Aida T. Miró-Herrans

Curriculum Vitae

ADDRESS Department of Anthropology SAC 4.134
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University of Texas at Austin
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AREAS OF SPECIALIZATION

Molecular anthropology, Population Genetics and Genomics, Coalescent Simulations, Bioinformatics, Next-Generation Sequencing, Ancient DNA

Education

2013 Ph.D. University of Florida, Genetics and Genomics Graduate Program (Summa Cum Laude)

2007 University of Granada, Forensic Genetics Specialist Certification

2006 B.S. University of Puerto Rico, Río Piedras, Biology and Anthropology (Summa Cum Laude)

POSTDOCTORAL TRAINING

1/2014-present Postdoctoral Fellow, Department of Anthropology, University of Texas at Austin

7/2013-12/2012 Postdoctoral Researcher, Department of Anthropology, University of Florida

FELLOWSHIPS AND GRANTS

8/2014-7/2016 National Science Foundation SBE Postdoctoral Research Fellowship ($211,666)

5/2013-7/2013 University of Florida Dolores Auzenne Dissertation Award ($6000)

5/2013-7/2013 University of Florida Office of Graduate Minority Program Supplemental Retention Award ($800)

5/2010-5/2012 UF Science Partners in Inquiry-based Collaborative Education (SPICE) Fellowship, University of Florida based National Science Foundation GK-12

8/2007-7/2012 National Science Foundation Graduate Research Fellowship ($120,000)

8/2004-7/2005 Research Initiative for Scientific Enhancement (RISE) Program at the University of Puerto Rico-Rio Piedras

PUBLICATIONS

1. Deborah A. Bolnick, **Aida T. Miró‐Herrans**, Jennifer A. Raff, Lauren C. Springs, and Austin W. Reynolds. In prep. Native American Genomics and Population Histories. Invited review for Annual Review of Anthropology.
2. **Aida T. Miró-Herrans**. In review. Simulating Human Demographic Processes and Patterns of Genetic Variation. Invited chapter in Companion to Anthropological Genetics. Dennis O’Rourke (ed.). Wiley-Blackwell Publishing.
3. **Aida T. Miró-Herrans**, Andrew Kitchen, and David L. Reed. In review. Recent transfer of parasitic lice between archaic and modern humans. BMC Evolutionary Biology.
4. Alexis C. Boulter, Jacklyn Quinlan, **Aida T. Miró-Herrans**, Laurel N. Pearson, Nubiana L. Todd, Clarence C. Gravlee, and Connie J. Mulligan. In press. Interaction of Alu polymorphisms and novel measures of discrimination in association with blood pressure in African Americans living in Tallahassee. Human Biology.
5. Deven N. Vyas, Andrew Kitchen, **Aida T. Miró-Herrans**, Laurel N. Pearson, Ali Al-Meeri, and Connie J. Mulligan. In press. Bayesian analyses of Yemeni mitochondrial genomes suggest multiple migration events with Africa and Western Eurasia. American Journal of Physical Anthropology.
6. **Aida T. Miró-Herrans**, Ali Al-Meeri, and Connie J. Mulligan. (2014). Modern human migration dynamics in Yemen and implications for the reconstruction of prehistoric population movements. PLoS ONE. 9(4): e95712. doi:10.1371/journal.pone.0095712.
7. **Aida T. Miró-Herrans** and Connie J. Mulligan. (2013). Human demographic processes and genetic variation as revealed by mtDNA simulations. Molecular Biology and Evolution. 30(2): 244-252.
8. **Aida T. Miró-Herrans**, Ximena Velez-Zuazo, Jenny P Acevedo, W Owen McMillan. (2008). Isolation and characterization of novel microsatellites from the critically endangered hawksbill sea turtle (*Eretmochelys imbricata*). Molecular Ecology Resources. 8(5):1098 – 1101.

TEACHING EXPERIENCE

2/2015 Guest lecture in Human Biology undergraduate course. “Anthropological genetics: reconstructing human evolutionary processes”. University of Texas at Austin

8/2014-11/2014 Teacher for informal course in Introduction to Bioinformatics and Next-generation Sequence Analyses for Anthropologists. University of Texas at Austin

1/2013-4/2013 Introduction to Cultural Anthropology Teaching Assistant at University of Florida

8/2012-12/2012 Human Evolutionary Anatomy Teaching Assistant at University of Florida

5/2010-5/2012 Science co-teacher in middle school classroom (UF SPICE Fellowship). I was in charge of developing and implementing inquiry-based lessons that complemented state curriculum standards to engage students in science.

10/2011 Guest lecture in Phylogenetics graduate course. “Approximate Bayesian Computation for Reconstruction of Evolutionary Histories”. University of Florida

4/2002-4/2003 Assistant Teacher at Rainforest Kids Child Development Center, San Juan, Puerto Rico

STUDENT MENTORING

7/2015 Mentor for Undergraduate Travel Award recipient at Society for Molecular Biology and Evolution meeting

1/2015-4/2015 Daisy Pavia-Anthropology, College of Liberal Arts, UT at Austin

8/2013-12/2013 Alexis Boulter-Chemistry, College of Liberal Arts and Science, UF

5/2012-12/2013 Nubiana Todd-Anthropology, College of Liberal Arts and Science, UF

##### 5/2011-12/2013 Timothy Scott –currently graduate student at University of Louisville School of Nursing

5/2011-5/2013 Shannon McNulty-currently Ph.D. student at Duke University Biochemistry Department

1/2012-5/2012 Tania Saade-Accounting, Warrington College of Business Administration, UF

8/2010-5/2012 Vassiliki Papastavros-currently M.D. student at UF College of Medicine

8/2010-5/2011 Michael Chen-Chemistry, College of Liberal Arts and Science, UF

1/2010-8/2010 David Roebuck-currently co-founder of Advocates for World Health

1/2009-5/2010 Alex Wang-currently Ph.D. candidate at Cornell University Biochemistry, Molecular, and Cell Biology Graduate Field program

RESEARCH EXPERIENCE

Present Cultural and Demographic Influences on Native American Genome-Wide Diversity in the Southern United States. PI: Deborah Bolnick PhD, University of Texas at Austin

Present Admixture analysis of Native American whole genomes. PI: Deborah Bolnick PhD, University of Texas at Austin

Present Y-chromosome enrichment library for next generation sequencing. PI: Connie Mulligan PhD, University of Florida

12/08-10/2014 Analysis of louse and human co-evolution through DNA simulations. PI: David Reed PhD, University of Florida

 7/2012-5/2014 Geospatial and statistical analyses of human migration in Yemen. Advisor: Connie Mulligan PhD, University of Florida

5/2010 Next generation sequencing of ancient whole mitochondrial DNA (at Max Planck Institute for Evolutionary Anthropology)

9/2009-4/2012 Analysis of human demographic processes and genetic variation through mtDNA simulations. Advisor: Connie Mulligan PhD, University of Florida

9/2008-5/2010 Ancient DNA extraction and amplification of pre-colonial Native Americans of Puerto Rico. Advisor: Connie Mulligan PhD, University of Florida

8/2002-12/2006 Microsatellite enriched library construction and genotyping of the Hawksbill sea turtle (*Eretmochelys imbricata*). (at University of Puerto Rico-Rio Piedras). Advisor: W. Owen McMillan, Ph. D., Smithsonian Tropical Research Institute (current address)

# CONFERENCE PRESENTATIONS

1. **Aida T. Miró-Herrans**, Jennifer A. Raff, Ripan S. Malhi, Michael H. Crawford, M. Geoffrey Hayes, and Deborah A. Bolnick. Society for Molecular Biology and Evolution. July 2015. Austria, Vienna. Contributed poster
2. **Aida T. Miró-Herrans**, Jennifer A. Raff, Ripan S. Malhi, Michael H. Crawford, M. Geoffrey Hayes, and Deborah A. Bolnick. Insights into Native North American Admixture Patterns from Whole Genome Sequencing. American Association of Physical Anthropology. March 2015. St. Louis, Missouri. Contributed poster
3. **Aida T. Miró-Herrans**, Andrew Kitchen, Melissa Toups, and David Reed. Persistent transfer of parasitic lice supports extensive contact between archaic and modern humans. Society for Molecular Biology and Evolution. June 2014. San Juan, Puerto Rico. Contributed poster
4. **Aida T. Miró-Herrans**, Shannon M. McNulty and Connie J. Mulligan. Targeted sequencing of SNP enriched regions of Y-chromosome via library construction for next-generation sequencing. Society for Molecular Biology and Evolution. July 2013. Chicago, Illinois. Contributed poster
5. Shannon M. Mcnulty, **Aida T. Miró-Herrans**, and Connie J. Mulligan. **Y-**chromosome library construction for next-generation sequencing. American Association of Physical Anthropology. April 2013. Knoxville, Tenessee. Contributed poster
6. **Aida T. Miró-Herrans**, Alex Wang, Connie J. Mulligan. High Throughput Sequencing of Pre-historic Taíno Samples. Florida Genetics. November 2012. Gainesville, Florida. Contributed Poster
7. **Aida T. Miró-Herrans** and Connie J. Mulligan. Human evolutionary processes and genetic variation as revealed by mtDNA simulations. Society for Molecular Biology and Evolution. June 2012. Dublin, Ireland. Contributed poster
8. **Aida T. Miró-Herrans** and Connie J. Mulligan. Disentangling human demographic processes?...What mtDNA simulations teach us. American Association of Physical Anthropology. April 2012. Portland, Oregon. Contributed poster
9. Tim Scott, **Aida Miró-Herrans**, Shannon McNulty, Vassiliki Papastavros, and Connie Mulligan. Y-genotyping of the J haplogroup in Yemeni samples. American Association of Physical Anthropology. April 11-14 2012. Portland, Oregon. Contributed poster
10. **Aida T. Miró-Herrans** and Connie J. Mulligan. Empirical estimates of migration rate: Case study of Yemen. American Association of Physical Anthropology. April 2011. Minneapolis, Minnesota. Contributed poster
11. **Aida T. Miró-Herrans** and Connie J. Mulligan. Coalescent simulation models of modern human migrations out of Africa give insight into complex demographic scenarios. American Association of Physical Anthropology. April 2010. Albuquerque, New Mexico. Contributed poster
12. Alex Wang, **Aida T. Miró-Herrans**, William Pestle, Antonio Curet, Edwin Crespo, and Connie J. Mulligan. Mitochondrial DNA from pre-Columbian Tainos and the prehistoric colonization of Puerto Rico. American Association of Physical Anthropology. April 2010. Albuquerque, New Mexico. Contributed poster
13. **Aida T. Miró-Herrans**, Andrew Kitchen, Melissa Toups, and David Reed. Coalescent simulations of human louse (*Pediculus humanus*) evolution reveal contact between archaic Homo species and modern humans. American Association of Physical Anthropology. April 2009. Chicago, Illinois. Contributed oral presentation
14. **Aida T. Miró-Herrans**, Andrew Kitchen, Melissa Toups, and David Reed. Coalescent simulations of human louse (Pediculus humanus) evolution reveal contact between archaic Homo species and modern humans. Florida Genetics. October 2008. Gainesville, Florida. Contributed poster
15. **Aida T. Miró-Herrans**, Ximena Velez-Zuazo, Willy Ramos, Xaymara Serrano, Jenny P. Acevedo, Stephan Funk, and W. Owen McMillan. Comparison of genetic diversity between female and male hawksbill turtles (*Eretmochelys imbricata*). Arizona 6th Annual Student Research Conference. April 2006. Phoenix, Arizona. Contributed poster
16. **Aida T. Miró-Herrans**, Ximena Velez-Zuazo, Willy Ramos, Xaymara Serrano, Jenny P. Acevedo, Stephan Funk, and W. Owen McMillan. Comparison of genetic diversity between female and male hawksbill turtles (*Eretmochelys imbricata*). Review of the University of Puerto Rico-Rio Piedras’ National Science Foundation’s Centers of Research Excellence in Science and Technology (CREST)-Center for Applied Tropical Ecology (CATEC). April 2006. San Juan, Puerto Rico. Invited oral presentation
17. **Aida T. Miró-Herrans**, Ximena Velez-Zuazo, Xaymara Serrano, Jenny P. Acevedo, and W. Owen McMillan. Using Microsatellite markers to determine paternity among the Hawkbill Population in Mona Island Puerto Rico. Society for Advancement of Chicanos and Native Americans in Science (SACNAS) annual conference. September 2005. Denver, Colorado. Contributed poster
18. **Aida T. Miró-Herrans**, Ximena Velez-Zuazo, Xaymara Serrano, Jenny P. Acevedo, and W. Owen McMillan. Using Microsatellite markers to determine paternity among the Hawkbill Population in Mona Island Puerto Rico. Evolution annual meeting. June 2005. Contributed poster
19. **Aida T. Miró-Herrans**, Ximena Velez-Zuazo, Xaymara Serrano, Jenny P. Acevedo, and W. Owen McMillan.Microsatellite fingerprinting of the Hawksbill Male Aggregation at Mona Island, Puerto Rico. Arizona 5th Annual Student Research Conference. April 2006. Phoenix, Arizona. Contributed poster

PROFESSIONAL SERVICES AND SCIENCE OUTREACH

10/2015-1/2016 National Science Foundation, panelist

2/2014-6/2014 Facilitator for Sisters of Nia Latina pilot project. As a Latina with a graduate degree, I served as a role-model and helped implement and adapt a curriculum for empowerment for Latina middle-schooler as part of a pilot project by Dr. Delida Sánchez and Dr. Dorie Gilbert at the University of Texas at Austin

2/2013 Invited oral presentation. “Genetic Anthropology: Discovering our history through DNA”. St. Augustine Lighthouse and Museum. St. Augustine, Florida

6/2011 Invited oral presentation. “Taller de ciencia lúdica para maestros de escuela elemental”. Co-speaker with Dr. Ana G. Miró-Mejías. Fajardo, Puerto Rico

5/2011 Inquiry-based lesson module. Genes, Adaptations, and Me. I developed a 3 lesson module to teach concepts of genetic mutation and adaptation to middle-schoolers. At http://www.spice.centers.ufl.edu/Modules.html

AWARDS AND HONORS

3/2014 Ford Foundation Postdoctoral Fellowship- alternate candidate

7/2013 Travel Award from University of Florida Department of Anthropology to present at Society for Molecular Biology annual meeting ($300)

7/2013 Travel Award from UF Office of Sponsored Research to present at SMBE annual meeting ($300)

4/2012 Travel Award from UF Graduate Student Association to present at American Association of Physical Anthropologists annual meeting ($250)

4/2011 Travel Award from UF GSA to present at AAPA annual meeting ($250)

5/2010 Travel Award from UF Office of Sponsored Research to travel to Max Planck Institute for Evolutionary Anthropology ($300)

5/2010 Award from UF Department of Anthropology to travel to Max Planck Institute for Evolutionary Anthropology ($300)

5/2010 NSF GRF Supplemental Travel Award to travel to Max Planck Institute for Evolutionary Anthropology ($1000)

4/2010 Travel Award from UF GSA to present at AAPA annual meeting ($250)

4/2009 Travel Award from UF GSA to present at AAPA annual meeting ($250)

3/2007 Ford Foundation Predoctoral Fellowship- honorable mention

2002-2006 University of Puerto Rico, Faculty of Natural Sciences “Dean’s Honor Roll”

9/2006 Outstanding Poster Award at Arizona 6th Annual Student Research Conference ($400)

9/2006 Travel award from the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) to present at annual meeting in Tampa, Florida ($1000)

5/2006 Collegiate All-American Scholar Award

4/2006 Travel award from More Graduate Education at Mountain States Alliance (MGE@MSA)/ Western Alliance to Expand Student Opportunities (WAESO) to present at the Arizona 6th Annual Student Research Conference in Phoenix, Arizona ($2000)

9/2005 Travel award from SACNAS to present at annual meeting in Denver, Colorado ($1000)

6/2005 NESCent Undergraduates Diversity at Evolution travel award to present at the Evolution annual meeting in Fairbanks, Alaska ($2000)

4/2005 Travel award from MGE@MSA/WAESO to present at the Arizona 5th Annual Student Research Conference in Phoenix, Arizona ($2000)

2002-2004 Who’s who among Students in American Universities and Colleges

2002-2004 National Dean’s List

ADDITIONAL TRAINING

5/2015 CCBB Summer School: Introduction to Python. University of Texas at Austin

11/2011 Certified Project Learning Tree educator. Project Learning Tree

7/2010 Statistical Genetics Summer Institute. University of Washington

4/2006 Microsatellite enriched library workshop. ICBR at University of Florida

6/2006-7/2006 Archaeology Field School. University of Puerto Rico

7/2005 Archeology Field course at Pintia. University of Valladolid, Spain

ADDITIONAL SKILLS

Spanish and French languages

Programming skills in UNIX environment, Perl, and R

Knowledge in ArcGIS

Database management in Microsoft Access

PROFESSIONAL MEMBERSHIPS

American Association of Physical Anthropologists

American Association of Anthropological Genetics

Society for Molecular Biology and Evolution

Society for Advancement of Chicanos/Hispanics and Native Americans in Science

Women in Bio