

MELISSA TORRES

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EDUCATION

Smith College, Northampton, MA

M.S in Biological Sciences Candidate

Expected May 2016

Thesis: An evaluation of advanced *in silico* epitope mapping predictions and the biological relevance from *in vitro* assays to identify putative T cell epitopes against the causative agents of lymphatic filariasis.

Smith College, Northampton, MA

B.A., Biological Sciences

2011

Independent Studies: Organic Chemistry Synthesis Research

AWARDS

Esther Carpenter Graduate Student Prize in Biology, Smith College

2013

Sally Wilens Fund, Smith College

2012 – 2014

Ada Comstock Scholars Program Scholarship, Smith College

2007 – 2011

MILITARY EXPERIENCE

Marine Corps Recruit Depot, Parris Island

United States Marine (Private - Sergeant)

1997 – 2001

Was within the first summer cohort of female recruits to pilot the Crucible training now regularly implemented in basic training. Extensive list of military training from which of most relevance to any profession includes leadership training. Graduated from Corporals Leadership Course as well as Non-Commissioned Officer Communications Leadership Course.

Honors: Earned a Certificate of Commendation, Certificate of Good Conduct, and Honorable Discharge.

RESEARCH AND TEACHING EXPERIENCE

Department of Biological Sciences, Smith College, Northampton MA

Research Associate

2011-Present

Responsibilities have included developing molecular diagnostic assays as well as standardizing current immunological diagnostic assays and application of data science for reporting results in support of a reference diagnostic laboratory to the Task Force for Global Health in Atlanta, GA.

NEB Molecular Biology Summer Workshop, Northampton MA

Laboratory Instructor

2012, 2013, 2014, 2015

Was a laboratory instructor responsible for teaching course participants hands-on laboratory techniques in molecular biology through experiments designed to

cover topics such as in-depth DNA cloning, RNAi, PCR, DNA sequencing, genomics, proteomics, and bioinformatics.

Department of Biological Sciences, Smith College, Northampton, MA

Transitory Laboratory Instructor Appointment

2013-2014

Taught a year-long introductory research based course to first year Smith students in collaboration with the Howard Hughes Medical Institute-Science Education Alliance-Phage Hunters Advancing Genomics and Evolutionary Science. Introduced and guided students through basic research in microbiology techniques for isolation, as well as molecular biology techniques and bioinformatics for characterization of novel bacteriophage.

Department of Chemistry, Smith College, Northampton, MA

Organic Chemistry Reader Appointment

2011-2012

Provided support by grading daily organic chemistry homework problems as well as grading examinations. Classroom sizes ranged from 50 to 60 students per class.

Department of Biological Sciences, Smith College, Northampton, MA

Interterm High School Science Teaching Fellowship

2009

Developed lesson plans and taught the Northampton High School biology students basic concepts of molecular biology through presentations and laboratory experiments. Lessons included concepts highlighting the differences between phenotype and genotype with laboratory experiments incorporating DNA isolation, PCR, and gel electrophoresis.

PUBLICATIONS

1. Pope WH, Bowman CA, Russell DA, Jacobs-Sera D, Asai DJ, Cresawn SG, Jacobs WR, Hendrix RW, Lawrence JG, Hatfull GF; **Science Education Alliance Phage Hunters Advancing Genomics and Evolutionary Science**; Phage Hunters Integrating Research and Education; Mycobacterial Genetics Course. Whole genome comparison of a large collection of mycobacteriophages reveals a continuum of phage genetic diversity. *Elife*. 2015 Apr;4:e06416. doi: 10.7554/eLife.06416.

*Listed as a contributing author under the **Science Education Alliance Phage Hunters Advancing Genomics and Evolutionary Science**. Individually recognized within appendix of publication.

2. Schmaedick MA, Koppel AL, Pilotte N, **Torres M**, Williams SA, Dobson SL, Lammie PJ, Won KY. Molecular xenomonitoring using mosquitoes to map lymphatic filariasis after mass drug administration in American Samoa. *PLoS Negl Trop Dis*. 2014 Aug;8(8):e3087. doi: 10.1371/journal.pntd.0003087. eCollection 2014 Aug.

3. Terry FE, Moise L, Martin RF, **Torres M**, Pilotte N, Williams SA, DeGroot AS. Time for T? Immunoinformatics addresses vaccine design for neglected tropical and emerging infectious diseases. Expert review of vaccines. 2014 Jan;14(1):21-35.

4. Chu BK, Deming M, Biritwum NK, Bougma WR, Dorkenoo AM, El-Setouhy M, Fischer PU, Gass K, Gonzales de Pena M, Mercado-Hernandez L, Kyelem D, Lammie PJ, Flueckiger RM, Mwingira UJ, Noordin R, Owusu IO, Ottesen EA, Pavluck A, Pilotte N, Rao RU, Samarasekna D, Schmaedick MA, Settinayake S, Simonsen PE, Supalie T, Taleo F, **Torres M**, Weil GJ, Won KY. Transmission Assessment Surveys (TAS) to Define Endpoints for Lymphatic Filariasis Mass Drug Administration: A Multicenter Evaluation. *PLoS Negl Trop Dis*. 2013 Dec;7(12): e2584. doi: 10.1371/journal.pntd.0002584.

5. Pilotte N, **Torres M**, Tomaino FR, Laney SJ, Williams SA. A TaqMan-based multiplex real-time PCR assay for the simultaneous detection of *Wuchereria bancrofti* and *Brugia malayi*. *Molecular and biochemical parasitology*. 2013 May;189(1):33-7.

POSTER PRESENTATIONS

1. **Torres M**, Adjobimey T, Terry F, Pilotte N, Von Horn K, Specht S, Debra A, Batsa L, Kwarteng A, DeGroot A, Williams S, Hoerauf A. *Evaluation of HLA Immunoinformatics for the identification of Brugia malayi putative T cell epitopes conserved with Wuchereria bancrofti and Loa loa..* The American Society of Tropical Medicine and Hygiene 63rd Annual Meeting. November 2014. New Orleans, LA.
2. **Torres M**, Terry F, Pilotte N, DeGroot A, Lammie P, Williams S. *In vitro validation study of peptides from in silico advanced epitope mapping predictions to delineate T effector epitopes within stage-specific Brugia malayi.* The American Society of Tropical Medicine and Hygiene 62nd Annual Meeting. November 2013. Washington DC.
3. **Torres M**, Thai N, Terry F, Pilotte N, Ardito M, DeGroot A, Williams S. *Immunoinformatics approach to vaccine design against lymphatic filariasis.* The American Society of Tropical Medicine and Hygiene 61st Annual Meeting. December 2012. Atlanta, GA.
4. Tomaino F, Pilotte N, **Torres M**, Laney S, Williams S. *A Multiplex qPCR Assay for the Detection of Wuchereria bancrofti and Brugia malayi.* The American Society of Tropical Medicine and Hygiene 60th Annual Meeting. December 2011. Philadelphia, PA.
5. Reilly M, Aldrin S, **Torres M**, Shea K. *Development of novel cationic Diels-Alder dienophiles stabilized by cobalt-alkyne complexes.* 240th American Chemical Society National meeting and Exposition. August 2010. Boston, MA.

INVITED PRESENTATIONS

Moving from genome to immunome in filarial immunopathogenesis and vaccine design. The 6th Annual Vaccine Renaissance Conference. October 2012. Providence, RI.

Synthesis of a novel Non-Gassman type cationic Diels-Alder dienophile stabilized by a cobalt-complexed alkyne. Four College Research Symposium, Summer Undergraduate Research Fellowship (SURF). July 2010. Northampton, MA

INTERVIEWS AND MEDIA

<http://www.smith.edu/video/ada-comstock-scholars-program>

<https://www.neb.com/student-services/molecular-biology-summer-workshops>

www.immunome.org/ntd/fellows/

Sauvage L. Looking ahead to a bright future: Leominster mother a symbol of determination and success. (2007) www.leominsterchamp.com/news/2007-05-18/front_page/001.html