Brenna R. Hill, PhD, CSCS

Curriculum Vitae

**BIOGRAPHICAL**

University Address

TL103

Science, Engineering and Technology

Penn State Harrisburg

Middletown, Pa 17057

Email: bre122@psu.edu

**EDUCATION**

2013 Ph.D. Physiology

 Intercollege Graduate Degree Program

 The Huck Institutes of Life Sciences

Pennsylvania State University, University Park, PA 16802

2007 M.Ed. Clinical Exercise Physiology

 Department of Kinesiology

Temple University, Philadelphia, PA 19122

2004 B.S. Biology (Concentration: Health Sciences)

 Department of Biology

Shippensburg University, Shippensburg, PA 17257

**PROFESSIONAL TEACHING EXPERIENCE**

F19 – pr. Assistant Teaching Science, Engineer and Technology

 Professor Penn State Harrisburg

 Middletown, Pa 17057

F17 – Sp19 Senior Lecturer II Department of Biological Sciences

 (UTD Promotion) The University of Texas at Dallas

 Richardson, TX 75080

Su15 – Su19 Associate Faculty Biology Department

 Collin College

 McKinney, TX 75071

F14 – Sp17 Senior Lecturer Department of Biological Sciences

 (Full time) The University of Texas at Dallas

 Richardson, TX 75080

Spring – Su 2014 Lecturer II Department of Molecular and Cell Biology

 The University of Texas at Dallas

 Richardson, TX 75080

Summer 2013 Co-Instructor Bio 141 (3cr): Introductory Physiology

Department of Biology

 The Pennsylvania State University

 University Park, PA 16802

Spring 2013 Senior Graduate Bio 129 (2cr): Mammalian Anatomy

Teaching Assistant Department of Biology

The Pennsylvania State University

 University Park, PA 16802

Summer 2012 Co-Instructor Kines 197A (3cr): Biophysical Basis of Kinesiology

Department of Kinesiology

 The Pennsylvania State University

 University Park, PA 16802

Spring 2012 Supervised Teaching Kines 602: Supervised College Teaching

Instructor Kines 424 (3cr): Women in Sport

 Supervisor: Dr. Nancy Williams

Department of Kinesiology

 The Pennsylvania State University

 University Park, PA 16802

Spring 2012 Graduate Teaching Bio 129 (2cr): Mammalian Anatomy

Assistant Department of Biology

The Pennsylvania State University

 University Park, PA 16802

Spring 2011 Graduate Teaching Bio 473 (2cr): **Laboratory in Mammalian Physiology**

Assistant Department of Biology

The Pennsylvania State University

 University Park, PA 16802

Fall 2010-2012 Graduate Teaching Bio 142 (1cr): Physiology Laboratory

Assistant Department of Biology

The Pennsylvania State University

 University Park, PA 16802

2006-2007 Graduate Teaching Kines 203: Exercise Physiology Laboratory

Assistant Department of Kinesiology

Temple University

Philadelphia, PA 19122

2005-2007 Graduate Teaching Kines 010: Weight Training

Assistant Department of Kinesiology

Temple University

Philadelphia, PA 19122

2005-2007 Graduate Teaching Kines 011: Aerobic Fitness & Dance

Assistant Department of Kinesiology

Temple University

Philadelphia, PA 19122

**COURSES TAUGHT**

**University of Texas at Dallas (2014 – 2019)**

BIOL 2281 Introductory Biology Laboratory (w/ lecture)

BIOL 3455 Anatomy and Physiology I laboratory

BIOL 3456 Anatomy and Physiology II laboratory

BIOL 3370 Exercise Physiology

BIOL 3V96 Undergraduate Research in Molecular and Cell Biology (Green Fellowship Thesis Mentor)

BIOL 4V95/4V01, BIOL3357 Mammalian Physiology (w/ lab)

BIOL 4390 Senior Readings in Molecular and Cell Biology – Advanced Writing

BIOL 4399 Senior Readings in Molecular and Cell Biology – Thesis/Advanced Writing

 Senior Honors in Biomedical Engineering – Thesis (Green Fellowship Thesis Mentor)

BIOL 4V99 Senior Honor’s Research in Molecular and Cell Biology

**Collin College (2015 - 2019)**

BIOL 2401 Anatomy and Physiology I (w/ lab)

BIOL 2402 Anatomy and Physiology II (w/ lab)

BIOL 2404 (ONLINE) Basic Anatomy and Physiology (w/ lab)

**Penn State University (2009-2013)**

 Biol 141 Introductory Physiology (co-instructor)

Biol 142 Laboratory in Mammalian Physiology

 Biol 129 Anatomy Laboratory

 Biol 473 Mammalian Physiology Laboratory

 Kines 197A Biophysical Basis of Kinesiology (co-instructor)

**Temple University (2005-2007)**

 Kines 010 Weight Training (transitioned to Kines 019)

 Kines 011 Aerobic Fitness and Dance

 Kines 203 Exercise Science Laboratory

**PRESENTATIONS**

**Invited/Guest Lectures:**

Bio 129: The Circulatory System and Structure of Arteries, Veins and Capillaries 4/2/2013

Bio 177: Biology of Sex

 Functional Hypothalamic Amenorrhea 10/8 – 10/10/2012

Bio 141: Introductory Physiology

 The Cardiac Conduction System and Electrocardiography 10/5/2012

Kines 197A: Biophysical Basis of Kinesiology

Physiological Capacity and Performance Across the Lifespan 4/21/2012

Kines 197A: Biophysical Basis of Kinesiology

Physiological Adaptations to Resistance Training 4/19/2012

Kines 424: Women and Sport

Female Athlete Triad: Energy Availability Spring 2012

Kines 424: Women and Sport

 Female Athlete Triad: Menstrual Disturbances Spring 2012

Kines 424: Women and Sport

Female Athlete Triad: Osteoporosis Spring 2012

Noll Seminar (Kines 597A) Guest Speaker (50 minute talk)11/11/2011

Kines 454: Women and Sport

 Managing a Wellness Center Fall 2009/Spring 2011

**HONORS AND AWARDS**

Regents’ Outstanding Teaching Award (ROTA) Nominee (UT Dallas) 2018

President’s Teaching Excellence Award Nominee (UT Dallas) 2018

Harold F. Martin Graduate Assistant Outstanding Teaching Award Recipient (PSU) 2013

Harold F. Martin Graduate Assistant Outstanding Teaching Award Nominee (PSU) 2012

Gail E. Butterfield Nutrition Travel Award Winner (PSU) 2012

Division II Women’s Softball Academic All-American (SU) 2004

Division II Women’s Collegiate Softball Athletic All-American (SU) 2004

Shippensburg University Scholarly Athlete Award 2004

PSAC Scholar Athlete, Shippensburg University 2001 - 2004

Female Athlete of the Year, Williamsport High School, PA 2000

**CERTIFICATIONS**

The Schreyer Institute for Teaching Excellence (HI ED 546):

The Penn State Course in College Teaching Certificate Spring 2011

The Pennsylvania State University

 Graduate School Teaching Certificate Fall 2012

USAW Sports Performance Coach Certification Jan 2007-present

National Strength and Conditioning: Certified Strength and Conditioning Specialist (CSCS) 2007-present

**PROFESSIONAL MEMBERSHIPS/AFFILIATIONS**

Human Anatomy and Physiology Society (HAPS) Fall 2017 - present

USA Weightlifting Fall 2006 - present

Female Athlete Triad Coalition ([www.femaleathletetriad.org](http://www.femaleathletetriad.org)) Spring 2011 - present

**PROFESSIONAL SERVICE**

**Faculty Adviser/Mentor: Allies 4 Children** 2017 - 2019

Role: To serve as faculty mentor to Allies 4 Children, a student-developed and student-run organization designed to raise money for children and their families during a hospital stay when, otherwise, parents may have been unable to remain in the hospital due to financial needs. The goal of this organization is to provide financial support to families so that they can remain in the hospital with their children and not worry about financial burdens during such difficult times. The hope is that these families can focus on getting well and not have to focus on money (work, medical expenses, etc.).

**Faculty Interviewer for the UT Dallas Health Professions Advising Center (HPAC)** 2015 – 2019

Role: To interview professional school applicants who are applying to professional school (medical, dental, physical/occupational therapy, etc.) with the goal of improving interview and personal/professional skills. I comprise a recommendation/evaluation letter to add to, and strengthen, the applicant’s professional school application. This process has been implemented and overseen by the HPAC office to better the chances of our students’ acceptance to professional schools. I am one of several faculty who are involved in this process.

**Faculty Adviser/Mentor: Independent Research Projects** 2014 - 2019

Role: To serve as faculty mentor to several students involved in writing senior honor’s theses, independent research projects, and Green Fellowship (UT Southwestern research affiliates) theses. Students have asked me to serve as their faculty mentor for which I have mentored them through the processes of literature searches, project coordination and scientific writing.

**Faculty Adviser/Mentor: Sikh Student Association (SSA)** 2014 – 2019

Role: To serve as faculty mentor to the SSA. Students developed this student association to teach their community and themselves about Sikhism, to combine efforts to raise awareness about stereotypes and to volunteer to help better the surrounding community by raising funds and dedicating their time.

**Volunteer Assistant Coach: University of Texas at Dallas** 2014 - 2015

Role: Served as an assistant to the head coach, working with the athletes to improve performance. Specifically, I have worked with all field positions, focusing on catching and hitting. As well, I have served as the team’s strength and conditioning coach for one full academic year until a strength and conditioning department was developed for the university.

**Intercollege Graduate Degree Program: Physiology Graduate Student Representative** 2011 - 2012

 Role: To schedule speakers in honor of passed names in physiology, organize cross-campus meetings

(both social and science-related meetings) and stand as the representative “voice” for all students in the program in terms of providing feedback to program director(s) as to what improvements can be made for future in-coming students.

**Female Athlete Triad Coalition Website Development** 2011

Role: Assisted in creating content for and developing the Female Athlete Triad Coalition website

([www.femaleathletetriad.org](http://www.femaleathletetriad.org)). Duties include synthesizing summaries of recent literature to post on the website forum and synthesizing answers to questions from parents, coaches, athletic trainers, etc. regarding the Female Athlete Triad.

**American College of Sports Medicine: Annual Meeting** 2011/2012

**Female Athlete Triad Coalition Conference Meeting Planning**

Role: Assisted in conference meeting planning to include synthesizing and copying an itinerary,

documents to be included in the meeting and annotating meeting minutes.

**Graduate Senior Teaching Assistant (Department of Biology, PSU)** 2012-2013

Role: To organize and conduct weekly TA laboratory meetings in which discussion and integration of

laboratory procedures are implemented. As a senior TA, I was asked to cover laboratory meetings and lectures for my teaching adviser in his absence and take on a leadership role for the other 25-30 teaching assistants each semester. I have also volunteered my time toward the development of course material and laboratory manuals. As a graduate TA at Penn State University, I taught full laboratory courses with no supervision (I was responsible for all teaching duties including in-class teaching, grading, set up/take down, etc.), so these duties as a senior TA were in addition to my normal workload.

**Graduate Student Peer Mentor**  2010 - 2013

 Role: To aid in mentoring first-year graduate students through their first year of the Physiology IGDP

program. Mentors are asked to help students become comfortable with campus, new course work and the layout of the first year of the program (including candidacy exam experiences).

**Undergraduate Student Research Mentor** 2010 - 2013

Role: Mentored two undergraduate students throughout the Schreyer’s Honor College (Penn State University) thesis proposal, project integration and thesis writing processes. The role as a mentor included writing, reviewing and revising of thesis proposal and final write up, project coordination and aiding in choosing and administration of appropriate statistical analyses.

**OTHER PROFESSIONAL EXPERIENCE**

2007 - 2009 Wellness Center Manager Wellness Coordinator/Fitness and Group Exercise

Department Manager/Coordinator

The Powell Wellness Center

[www.powellwellnesscenter.com](http://www.powellwellnesscenter.com)

Culpeper, VA 22701

2007 Clinical Intern Cardiology Division: Exercise Physiology

 Children’s Hospital of Philadelphia

 Philadelphia, PA 19104

2006 - 2007 Graduate Extern Sport Specific Strength Training and Conditioning

Department of Athletic Strength and Conditioning

Temple University

Philadelphia, PA 19122

**RESEARCH**

**PROFESSIONAL RESEARCH EXPERIENCE**

2013 Postdoctoral Fellow The Clegg Laboratory (P.I. Dr. Deborah Clegg)

Touchstone Diabetes Center

Department of Internal Medicine

University of Texas Southwestern Medical Center

Dallas, Tx 75390

2010 - 2013 Project Coordinator/ “The Effect of a Mixed-Composition Meal on Thermic

Graduate Research Assistant Effect of Food, Fuel Utilization, Subjective Appetite, and Appetite Hormone Responses in Exercising Women with Amenorrhea Secondary to an Energy Deficiency.”

Women’s Health and Exercise Laboratory

 The Pennsylvania State University

 University Park, PA 16802

2009 - 2013 Graduate Research Assistant Women’s Health and Exercise Laboratory

 Noll Laboratory

Department of Kinesiology

 The Pennsylvania State University

 University Park, PA 16802

Fall 2009 Laboratory Rotation Intercollege Graduate Degree Program: Physiology

Mastro Laboratory: Breast Cancer Metastasis; Diet, Exercise and the Immune System

Principle Investigator - Dr. Andrea Mastro, PhD

Professor of Microbiology and Cell Biology

The Huck Institutes of the Life Sciences

Fall 2009 Laboratory Rotation Intercollege Graduate Degree Program: Physiology

 Laboratory for the Study of Human Ingestive Behavior

 Principle Investigator – Dr. Barbara J. Rolls, PhD

 College of Health and Human Development

 Department of Nutritional Sciences

2005 - 2007 Graduate Research Assistant Biokinetics Research Laboratory

Department of Kinesiology

Temple University

Philadelphia, PA 19122

**PROJECTS**

**The Clegg Laboratory**

Title: Maternal High Fat Diet Induces Placental and Hippocampal Inflammation and Mitochondrial Dysfunction and Leads to Autism Spectrum Disorders

Goal: To investigate the effects of maternal high fat diet on fetal programming of disease with a focus on autism spectrum disorders in offspring.

Role: Principle Investigator and Postdoctoral Fellow

**Women’s Health and Exercise Laboratory**

Title: Increased Caloric Intake to Reverse Energy Deficiency in Exercising Women:Impact on Bone & Menstrual Cyclicity.

Goal: To investigate the effects of increasing caloric intake in exercising women with reduced bone mass and amenorrhea on menstrual and bone health status.

Grant: United States Department of Defense CDMRP Peer Reviewed Medical Research Program PR054531 (Increased Caloric Intake to Reverse Energy Deficiency in Exercising Women: Impact on Bone & Menstrual Cyclicity; P.I.’s: Nancy I. Williams and Mary Jane De Souza, Penn State University) Role: Graduate Assistant

Title: 24-Hour Profiles of Circulating Ghrelin and Peptide YY are Inversely Associated in Normal Weight Premenopausal Women

Goal: To determine if the proposed opposing actions of ghrelin and PYY at the hypothalamus could be related to their patterns in the peripheral circulation.

Grant: NIH 1 RO1 HD39245-01 (Bioenergetics of Exercise-induced Menstrual Disturbances; P.I.: Nancy I. Williams, Penn State University)

Role: Graduate Assistant

Title: The Effect of a Mixed-Composition Meal on Thermic Effect of Food, Fuel Utilization, Subjective Appetite, and Appetite Hormone Responses in Exercising Women with Amenorrhea Secondary to an Energy Deficiency.

Goal: To examine metabolic, hormonal, and psychological shifts after eating a meal in exercising women who are not menstruating (amenorrheic).

Role: Project Coordinator/ Graduate Assistant (P.I.’s: Nancy I. Williams and Mary Jane De Souza, Penn State University)

Title: Energy Deficiency, Performance, and Bone Health-Related Injury Outcomes in Female Distance Runners

Goal: To examine the effects of energy intake on distance running performance and bone health in actively competitive and/or recreational female distance runners

Role: Graduate Assistant (P.I.: Mary Jane De Souza, Penn State University)

Title: Fractures and Energy Deficiency in Premenopausal Exercising Women

Goal: To examine whether exercising women who experience a bone injury in the lower extremity (stress reaction, medial tibial stress syndrome, or stress fracture) also suffer from a long-term energy deficiency (i.e. when an individual does not eat enough calories to support the amount of exercise training they participate in)

Role: Graduate Assistant (P.I.: Mary Jane De Souza, Penn State University)

**Collaborative Research Projects**

Title: Ghrelin and Peptide YY increase with weight loss during a 12-month intervention to reduce dietary energy density in obese women

Goal: To determine whether low-ED diets might facilitate weight loss through actions on circulating concentrations of ghrelin and PYY, independent of the influence of psychosocial measures of dietary restraint, disinhibition, and tendency toward hunger.

Grant: NIH R37DK039177 and M01RR10732 (Factors affecting caloric regulation in human feeding; P.I.: Barbara J. Rolls, Penn State University)

Role: Graduate Assistant

Title: Eating Behaviors Phenotypes: Relationship to Risk Factors for Metabolic Syndrome and Peripheral Feeding Signals

Goal: To determine the role of behavior and physiology on appetite regulation in young adult women.

Grant: Penn State’s Clinical and Translational Science Award (Eating Behavior Phenotypes: Relationship to Risk Factors for Metabolic Syndrome and Peripheral Feeding Signals; P.I.: Leann L. Birch, Penn State University)

Role: Graduate Assistant

**BOOK CHAPTERS**

**Hill BR** and Williams NI. Dietary Strategies Contributing to Low Energy Availability in Exercising

Women: Underlying Physiology and Impact on the Menstrual Cycle. The Handbook of Diet and Nutrition in the Menstrual Cycle, Periconception and Fertility. Wageningen Academic Publishers. Kings College, UK. (Accepted for Publication to 7/29/2012)

**PUBLICATIONS**

Reed JL, Bowell JL, **Hill BR**, Williams BA, De Souza MJ, and Williams NI. Exercising women with menstrual

disturbances consume low energy dense foods and beverages. Appl. Physiol. Nutr. Metab. 2011 Jun; 36 (3): 382–394.

**Hill BR**, De Souza MJ, Williams NI. Characterization of the diurnal rhythm of peptide YY and its role in

energy balance in normal weight premenopausal women. Am J Physiol Endocrinol Metab. 2011 Aug; 301 (2):E409-15.

**Hill BR**, De Souza MJ, Wagstaff DA, Sato R, Williams NI. 24-Hour profiles of circulating ghrelin and peptide

YY are inversely associated in normal weight premenopausal women. [Peptides.](http://www.ncbi.nlm.nih.gov/pubmed/22954902) 2012 Sep 4;38(1):159-162.

Scheid JL, De Souza MJ, **Hill BR**, Leidy HJ, Williams NI. Decreased luteinizing hormone pulse frequency is

associated with elevated twenty-four-hour ghrelin after calorie restriction and exercise training in premenopausal women. [Am J Physiol Endocrinol Metab.](http://www.ncbi.nlm.nih.gov/pubmed/23115078) 2012 Oct 31. [Epub ahead of print]

Mallinson RJ, Williams NI, **Hill BR**, and De Souza MJ. Body composition and reproductive function exert

unique influences on indices of bone health in exercising women. Bone (*In Press)*.

**Hill BR**, De Souza MJ, Wagstaff DA, Williams NI. The impact of weight loss on the 24-hour profile of

circulating peptide YY and its association with 24-hour ghrelin in normal weight premenopausal women. Peptide (*In Press*)

**Hill BR**, Rolls BJ, Roe LS, De Souza MJ, Williams NI. Ghrelin and peptide YY increase with weight loss

during a 12 month intervention to reduce dietary energy density in obese women. Peptides (*In Press*)

**ABSTRACTS**

**Hill BR**, De Souza MJ, Sato R, Williams NI. Variation in PYY over 24 Hours before and after Diet- and

Exercise-induced Weight Loss. ACSM Integrative Physiology of Exercise: September 22-25, 2010. Medicine & Science in Sports & Exercise: October 2010 - Volume 42 - Issue 10 - p 92

**Hill BR**, De Souza MJ, Sato R, Williams NI. Caloric restriction and exercise training alter reciprocal 24-Hour

Profiles of PYY and ghrelin in normal weight premenopausal women. Experimental Biology 2011: April 9-13, 2011

**Hill BR**, De Souza MJ, Reed JL, Bowell JL, and Williams NI. Elevated PYY is associated with Low Energy

Dense Diets in Women with Exercise-Associated Menstrual Disturbances. ACSM Annual Meeting: May 31-Jun 4, 2011. Medicine & Science in Sports & Exercise: May 2011 - Volume 43 - Issue 5 - p 674

Reed JL, De Souza MJ, Gibbs JC, **Hill BR**, Williams NI. Sensitivity and Specificity of an Energy Availability

Threshold in Differentiating Menstrual Status in Exercising Premenopausal Women. ACSM Annual Meeting: May 31-Jun 4, 2011. Medicine & Science in Sports & Exercise: May 2011 - Volume 43 - Issue 5 - pp 66-67

 **Hill BR**, De Souza MJ, Scheid JL, and Williams NI. 24-hour Ghrelin and Cortisol are Associated Subsequent

to Diet- and Exercise-Induced Weight Loss. ACSM Annual Meeting: May 29 – June 2, 2012(Thematic Poster)

Mallinson RJ, Williams NI, **Hill BR**, De Souza MJ.Reproductive function and lean mass exert unique

influences on bone density and geometry: An update. Submitted to the American College of Sports Medicine Annual Meeting 2013 (Submitted 11/2/2012).

Lieberman JL, **Hill BR**, De Souza MJ and Williams NI. Luteal Phase Defects Induced by Exercise and Diet are

Associated with Low Energy Availability. Submitted to the American College of Sports Medicine Annual Meeting 2013 (Submitted 11/2/2012).

**Hill BR**, Rolls BJ, Roe LS, De Souza MJ, Williams NI. Ghrelin and peptide YY increase with weight loss

during a 12 month intervention to reduce dietary energy density in obese women. Submitted to Experimental Biology 2013 (Submitted 11/13/2012)