van Haitsma TA**, and LaStayo PC. Eccentric arm cycling: physiological characteristics and potential applications with healthy populations. *Eur J Appl Physiol* 1-12, 2013.

White AT, **Van Haitsma TA**, Vener J, and Davis SL. Effect of passive whole body heating on central conduction and cortical excitability in multiple sclerosis patients and healthy controls. *J Appl Physiol* 114: 1697-1704, 2013.

Light AR, Bateman L, Jo D, Hughen RW, **Van Haitsma TA**, White AT, and Light KC. Gene expression alterations at baseline and following moderate exercise in patients with Chronic Fatigue Syndrome and Fibromyalgia Syndrome. *J Intern Med* 271: 64-81, 2012.

White AT, Light AR, Hughen RW, **Van Haitsma TA**, and Light KC. Differences in metabolite-detecting, adrenergic, and immune gene expression after moderate exercise in patients with chronic fatigue syndrome, patients with multiple sclerosis, and healthy controls. *Psychosom Med* 74: 46-54, 2012.

Van Haitsma TA, Mickleborough T, Stager JM, Koceja DM, Lindley MR, and Chapman R. Comparative effects of caffeine and albuterol on the bronchoconstrictor response to exercise in asthmatic athletes. *Int J Sports Med* 31: 231-236, 2010.

Ubels JL, Clousing DP, **Van Haitsma TA**, Hong BS, Stauffer P, Asgharian B, and Meadows D. Pre-clinical investigation of the efficacy of an artificial tear solution containing hydroxypropyl-guar as a gelling agent. *Curr Eye Res* 28: 437-444, 2004.

Published Abstracts and Presentations

Van Haitsma, T. A., Gonzalez, S. P., Swider, N. S., De Laura, A., Salinas, T., Costa, D., & McGough, S. (2018). Effects of Mental Strength and Mindfulness Training on Exercise Performance. *Medicine & Science in Sports & Exercise*, 50(5S), 326–327.

Van Haitsma TA, Light AR, Light KC, Hughen RW, White AT. Metabolite-detecting and adrenergic gene expression after 40k TT performance during ambient and heat-stressed conditions. Oral Presentation at the Annual Meeting of Experimental Biology, San Diego, CA. April 21-25, 2012.

Van Haitsma TA, Light AR, Light KC, Hughen RW, Yenchick S, White AW. Effect of 40k time trial performance during thermoneutral and heat-stressed conditions on metabolite-detecting gene expression and fatigue. Thematic Poster Presentation at the 59th Annual Meeting of the American College of Sports Medicine, San Francisco, CA. May 29-June 2, 2012.

White AT, **Van Haitsma TA**, Light AR, Light KC, Hughen RW, Yenchick S. Effect of short vs. longer duration strenuous exercise on afferent fatigue signaling. Thematic Poster Presentation at the 59th Annual Meeting of the American College of Sports Medicine, San Francisco, CA. May 29-June 2, 2012.

Van Haitsma TA, Light AR, Light KC, Hughen RW, White AT. Metabolite-detecting and adrenergic gene expression after 40k TT performance during ambient and heat-stressed conditions. Poster Presentation at the Annual Meeting of Experimental Biology, San Diego, CA. April 21-25, 2012.

Van Haitsma TA, Mahas T, Chambers J, White AT. The Effects of Repeated High Intensity Intervals on Peak Power, Mean Power, and Fatigue Index. Poster Presentation at the 58th Annual Meeting of the American College of Sports Medicine, Denver, CO. May 31st-June 4th, 2011.

Pollak KA, Light AR, Swenson J, Jo D, Hughen RW, **Van Haitsma TA**, Beilke JL, Tadler S, Light KC. Metabolites that evoke fatigue and pain sensations in human muscles. Poster presentation at the 40th Annual Meeting of the Society for Neuroscience, San Diego, CA. 2010.

Light AR, Hughen RW, White AT, Jensen BT, Michael T, Larson C, **Van Haitsma TA**, Light KC. Chronic Fatigue Syndrome (CFS) Patients but not Control Subjects increase mRNA for

Sensory, Adrenergic, and Immune Genes in Leukocytes following Moderate Exercise. Poster Presentation at the 39th Annual Meeting of the Society for Neuroscience, Chicago, IL. 2009.

Van Haitsma TA, Mickleborough TD, Lindley MR, Koceja D, Stager JM. Comparative and Synergistic Effects of Caffeine and Albuterol on Exercise-Induced Asthma. Poster Presentation at the 56th Annual Meeting of the American College of Sports Medicine, Seattle, WA. May 27th-30th, 2009. Abstract Published in *Medicine & Science in Sports & Exercise*, 41 (5).

Van Haitsma TA, Mickleborough TD, Lindley MR, Stickford JL, Howden C. Repeatability of the DeVilbiss Respiratory Muscle Trainer (RT2). Thematic Poster Presentation at the 54th Annual Meeting of the American College of Sports Medicine, New Orleans, LA. May 30th- June 2nd, 2007. Abstract Published in *Medicine & Science in Sports & Exercise*, 39 (5).

Stickford JL, Mickleborough TD, Morgan NJ, **Van Haitsma T**. Efficacy of Three Weeks of Inspiratory Muscle Training on Pulmonary and Inspiratory Muscle Function. Thematic Poster Presentation at the 54th Annual Meeting of the American College of Sports Medicine, New Orleans, LA. May 30th- June 2nd, 2007. Abstract Published in *Medicine & Science in Sports & Exercise*, 39 (5).

Turner LA, Lindley MR, **Van Haitsma TA**, Koceja D, Mickleborough TD. Sample Size Estimates: Reporting Power and Effect Size. An Example using Respiratory Data. Poster Presentation at the 53th Annual Meeting of the American College of Sports Medicine, Denver, CO. May 30th-June 2nd, 2006. Abstract published in *Medicine & Science in Sports & Exercise*, 38 (5).

Lindley MR, Turner LA, **Van Haitsma TA**, Koceja D, Mickleborough TD. Reliability Estimates of Lung Volumes During Sub-Maximal Exercise Using Absolute and Relative Reliability Indicators. Poster Presentation at the 53th Annual Meeting of the American College of Sports Medicine, Denver, CO. May 30th-June 2nd, 2006. Abstract published in *Medicine & Science in Sports & Exercise*, 38 (5).

Stickford JL, Lindley MR, Turner LA, **Van Haitsma TA**, Koceja D, Mickleborough TD. Test to the Limit of Tolerance: Repeatability of Performance. Poster Presentation at the 53th Annual Meeting of the American College of Sports Medicine, Denver, CO. May 30th-June 2nd, 2006. Abstract published in *Medicine & Science in Sports & Exercise*, 38 (5).

Non-Academic Publications/Presentations/Research

“The role of anatomy and physiology in gait and footwear”, invited guest lecture to the senior HokaOneOne footwear design team, 15 August 2019.

Shoe study #3 – The comparison of differing amounts of ankle dorsiflexion and plantarflexion on metabolic efficiency of ladder climbing and time to exhaustion of single leg standing. In collaboration with Heeluxe and The North Face. Spring 2019.

Shoe Study #2 – Comparison of the metabolic efficiency of two Skechers prototype shoes with Nike 4% and Adidas Adiboost shoes. In collaboration with Heeluxe and Skechers. Spring 2018.

Shoe study #1 – Metabolic efficiency of three shoes with different stiffnesses. In collaboration with Heeluxe and Skechers. Summer 2017.

“Exercise-Induced Fatigue – What running does to the body,” The Athletic Experience Podcast, hosted by Tom FitzSimons, 5 December 2016.

Undergraduate Mentoring/Presentations

Kajitani SH, Gabriano EE, Gonzalez SP, **Van Haitsma TA**. The effects of 21 days of mental strength training on performance and physiological variables. Poster Presentation at the Southwest Meeting of the American College of Sports Medicine, Costa Mesa, CA. October 26-27, 2018.

Gabriano EE, Harris J, Swanson J, Shagena B, Luna V, Banez N, Shaw T, Wong E, Clark J, **Van Haitsma TA**. Physiological differences between advanced and novice climbers. Poster Presentation at the Southwest Meeting of the American College of Sports Medicine, Costa Mesa, CA. October 26-27, 2018.

Kemper KB, Striff SM, Joyner BM, Bower PW, **Van Haitsma TA**. Repeatability of maximum voluntary contraction and potentiated twitch following a time trial to fatigue. Poster Presentation at the Southwest Meeting of the American College of Sports Medicine, Costa Mesa, CA. October 16-17, 2015

Joyner BM, Bower PW, Kemper KB, Striff SM, **Van Haitsma TA**. The repeatability of the time trial to fatigue at two intensities. Poster Presentation at the Southwest Meeting of the American College of Sports Medicine, Costa Mesa, CA. October 16-17, 2015

Yenchik S, **Van Haitsma TA**, White AW, Jacques KM. Effects of Increasing Dosages of Caffeine on Predicted VO₂max. Poster Presentation at the 59th Annual Meeting of the American College of Sports Medicine, San Francisco, CA. May 29-June 2, 2012.

Mahas T, **Van Haitsma TA**, Chambers J, White AT. The Effects of Repeated High Intensity Intervals on Peak Power, Mean Power, and Fatigue Index. Poster Presentation at the National Conference on Undergraduate Research 2011, Ithaca, NY. March 31-April 2, 2011.

Grants Obtained/Awards Won

Westmont College Professional Development Grant: Awarded Fall 2016.

Westmont College Professional Development Grant: Awarded Fall 2014.

University of Utah Funding Incentive Seed Grant Program: Awarded May 2010 for the funding of \$32,000. Ion channel gene expression as objective biomarkers of training-induced fatigue.

University of Utah, Department of Exercise and Sports Science – Outstanding Graduate Student in Exercise Physiology: Awarded April, 2011.

Peak Academy, University of Utah: Awarded January 2010 for the funding of \$1500. The effects of repeated high intensity intervals on peak and mean sprint power.

School of HPER, Indiana University Research Grant in Aid: Awarded April 2006 for the funding of \$800. The dose-response relationship of caffeine alone and combined with albuterol on pulmonary function in individuals with exercise-induced bronchoconstriction.

School of HPER, Indiana University Travel Grant in Aid: Awarded April 2007 for the funding of \$200.

School of HPER, Indiana University Travel Grant in Aid: Awarded April 2006 for the funding of \$400.

Westmont College Institutional Service

Committees

Institutional Review Board Committee – 2016-Present, Chair 2018-present
Student Life Committee – 2015-2016

Departmental Service

Successful candidate search, 2018-2019, Adam Goodworth, Ogechi Nwaokeme
General Education Review – Fit for Life – 2015-2016
Program Learning Outcome Review – 2016

Service

Faculty representative – Ultimate Frisbee club, Adventure club – 2017-present
Panelist for Praxis workshop – Rising Tide of Student Anxiety – Spring 2019
Spring Sing faculty participant (Clark Men) – Spring 2018
Interviewer for Augustinian scholarships – 2016, 2017
Invited presenter, Faculty forum, pre-tenure scholarship panel – October 2017
Chaperone – Spring formal – Spring 2016
Panelist for Gaede Institute Reel Talk, “Gattaca” – November 2016
Panelist for Augustinian scholars talk on Stress, November 2016
Hosted Lab visits – STEM Preview days, October 2016, 2017, 2018
Faculty leader for Scientific Adventures in Santa Barbara STEM Preview Days, October 2016
Hosted Orientation Small Group Dessert, September 2016
Club Advisor – Ultimate Frisbee/Adventure Club - 2016
Faculty Member for Multi-Sport Adventure Trip, August 2015 and 2016

Chaperone for Spring Formal, April 2016

Interviewer for Augustinian Scholars, February 2016

Hosted International Student Services and GISA Dessert, December 2015

Faculty Assistant for Inoculum, August 2015