Michael J. M. Mazack

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Education

Ph.D. Scientific Computation, University of Minnesota, 2012 (tentative)

M.S. Mathematics, Western Washington University, 2009

B.S. Mathematics (minor in physics), Western Washington University, 2007

A.S. Computer Science, Skagit Valley College, 2005, *Honors*

A.S. Physics/Engineering, Skagit Valley College, 2005, *Honors*

A.A. General Studies, Skagit Valley College, 2004, *Honors*

Employment History

Research Assistant, Chemistry, University of Minnesota, 2009-Present

Graduate Teaching Assistant, Mathematics, Western Washington University, 2007-2009

Laboratory Teaching Assistant, Physics, Western Washington University, 2006-2007

Mathematics, Physics, & Computer Science Tutor, Skagit Valley College, 2004-2005

Peer Reviewed Publications

M.J.M. Mazack, A. Cembran, J. Gao (submitted): *Internal Dynamics of a Coarse-Grained Protein Using Spherical Harmonic Representation.*

Invited Talks

M.J.M. Mazack (2010): *Protein Fluctuations without Explicit Atoms*, Annual CHARMM Developers' Meeting, Harvard University, Cambridge, MA, USA; July 23, 2010.

M.J.M. Mazack (2009): *Algorithms for Handwritten Digit Recognition*, Master's colloquium, Western Washington University, Bellingham, WA, USA; February 5, 2009.

Courses Taught

Precalculus II (Math 115), Western Washington University, Spring 2008, Winter 2009

Precalculus I (Math 114), Western Washington University, Winter 2008

Functions & Algebraic Methods (Math 112), Western Washington University, Fall 2007, Fall 2008

Principles of Physics III Lab (Phys 116), Western Washington University, Spring 2007

Principles of Physics II Lab (Phys 115), Western Washington University, Winter 2006, Spring 2006, Winter 2007

Papers Published Online

M.J.M. Mazack (2010): *Using GNU Octave for Handwritten Digit Recognition.* Department of Scientific Computation, University of Minnesota, 2010.

M.J.M. Mazack (2009): *Non-Negative Matrix Factorization with Applications to Handwritten Digit Recognition.* Department of Scientific Computation, University of Minnesota, 2009.

M.J.M. Mazack (2007): *A Comparative Analysis of Noun Classification in English and Japanese.* Department of Linguistics, Western Washington University, 2007.

Other Talks

M.J.M. Mazack (2010): *Coarse-Graining and Visualization in MACROSHAKER*, Jiali Gao Group, University of Minnesota, May, 2010.

M.J.M. Mazack (2010): *Spherical Harmonic Expansions of Macromolecular Surfaces and Cel-Shading*, Department of Computer Science, University of Minnesota, May, 2010.

M.J.M. Mazack (2010): *MACROSHAKER: Computational Macromolecular Diffusion Software*, Jiali Gao Group, University of Minnesota, January, 2010.

M.J.M. Mazack (2009): *Non-negative Matrix Factorization with Applications to Handwritten Digit Recognition*, Department of Computer Science, Univsersity of Minnesota, December, 2009.

M.J.M. Mazack (2008): *Error Bounds for the Estimation of Expectation Values of Curve Lengths*, Department of Mathematics, Western Washington University, June, 2009.

M.J.M. Mazack, A. Flickinger (2008): *A Finite Element Scheme for the Diffusion Equation*, Department of Mathematics, Western Washington University, March, 2008.

M.J.M. Mazack (2007): *An Analysis of Causative Constraints in Japanese*, Department of Linguistics, Western Washington University, June, 2007.

M.J.M. Mazack, T. Kuphaldt (2005): *EPPNICS: Electronic Parallel Port Network Interfaced Control System*, Skagit Valley College, March, 2005.

M.J.M. Mazack (2004): *Telescopes and Amateur Astronomy*, Learning into Action, Skagit Valley College & Conway Middle School, June, 2004.

Conferences

Annual CHARMM Developers' Meeting 2010, Harvard University, Cambridge, MA, July, 2010 (presented).

SIAM Conference on Parallel Processing for Scientific Computing (PP10), Seattle, WA, February, 2010 (attended only).

Acquired Skills

Expertise: Multiscale modeling, numerical linear algebra, scientific visualization, parallel computing

Computing: Linux, C/C++, Perl, MATLAB, OpenGL, OpenMP, MPI, CUDA, TCP/IP, SDL

Languages: English (native), Japanese (fluent), Spanish (reading knowledge)

Other: Thorough knowledge of Tokyo's districts and rail system

Activities

WWU Japanese Conversation Club, Founder & President; 2008

School choir, KCP International, Shinjuku, Tokyo, Japan; 2007 & 2008

KCP International Speech Contest, Ikebukuro, Tokyo, Japan; 2007

Homestay in Japan; Umegaoka, Tachikawa, & Tokorozawa, Japan

Study abroad in Tokyo, Japan; Fall 2006, Summer 2007, Summer 2008

Active member Member of the Society for Industrial and Applied Mathematics (SIAM)

Honors and Awards

Research Assistantship, University of Minnesota, 2009 - 2011

Richard Greene Graduate Scholarship, 2008

Graduate Teaching Assistantship, Western Washington University, 2007 - 2009

WWU Japan Week Speech Contest Scholarship, 2006 & 2007

Washington State Promise Scholarship, 2004 - 2005