

Benjamin MacNeille

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TRAINING

Scientific Research - Two years of employment in biochemistry/molecular biology lab. Senior research semester in microbiology/molecular biology lab. Michigan State University academic labs: Genomics, Microbiology, Ecology, Organic Chemistry, Quantitative Analysis, Physics (I and II), Organismal Biology, Cellular and Molecular Biology, General Chemistry (I and II).

Research Presentation - Senior seminar research thesis, PowerPoint presentation, and Michigan State University Undergraduate Research and Arts Forum poster presentation. Michigan State's Lyman Briggs Symposium poster presentation. Technical writing, speaking, and data analysis.

Teaching - Head statistics/trigonometry lecturer in Sakon Nakhon, Thailand. Math tutor employed by the Math Learning Center at Michigan State University and chemistry tutor employed by the Learning Resource Center at Michigan State University.

Technological - Excel, HTML, PowerPoint, Word, SAAS, Phred analysis, DNA primer design, gene ontology.

RESEARCH EXPERIENCE

Sierra Sustainable Communities Intern - Nov 2012 - Apr 2013

Sierra Nevada Alliance, South Lake Tahoe, CA

Responsible for research, content, and website design for Alliance Weekly and Sierra Spokes online newsletters and Project EmPower El Dorado website.

Research Assistant - Jan 2010 - Sep 2011

Gregg Howe Lab, Michigan State University, East Lansing, MI

Participated in molecular biology research of *Arabidopsis thaliana* Jasmonic Acid pathway associated with discovery of a novel protein-binding domain. Conducted Y2H, fluorescence microscopy, and mutant root length assays and presented results via poster at Lyman Briggs Symposium. Designed and transformed a variety of point mutation primers into plasmids, Yeast, *E. coli*, and *Arabidopsis*. Performed Western Blots of transformed Y2H proteins. Made Solutions and gels, performed lab maintenance, and cultivated *Arabidopsis thaliana* from seedlings. Kept meticulous notebook records and compiled data.

Senior Seminar Research Assistant – Jan 2011 – May 2011

Thomas Schmidt Lab, Michigan State University, East Lansing, MI

Participated in environmental microbiology research of lysogenic phage in density-sensitive soil microbes. Cultured microbes from environmental samples and characterized for density sensitivity, pH range viability, and Mitomycin C sensitivity. Induced lysogenic phage into lytic cycle with Mitomycin C and imaged using SYBR Green and fluorescence microscopy. Wrote research thesis, presented research poster at University Undergraduate Research and Arts Forum, presented multiple PowerPoints, and completed multiple laboratory notebook assessments.

TEACHING EXPERIENCE

Graduate Teaching Assistant – Aug 2013 – Present

Arizona State University, Tempe, AZ

Support Dr. Dan Childers's SOS 326: *Sustainable Ecosystems* with curriculum knowledge, grading, and lecture records.

High School Trigonometry/Statistics Teacher - Nov 2011 - Apr 2012

Sakonrajwittiyanakul School, Sakon Nakhon, Thailand

Created lectures, lesson plans, tests and homework for 22 classes per week. Collaborated with culturally unique cohort on grading and bilingual curriculum.

Math/Science Tutor – Sep 2008 – Dec 2010

Michigan State University, East Lansing, MI

Tutored college students in algebra, calculus, geometry, trigonometry, general chemistry and molecular chemistry.

CIVIC/COMMUNITY SERVICE EXPERIENCE

Campaign Associate - Jun 2012 - Aug 2012

District Judge Campaign, Bingham Farms, MI

Scheduled appointments and events, input and analyzed data, managed voter response, wrote and edited endorsement applications, participated in door-to-door outreach.

Alternative Spring Break Chair – Sep 2010 – May 2011

Michigan State University, East Lansing, MI

Planned and participated in Alternative Spring Break in conjunction with Americorps City Year program in Los Angeles inner-city schools.

Constituent Representative – Sep 2008 – May 2010

Residence Hall Association, Michigan State University, East Lansing, MI

Represented Holmes Hall for the Residence Hall Association committee overseeing events and funding.

Alternative Spring Break – Mar 2010

Michigan State University, East Lansing, MI

Participated in Alternative Spring Break in conjunction with Americorps City Year program in Miami inner-city schools.

EDUCATION

Master of Science – Sustainability

Arizona State University, Tempe, AZ, anticipated 2015

Bachelor of Science - Microbiology: Genomics and Molecular Genetics

Michigan State University, Lyman Briggs College, East Lansing, MI 2011

REVISED GRE

Quantitative Reasoning: **166**/170

Verbal Reasoning: **160**/170

Analytical Writing: **4.0**/6.0

AWARDS

Best Poster – May 2009

Lyman Briggs College, Michigan State University, East Lansing, MI

Undergraduate Research Symposium

Dean's List – Sep 2007 – May 2011

Michigan State University, East Lansing, MI

Awarded four of eight semesters.

REFERENCES

- **Dr. Gregg Howe**, Professor, Distinguished Faculty Award 2010
Department of Biochemistry and Molecular Biology, Michigan State University
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Website: <http://www.bch.msu.edu/faculty/howe.htm>

- **Dr. Javier Moreno**, Post-Doctoral Fellow
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- **Dr. Robert Britton**, Associate Professor
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