

August 15, 2019

VIPA BERNHARDT, PhD OLY

CURRICULUM VITAE

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PROFESSIONAL APPOINTMENTS

- Fall 2014 – present **Assistant Professor**
Texas A&M University-Commerce
Department of Health and Human Performance
Coordinator B.S. Kinesiology & Sports Studies - Human Performance
Director of Human Performance Laboratory
- 2017 – present **Associate Scientist (honorary)**
Institute for Exercise and Environmental Medicine, Texas Health Presbyterian
Hospital Dallas and University of Texas Southwestern Medical Center, Dallas, TX

POSTDOCTORAL TRAINING

- 2011 – 2014 **Postdoctoral Research Fellow**
Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital
Dallas and University of Texas Southwestern Medical Center, Dallas, TX
Mentor: Tony G. Babb, Ph.D.
- 2010 – 2011 **Postdoctoral Associate**
College of Veterinary Medicine, University of Florida, Gainesville, FL

EDUCATION

- 2006 – 2010 **Ph.D. in Biomedical Sciences (Concentration: Physiology)**
University of Florida, Gainesville, FL
Mentor: Paul W. Davenport, Ph.D.
Dissertation: The Effects of Respiratory Muscle Training on Strength and Performance in
Collegiate Swimmers and on Thalamic Gene Expression in a Rat Model
- 2002 – 2006 **B.S. in Neurobiological Sciences**
University of Florida, Gainesville, FL
Summa cum laude
- 2002 – 2006 **B.A. in Music Performance (Emphasis: Piano)**
University of Florida, Gainesville, FL
Summa cum laude
- 2002 **Abitur** (German certificate of general qualification for university entrance)
Modellschule Obersberg
Bad Hersfeld, Germany

TEACHING EXPERIENCE

Texas A&M University-Commerce, Instructor of Record:

Undergraduate		
HHPK 250	Physical Conditioning I: Individual and Dual Sports	Fall 2016, Spring 2017
HHPK 450 HHPK 450L	Exercise Physiology and Laboratory	Fall 2014, Spring 2015, Summer 2015, Fall 2015, Spring 2016, Summer 2016, Fall 2016, Spring 2017, Summer 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019
HHPK 451	Topics in Exercise Science	Spring 2015, Fall 2015, Spring 2016, Spring 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019
HHPK 417	Measurement and Evaluation	Fall 2014
HHPK 490/491	Honor's Thesis	Spring 2015, Spring 2016
FRA 105	Weight Training	Fall 2017
Graduate		
HHPK 530	Sports Conditioning	Summer 2015, Fall 2017, Spring 2019
HHPK 532	Cardiopulmonary Physiology	Spring 2016, Spring 2018
HHPK 545	Advanced Exercise Physiology	Fall 2014, Fall 2016, Fall 2018
HHPK 597	Individual Research in Human Performance	Spring 2015
HHPK 664	Fitness Testing and Exercise Prescription	Fall 2015, Fall 2017, Fall 2019
HHPK 518	Thesis	Spring 2015, Summer 2015, Fall 2015, Spring 2016, Summer 2016, Fall 2016, Spring 2017, Summer 2017, Fall 2017, Spring 2018, Summer 2018, Fall 2018, Spring 2019, Summer 2019, Fall 2019

Texas A&M University-Commerce, Graduate thesis and honor's thesis committees:

Graduate thesis:

- Nicole Varone (chair): Changes in Body Composition and Aerobic Fitness Levels of College Students from Freshman to Senior Year. Expected Graduation December 2020.
 - Poster presentation at TAMUC Annual Research Symposium, Commerce, TX, April 2019
 - Oral presentation, Student Research Development Award, at Texas ACSM, Fort Worth, TX, Feb 2019.
- Guadalupe Herrera (chair): Bilateral Asymmetry and Dynamic Balance in Collegiate Athletes. Expected Graduation December 2019.
 - Poster presentation at ACSM, Orlando, FL. 2019.

- *Herrera GG and Bernhardt V. Bilateral lean mass and dynamic balance asymmetry in collegiate athletes. ACSM, Orlando, FL. 2019.
- Poster presentation at Federation Research Symposium, Denton, TX, April 2019
- Poster presentation at TAMUC Annual Research Symposium, Commerce, TX, April 2019
- Poster presentation at Texas ACSM, Fort Worth, TX, Feb 2019.
 - Herrera GG and Bernhardt V. Bilateral Lean Mass and Dynamic Balance Asymmetry in Collegiate Athletes. *International Journal of Exercise Science: Conference Proceedings*. 2019; 2(11): Article 49.
- 2nd place, poster presentation at TAMUS Pathways Annual Symposium, West Texas A&M University, Canyon, TX, Nov 2018
- Poster presentation at TAMUC Annual Research Symposium, Commerce, TX, April 2018
- Ai Ogata (chair): Risk Factors of Medial Tibial Stress Syndrome in Division II Track and Field/Cross-Country Athletes. Graduation May 2019.
- Tanner Crutcher (chair): Thermoregulatory and Cardiovascular Response of Structural Firefighters during Fire Suppression Operations. Expected Graduation May 2019.
 - Poster presentation at TAMUC Annual Research Symposium, Commerce, TX, April 2018
- Keith Crabtree (chair): Impact of the Ingestion of Dark Chocolate on the Cardiovascular Fitness of Moderately Active Individuals. Graduation August 2017.
 - Poster presentation at TAMUC Annual Research Symposium, Commerce, TX, April 2017
 - TAMUC Summer Thesis Fellowship
- Yangmi Kang (chair): Muscle Strength and Flexibility Differences between High and Low Landing Error Scores in Youth Female Athletes. Graduation August 2017.
 - TAMUC Summer Thesis Fellowship
- Jade Bell (committee member): Athlete Identity, Team Motivational Climate and Career Exploration and Engagement. Graduation August 2017.
 - Poster presentation at TAMUC Annual Research Symposium, Commerce, TX, April 2017
- Masoud Moghaddam (chair): The Effects of Ultra Short High Intensity Interval Functional-equipment Training on Anaerobic Capacity and Body Composition of Healthy College Students. Graduation August 2016.
 - Poster presentation at American College of Sports Medicine Annual Conference, Denver, CO, May 2016.
- Atsushi Yamaguchi (chair): The Effect of Warm-up Using Alternate-leg Lateral Bounding on 18.3-m Shuttle-run Performance in Collegiate Football Players. Graduation August 2016.
- Christopher Sataray (chair): The Effects of High Intensity Interval Training with Functional Training Equipment on VO₂max and Peak Power. Graduation May 2016.
 - Sataray, C. and **Bernhardt V.** The effects of high intensity interval training, in conjunction with functional training equipment, on VO₂max and peak power in recreationally trained individuals. *International Journal of Exercise Science: Conference Proceedings*. 2016; 2(8): Article 47.
 - American Kinesiology Association National Masters Scholar Award 2016

Undergraduate honor's thesis:

- Tiffany Jordan Barnes (chair): Fatigue reduction and strength improvement in rock climbers
- Logan Talley (committee member): The lack of knowledge in the prevalence of stimulating neonatal intensive care unit (NICU) patients and the lifelong effect of the stimulation. (defended on 5/3/2018)
- Sarah Geller (committee member): The effect of positive facial expression on false face recognition: do positive faces seem more familiar? (defended on 4/19/2018)
- Laura Heron (committee member): Athlete and team responses to injury (defended on 4/14/2016)
- Collin Rodgers (committee member): The effects of various intensities of active recovery following cryotherapy as a post-game therapeutic modality for baseball pitchers (defended on 11/10/2015)

- Kyle Hackney (chair): Sprinting toward health: A review of high intensity interval training in clinical and recreational populations (defended on 9/30/2015)

McNair Scholar Program, faculty mentor:

- Omar Ramirez, 2019: Can Fitbit competitions increase physical activity in college students?
- Fritzi Quinones, 2017-18: Proportion of physically active individuals at risk for lower extremity injury determined by Y-Balance Test
 - Oral presentation at TAMUC McNair Showcase, Commerce, TX, Oct 2017
 - Poster presentation at TAMUS Pathways Annual Symposium, Tarleton State University, Stephenville, TX, Nov 2017
 - Poster presentation at TAMUC Annual Research Symposium, Commerce, TX, April 2018

PEER-REVIEWED PUBLICATIONS

- 1) **Bernhardt V**, Bhammar DM, Marines-Price R, Babb TG. Weight loss reduces dyspnea on exertion and unpleasantness of dyspnea in obese men. *Respiratory Physiology and Neurobiology*. 261:55-61. 2019.
- 2) Marines-Price R, **Bernhardt V**, Bhammar DM, Babb TG. Sensory and affective dimensions of dyspnea on exertion in young obese women. *Respiratory Physiology and Neurobiology*. 260:131-136. 2019.
- 3) Bell JM, Prewitt S, **Bernhardt V**, Culpepper D. The relationship between athlete identity and career exploration and engagement in Division II athletes. *International Journal of Exercise Science*. 11(5):493-502. 2018.
- 4) Bhammar DM, Stickford JL, **Bernhardt V**, Babb TG. Verification of maximal oxygen uptake in obese and nonobese children. *Medicine & Science in Sports & Exercise*. 49(4):702-710. 2017.
- 5) **Bernhardt V**, Mitchell GS, Lee WY, Babb TG. Short-Term modulation of the ventilatory response to exercise is preserved in obstructive sleep apnea. *Respiratory Physiology and Neurobiology*. 236:42-50. 2017.
- 6) **Bernhardt V**, Babb TG. Exertional dyspnoea in obesity. *European Respiratory Review*. 142:487-495. 2016.
- 7) **Bernhardt V**, Stickford JL, Bhammar DM, Babb TG. Aerobic exercise training reduces dyspnea on exertion in obese women. *Respiratory Physiology and Neurobiology*. 221:64-70. 2016.
- 8) Bhammar D, Stickford J, **Bernhardt V**, Babb TG. Effect of weight loss on operational lung volumes and oxygen cost of breathing in obese women. *International Journal of Obesity*. 40:998-1004. 2016.
- 9) **Bernhardt V**, Babb TG. Weight loss reduces dyspnea on exertion in obese women. *Respiratory Physiology and Neurobiology*. 204:86-92. 2014.
- 10) **Bernhardt V**, Spencer MD, Babb TG. Pulmonary function in obese women: Importance of reference equations and racial background. *Journal of Qinghai Medical College*. 35:73-81. 2014.
- 11) Spencer MD, **Bernhardt V**, Haller SF, Locke KW, Babb TG. Abdominal volumes in nonobese and obese women and men. *Journal of Qinghai Medical College*. 35:145-152. 2014.
- 12) **Bernhardt V**, Babb TG. Respiratory symptom perception differs in obese women with strong or mild breathlessness during constant-load exercise. *Chest*. 2014; 145(2):1-9.
- 13) **Bernhardt V**, Wood HE, Moran RB, Babb TG. Dyspnea on exertion in obese men. *Respiratory Physiology and Neurobiology*. 185(2):241-8. 2013.
- 14) **Bernhardt V**, Lorenzo S, Babb TG, Zavorsky GS. Corrected end-tidal PCO₂ accurately estimates arterial PCO₂ at rest and during exercise in morbidly obese adults. *Chest*. 143(2):471-7. 2013.
- 15) **Bernhardt V**, Hotchkiss MT, Garcia-Reyero N, Denslow N, Davenport PW. Tracheal occlusion conditioning in conscious rats modulates gene expression profile of medial thalamus. *Frontiers in Respiratory Physiology*. 2:24. 2011.
- 16) **Bernhardt V**, Garcia-Reyero N, Vovk A, Denslow N, Davenport PW. Tracheal Occlusion Modulates The Gene Expression Profile Of The Medial Thalamus In Anesthetized Rats. *Journal of Applied Physiology*. 111(1):117-24. 2011.

INVITED SPEAKER AT CONFERENCES

- 1) “Cardiopulmonary exercise testing in obesity.” International Conference on Respiratory Pathophysiology, Sleep and Breathing, Rome, Italy. June, 2016.
- 2) “Performance of obese patients during exercise.” American College of Chest Physicians (CHEST) international meeting. Los Angeles, CA. October 2016.

SELECTED ABSTRACTS PRESENTED AT CONFERENCES (First-author only)

Count: 47

First-author: 22

ACSM – American College of Sports Medicine (MSSE - Medicine & Science in Sports & Exercise)

ATS – American Thoracic Society (ARJCCM – American Journal of Respiratory and Critical Care Medicine)

EB – Experimental Biology (FASEB J – Journal of the Federation of American Societies for Experimental Biology)

- 1) **Bernhardt V**, Bhammar DM, Marines-Price R, Babb TG. Weight loss decreases dyspnea on exertion and unpleasantness in obese adults. *ACSM*, Orlando, FL. 2019.
- 2) **Bernhardt V**, Bhammar DM, Marines-Price R, Babb TG. Work of breathing in obese men with and without dyspnea on exertion. *EB*, San Diego, CA. *FASEB J*, 32(1_supplement):913.10, 2018.
- 3) **Bernhardt V**, Bhammar DM, Marines-Price R, Babb TG. Cardiorespiratory fitness of otherwise healthy obese women. *ACSM*, Minneapolis, MN. *MSSE*, 50(5S):406, 2018.
- 4) **Bernhardt V**, Bhammar DM, Marines-Price R, Babb TG. Weight loss improves dyspnea on exertion in obese men. *ATS*, San Diego, CA. *ARJCCM*, 197:A4340, 2018.
- 5) **Bernhardt V**, Marines-Price R, Weinstein K, Walker-Williams S, Tomlinson AR, Babb TG. Dyspnea on exertion in nonobese and obese patients. *Texas Health Presbyterian Hospital Dallas Research & Evidence-Based Practice Poster Fair*. Dallas, TX. September 2017.
- 6) **Bernhardt V**, Marines-Price R, Weinstein K, Walker-Williams S, Tomlinson AR, Babb TG. Dyspnea on exertion in nonobese and obese patients. *ACSM*, Denver, CO. *MSSE*, 49(5S):326, 2017.
- 7) **Bernhardt V**, Bassett JT, Moran RB, Marines-Price R, Mitchell GS, Lee WY, Babb TG. Short-term modulation of the ventilatory response to exercise is preserved in obstructive sleep apnea. *EB*, San Diego, CA. *FASEB J*, 30:1261.15, 2016.
- 8) **Bernhardt V**, Bhammar DM, Stickford JS, Bassett JT, Marines-Price R, Pineda JN, Genovese J, Babb TG. Aerobic exercise training without weight loss improves dyspnea on exertion in obese women. *ATS*, Denver, CO. *ARJCCM*, 191:A1732, 2015.
- 9) **Bernhardt V**, Moran RB, Bassett JT, Lorenzo S, Pineda JN, Genovese J, Babb TG. Weight loss reduces dyspnea on exertion in obese women independent of improvement in respiratory function. *ATS*, San Diego, CA. *ARJCCM*, 189:A5386, 2014.
- 10) **Bernhardt V**, Moran RB, Bassett JT, Lorenzo S, Pineda JN, Genovese J, Babb TG. Breathlessness, but not oxygen cost of breathing, is higher during voluntary hyperpnea in obese women with vs without dyspnea on exertion. *ATS*, San Diego, CA. *ARJCCM*, 189: A5038, 2014.
- 11) **Bernhardt V**, Bhathia S, Moran RB, Bassett JT, Lorenzo S, Pineda JN, Genovese J, Babb TG. Repeatability of Rating of Perceived Breathlessness during Exercise in Obese Women. *ACSM*, Orlando, FL. *MSSE*, 46(5): S529, 2014.
- 12) **Bernhardt V**, Lorenzo S, Moran RB, Bassett JT, Haller SF, Pineda JN, Babb TG. Oxygen cost of breathing does not differ between women with vs. without dyspnea on exertion. *ACSM*, Indianapolis, IN. *MSSE*, 45(5S):292, 2013.

- 13) **Bernhardt V**, Lorenzo S, Moran RB, Basset JT, Haller SF, Pineda JN, Babb TG. Breathlessness descriptors during constant load cycling in obese women with or without dyspnea on exertion. *EB*, Boston, MS. *FASEB J*, 27:718.3, 2013.
- 14) **Bernhardt V**, Lorenzo S, Moran RB, Basset JT, Haller SF, Pineda JN, Babb TG. Breathlessness descriptors during constant load cycling in obese women with or without dyspnea on exertion. *International Society for the Advancement of Respiratory Psychophysiology*, Orlando, FL. 2012.
- 15) **Bernhardt V**, Straub AM, Lavin KM, Lorenzo S, Babb TG, Zavorsky GS. Arterial PCO₂ (PaCO₂) can be accurately estimated using end-tidal PCO₂ (P_{ET}CO₂) during rest and exercise in obese subjects. *EB*, San Diego, CA. *FASEB J*, 26:1146.4, 2012.
- 16) **Bernhardt V**, Haller SF, Moran RB, Wood HE, Babb TG. Breathlessness descriptors during constant load cycling in obese men with and without dyspnea on exertion. *EB*, San Diego, CA. *FASEB J*, 26:704.25, 2012.
- 17) **Bernhardt V**, Nedrud SM, Hotchkiss MT, Davenport PW. The Effects of Expiratory Muscle Strength Training on Subjective Ratings and Performance in Elite Swimmers. *International Society for the Advancement of Respiratory Psychophysiology*, Athens, Greece. 2011.
- 18) **Bernhardt V**, Nedrud SM, Davenport PW. The Effects of Expiratory Muscle Strength Training (EMST) in Collegiate Swimmers. *EB*, Washington, DC. *FASEB J*, 25:1057.8, 2011.
- 19) **Bernhardt V**, Nedrud SM, Troy G, Davenport PW. The Effects of Expiratory Muscle Strength Training in Elite College Swimmers. *EB*, Anaheim, CA. *FASEB J*, 24:618.4, 2010.
- 20) **Bernhardt V**, Hotchkiss M, Garcia-Reyero N, Denslow N, Davenport PW. Chronic Tracheal Occlusions Modulate Gene Expression in the Medial Thalamus. *EB*, Anaheim, CA. *FASEB J*, 24:1021.7, 2010.
- 21) **Bernhardt V**, Nedrud SM, Troy G, Davenport PW. The Effects of Expiratory Muscle Strength Training in Elite College Swimmers. *University of Florida Graduate Student Council Interdisciplinary Conference*, Gainesville, FL. 2010.
- 22) **Bernhardt V**, Denslow N, Liu L, Pate K, Vovk A, Davenport PW. Tracheal Occlusion Modulation of Gene Expression in the Medial Thalamus. *ATS*, Toronto, Canada. *ARJCCM*, 177. 2008.

PEER REVIEWER

- Respiratory Physiology and Neurobiology
- Respiratory Care
- Behavioral Therapy
- Frontiers in Psychology
- Journal of Sport and Health Science
- American Journal of Physiology-Regulatory, Integrative and Comparative Physiology
- Research Foundation – Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen)
- Scientific Reports

SERVICE

Texas A&M University-Commerce: Department, College, and University Committees

- ACSM Exercise is Medicine-on Campus, supervisor/advisor (2019 – present)
- Faculty Senate, HHP representative (2018 – present)
- Institutional Review Board, member (2017 – present)
- Faculty Development Grants Committee, member (2017 – present)
- Honors College Committee, member (2015 – present)
- Faculty Senate Academic Practices Committee, member (2016 – present)
- Faculty Senate Awards Committee, member (2015 – 2019)

- College Curriculum Committee, member (2014 – present)
- QEP/Global Fellow (2015 – present)
- Institutional Effectiveness Coordinator for B.S. Kinesiology & Sports Studies (2014 – present)
- HHP Kinesiology & Sports Studies-Human Performance committee, chair (2014 – present)
- HHP Graduate Program committee, member (2014 – present)
- HHP strategic planning committee, member (2014 – present)
- HHP scholarship committee, member (2015 – present)
- HHP Academy for Health Potential committee, member (2018 – present)

2014, 15, 16, 17 Annual Huffines Discussion

- Coordinate and advertise broadcasting of the event in conjunction with Texas A&M

2017 Faculty Judge at TAMUS Pathways Annual Symposium, Tarleton State University, Stephenville, TX.

2019 Texas Chapter of the American College of Sports Medicine in Fort Worth, TX

- Travel with 2 graduate student and 5 undergraduate students
- Oral presentation by master's student Nicole Varone
- Poster presentation by master's student Guadalupe Herrera
- Undergraduates competed in Annual Student Bowl Competition
- Major of the Year: Carly Prim
- Awards Committee member

2018 Texas Chapter of the American College of Sports Medicine in Austin, TX

- Travel with 1 graduate student and 3 undergraduate students
- Undergraduates competed in Annual Student Bowl Competition
- Major of the Year: Nicole Varone

2017 Texas Chapter of the American College of Sports Medicine in Waco, TX

- Travel with 3 graduate students and 3 undergraduate students
- Undergraduates competed in Annual Student Bowl Competition
- Major of the Year: Jonathan Marshall
- Awards Committee member

2016 Texas Chapter of the American College of Sports Medicine in College Station, TX

- Travel with 4 graduate students and 3 undergraduate students
- Poster presentation by master's student Christopher Sataray
- Undergraduates competed in Annual Student Bowl Competition
- Major of the Year: William Holcomb

2015 Texas Chapter of the American College of Sports Medicine in Austin, TX

- Travel with 3 graduate students and 5 undergraduate students
- Undergraduates competed in Annual Student Bowl Competition
- Major of the Year: Kyle Hackney

PROFESSIONAL MEMBERSHIPS

2007 – present American Physiological Society

2013 – present American College of Sports Medicine

2014 – present American Thoracic Society

2015 – present Texas Chapter of the American College of Sports Medicine

2015 – present National Association for Kinesiology in Higher Education

HONORS & AWARDS

ACADEMICS

- 2018 TAMUC Phi Pi Delta “Lion Heart” Award
- 2017 TAMUC Junior Faculty Research Award
- 2015 TAMUC Global Fellow
- 2013 Postdoctoral Certificate in Research, University of Texas Southwestern
- 2008, 2010 UF International Center, Certificate of Outstanding Academic Achievement
- 2005 and 2006 SEC Women’s Scholar Athlete of the Year
- 2005 *ESPN The Magazine* Academic All-America 2nd Team
- 2005 Outstanding International Student Award (College of Fine Arts)
- 2003-06 Academic All-SEC Honor Roll Recipient
- 2003 and 2006 Academic NCAA First Team All-American

ATHLETICS

(SWIMMING)

- 5-time SEC Champion 2004-06
- 19-time All-American 2003-06
- 2006 University of Florida Most Valuable Swimmer
- 2005 World University Games in Izmir, Turkey (4th, 5th, 7th, 8th, 10th)
- **2004 Summer Olympic Games in Athens, Greece (13th place)**
- 2003 World Championships in Barcelona, Spain (9th, 14th place)
- 2003 Tracy Caulkins Outstanding Freshman Award
- 2000 European Championships in Valencia, Spain (7th places)

(UNDERWATER HOCKEY)

- 2013 World Championship, Women’s Elite Division, Eger, Hungary (6th place)
- 2012 America’s Cup, Women’s Elite Division, Milwaukee, WI (2nd place)
- 2011 National Championships, Los Angeles, CA (2nd place)
- 2010 National Championships, Gainesville, FL (1st place)

CERTIFICATIONS

- CPR/AED for Professional Rescuers, American Red Cross
- Olympian, World Olympians Association
- EastTex Community Emergency Response Team

11/2020