

# BRITTANY M. HOLLISTER

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## EDUCATION

**Vanderbilt University**, Ph.D., Human Genetics 2012- Present  
**Rollins College**, *Honors* Bachelor of Arts in Biochemistry and Molecular Biology 2008-2012

## FELLOWSHIPS and AWARDS

**NIH Training Grant on Genetic Variation and Human Phenotypes** (4T32GM080178-10) 2015-Present  
**Pacific Symposium on Biocomputing Travel Award** 2017  
**Scientist in the Classroom Fellowship**, Vanderbilt Center for Science Outreach 2015-2016  
**Best student podium presentation**, American Association of Anthropological Genetics 2015  
**Vanderbilt Graduate Student Council Travel Award** 2015  
**Honors Thesis**, Biochemistry and Molecular Biology, Rollins College 2012  
**Rollins Fiat Lux Award**: for outstanding contributions in academics, service, and leadership 2012  
**Rollins Community Engagement Award**: for exceptional community service dedication 2012  
**Most Outstanding Officer**: President, Alpha Omicron Pi Sorority 2011  
**University of California, San Diego, Dept. of Pharmacology Summer Fellowship** 2011  
**American Society of Cell Biology Travel Award** 2010  
**Rollins College Summer Research Fellowship** 2010

## RESEARCH EXPERIENCE

### Graduate Level:

**Investigating gene-environment interactions between genetic variants contributing to blood pressure and socioeconomic status in diverse populations.** *Dissertation project.*  
Mentored by Melinda Aldrich (Vanderbilt) and Dana Crawford (Case Western Reserve) 2014-Present

**Epigenetic modifications of circadian clock genes in adolescents at risk for major depressive disorder.**  
Mentored by Amy Non (UCSD) 2014

**Comparing DNA methylation levels across peripheral tissues in stress-related genes.**  
Mentored by Amy Non (UCSD) 2014

**Epigenetic variation in Romanian children exposed to extreme social deprivation.**  
Mentored by Amy Non (UCSD) 2013-2014

### Undergraduate Level:

**Localization and function of zebrafish Miro.** *Honors thesis.*  
Mentored by Susan Walsh (Rollins College). 2010-2012

**Development of a calcium-dependent *Gaussia* luciferase.**  
Mentored by William Joiner (UCSD) 2011

## RESEARCH INTERESTS

- Genomics and health disparities research
- Racial disparities in disease
- Interaction between environmental and genetic factors contributing to disease
- Genetic epidemiology
- Social determinants of health
- Epigenetics of early life adversity

## MANUSCRIPTS

**Hollister B.M.**, Oonk K., Weiser D., and Walsh S. Characterization of the three zebrafish orthologs of the mitochondrial GTPase Miro/Rhot. *Comparative Biochemistry and Physiology, Part B*. 191;126-134 2015

Non A., **Hollister, B.M.**, Humphreys K., Childebayeva A., Esteves K., Zeanah C., Fox N., and Drury S. DNA methylation at stress-related genes is associated with exposure to early life institutionalization. *American Journal of Physical Anthropology*. 2016 Sep;161(1):84-93. 2016

**Hollister B.M.**, Farber-Eger E., Restrepo N., Crawford D., Aldrich M., Non A. Development and performance of text-mining algorithms to extract socioeconomic status from de-identified electronic health records. *Pac Symp Biocomput*. 2016;22:230-241 2016

## INVITED TALKS

**American Association of Physical Anthropology Annual Meeting**, New Orleans, LA.  
Session: Training the Next Generation  
*Growth and opportunities in graduate education: A student's perspective* 2017

**American Association of Physical Anthropology Annual Meeting**, St. Louis, MO.  
Session: Rethinking Racial Health Disparities: the genetic anthropologist's contribution to debates over health inequalities.  
*Improving access to socioeconomic data for genetic studies of racial health disparities* 2015

**Department of Biology, Rollins College**, Winter Park, FL.  
*Epigenetic Consequences of Extreme Social Deprivation in Romanian Children; Genetics and Race; and Pursuing a Graduate Career in Genetics* 2013

## ABSTRACTS

**Pacific Symposium on Biocomputing, Hawaii**. *Contributed talk*.  
Development and Performance of Text-Mining Algorithms to Extract Socioeconomic Status from De-Identified Electronic Health Records. 2017

**American Society of Human Genetics Annual Meeting**, Vancouver, BC; *Contributed poster*.  
Development of a text mining algorithm to extract socioeconomic data from electronic health records for precision medicine research. 2016

**North Coast Conference on Precision Medicine**, Cleveland, OH; *Contributed poster*.  
Development of a text mining algorithm to extract socioeconomic data from electronic health records for precision medicine research. 2016

**Vanderbilt Ingram Cancer Center Retreat, Vanderbilt University**. *Contributed poster*.  
Extracting socioeconomic data from electronic health records for GxE studies of cancer 2016

**American Society of Human Genetics Annual Meeting**, Baltimore, MD; *Contributed poster*.  
Extracting socioeconomic data from electronic health records for GxE studies of blood pressure 2015

**Institute for Computational Biology Symposium, Case Western Reserve University**. *Contributed poster*.  
Extracting socioeconomic data from electronic health records for GxE studies of blood pressure 2015

**Human Biology Association Annual Meeting**, Calgary, Alberta, Canada; *Contributed poster*.  
Comparing DNA Methylation Levels across Peripheral Tissues in Stress-Related Genes 2014

- Sigma Xi** Annual Meeting, Raleigh, NC; *Contributed poster.*  
Development of a Calcium-Dependent *Gaussia* Luciferase 2011
- American Society of Cell Biology** Annual Meeting, Philadelphia, PA; *Contributed poster.*  
Subcellular Localization and Function of Zebrafish Miro 2010

### **PRESENTATIONS**

- Genetics Interest Group, Vanderbilt University.** *Contributed talk.*  
Development of a text mining algorithm to extract socioeconomic data from BioVU 2016
- Genetics Interest Group, Vanderbilt University.** *Contributed talk.*  
Incorporating Social Determinants of Health into Genetic Studies 2015
- Genetics Interest Group, Vanderbilt University.** *Contributed talk.*  
Epigenetic Modifications of Circadian Clock Genes in Adolescents at Risk for Major Depressive Disorder 2014
- Genetics Symposium at Vanderbilt University.** *Contributed poster.*  
Epigenetic Consequences of Extreme Social Deprivation in Romanian Children 2013
- Genetics Interest Group, Vanderbilt University.** *Contributed talk.*  
Epigenetic Variation in Romanian Children Exposed to Extreme Social Deprivation 2014

### **TEACHING EXPERIENCE**

- Instructor**, Weekends at Vanderbilt University (WAVU), Genetic Epidemiology 2016 and 2017  
*Designed and taught intensive 12 hour high school Saturday course; 20 students*
- Fellow**, Scientists in the Classroom, Vanderbilt Center for Science Outreach 2015-2016  
*Taught science once a week in a Metro Nashville middle school; 150 students*
- Instructor**, Summer Academy at Vanderbilt for the Young (SAVY), Genetic Anthropology 2015 and 2016  
*Designed and taught one week middle school intensive course; 20 students*
- Teaching Assistant**, Anth 103: Introduction to Biological Anthropology 2015  
*150 undergraduates*
- Teaching Assistant**, Anth 272: Genetic Anthropology Lab Techniques 2013 and 2014  
*8 undergraduates*
- Teaching Assistant**, Anth 241: Biology and Culture of Race 2014  
*30 undergraduates*
- Teaching Assistant**, Anth 242: Biology of Inequality 2014  
*40 undergraduates*
- Teaching Assistant**, Anth 273 Human Evolutionary Genetics 2013  
*30 undergraduates*

### **ACADEMIC SERVICE**

- Member, **American Association of Anthropological Genetics Ethics Committee** 2015-Present
- President, **Vanderbilt University Human Genetics Student Association** 2015-2016
- Peer reviewer, **Epigenetics** 2015

## **MENTORED STUDENTS**

Mentored 7 undergraduate students and 1 high school student.

1 undergraduate won Anthropology Student of the Year

2 undergraduates received highest honors.

1 undergraduate received high honors.

1 high school student won Best Poster at the Vanderbilt School of Science and Engineering

## **PROFESSIONAL ORGANIZATIONS**

American Association of Anthropological Genetics	2015-Present
American Association of Physical Anthropologists	2014-Present
American Association for the Advancement of Science	2013
American Society Human Genetics	2013-Present
Human Biology Association	2013
Sigma Xi Associate Membership	2013

## **COMMUNITY OUTREACH**

Planned and coordinated **Festival divertido de ciencias y feria de la salud**

*Created stations to make DNA models with candy, extract DNA from a strawberry, make DNA bracelets, and provide blood pressure measures for parents*

2015

Assisted with interviews of Mexican women and their children as part of

**Children of Hispanic Immigrants Collaborating to Overcome Stress (CHICOS)**

2015

Office of Community Engagement at Rollins College, **Immersion Program Student Coordinator:**

*The program plans trips outside the community to educate students about social issues*

2011-2012

Entertainment Director, **Rollins College Dance Marathon for Children's Miracle Network**

2009-2011

Family Center Volunteer, **Coalition for the Homeless**, Orlando, FL

2009

## **TECHNICAL/LABORATORY SKILLS**

- Transfections of tissue culture cells
- Optimization PCR reactions
- Immunofluorescence of tissue culture cells
- Fluorescent imaging with confocal microscopes
- Western blots
- Cloning reactions and restriction digest mediated subcloning
- Microinjection of zebrafish embryos
- RNA in situ hybridization
- Use of a luminometer
- Bisulfite pyrosequencing.
- DNA extractions from bone marrow, saliva, buccal swab and hair samples

## **COMPUTER KNOWLEDGE**

Fluent with Adobe Illustrator, Adobe Photoshop, and Microsoft Office.

Fluent with use electronic medical record (EMR) and biobank data for research purposes.

Experience with UNIX, PLINK, SAS, STRUCTURE and R.

Experience with phylogenetic network analyses.