

VALERIE S. MORASH

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POSITIONS

2015 - **Postdoctoral Research Fellow**, Smith-Kettlewell Eye Research Institute

DEGREES

Ph.D. **Psychology** [†]
University of California, Berkeley, 2014, Advisor Martin Banks

M.A. **Statistics** [†]
University of California, Berkeley, 2013, Advisor David Brillinger

M.Eng. **Electrical Engineering & Computer Science**
Massachusetts Institute of Technology, 2008, Advisor Pawan Sinha

B.S. **Brain & Cognitive Sciences** *
Massachusetts Institute of Technology, 2007

B.S. **Electrical Science & Engineering** *
Massachusetts Institute of Technology, 2007

[†] and * indicate separate but concurrent degrees.

PEER-REVIEWED PUBLICATIONS

2015 **Morash, V.**, Siu, Y.-T., Miele, J.A., Hasty, L., & Landau, S. (2015). Guiding novice web workers in making image descriptions using templates. *ACM Transactions on Accessible Computing*, (accepted).

2015 **Morash, V.** & van der Velden, B. (2015). Determining the bias and variance of a deterministic finger-tracking algorithm. *Behavior Research Methods*, (accepted).

2014 Siu, T.S., & **Morash, V.** (2014). Teachers of students with visual impairments and their use of assistive technology: Measuring teachers' proficiency and their identification with a community of practice. *Journal of Visual Impairment & Blindness*, 108, 384-398.

2014 **Morash, V.** & McKerracher, A. (2014). The relationship between tactile graphics and mathematics for students with visual impairments. *Terra Haptica*, 4, 13-22.

2014 **Morash, V.**, Connell Pensky, A., Tseng, S., & Miele, J. (2014). Effects of using multiple hands and fingers on haptic performance in individuals who are blind. *Perception*, 43, 569-588.

PEER-REVIEWED PUBLICATIONS CONTINUED

- 2013** **Morash, V.**, Connell Pensky, A., & Miele, J. (2013). Effects of using multiple hands and fingers on haptic performance. *Perception*, 42, 759-777.
- 2012** **Morash, V.**, Connell Pensky, A., Alfaro, U., & McKerracher, A. (2012). A review of haptic spatial abilities in the blind. *Spatial Cognition & Computation*, 12, 83-95.
- 2008** **Morash, V.**, Bai, O., Furlani, S., Lin, P., & Hallett, M. (2008). Classifying EEG signals preceding right hand, left hand, tongue, and right foot movements and motor imageries. *Clinical Neurophysiology*, 119, 2570-2578.

PEER-REVIEWED CONFERENCE PROCEEDINGS

- 2015** **Morash, V.** (2015, June). *Detection radius modulates systematic strategies in unstructured haptic search*. Paper presented at the World Haptics Conference (WHC), Chicago (accepted). IEEE.

COMPETITIVE RESEARCH AWARDS, GRANTS, & FELLOWSHIPS

- 2014** **Elizabeth Scott Memorial Award for Outstanding Master's Research**
Annual award to Berkeley Statistics M.A. student with greatest promise in statistical research.
- 2013** **UC Berkeley Edward Hildebrand Graduate Fellowship**
Title: Math achievement in American and Canadian blind students.
- 2013** **UC Berkeley Sigma Xi Grant-in-Aid of Research**
Title: Predictors of math achievement in visually impaired students.
- 2012** **Sigma Xi Grant-in-Aid of Research for Vision-Related Research**
Title: Tactile map reading strategies in blind and sighted users.
- 2010** **IES Research in Cognition and Mathematical Education Fellowship**
University fellowship for 3-years of PhD funding, for students studying mathematics cognition.
- 2009** **National Science Foundation Graduate Research Fellowship**
National fellowship for 3-years of PhD funding, offered to 10% of 10,000 applicants per year.
- 2009** **National Defense Science and Engineering Graduate Fellowship**
National fellowship for 3-years of PhD funding, offered to 8% of 2,500 applicants per year.
- 2008** **Chorafas Foundation Scholarship for Outstanding Master's Research**
University merit-based award to 2 Master's students per year.
- 2006** **Society of Women Engineers Guidant Foundation Scholarship**
National merit-based cash award to 2 undergraduate women per year.

PEER-REVIEWED PRESENTATIONS

- 2015** **Morash, V.**, Siu, Y.T., Miele, J., Hasty, L., & Landau, S.
How inexperienced webworkers can author quality image descriptions.
Talk: International Technology & Persons with Disabilities Conference, San Diego, CA.
- 2014** Siu, T.S., & **Morash, V.**
TVIs technology proficiency & identification with a community of practice.
Talk: International Technology & Persons with Disabilities Conference, San Diego, CA.
- 2014** Landau, S., Miele, J., Siu, Y.T., Hasty, L., & **Morash, V.**
A template-guided system for improving quality of textbook descriptions.
Talk: International Technology & Persons with Disabilities Conference, San Diego, CA.
- 2012** van der Velden, B., & **Morash, V.**
Finger tracking in video using ridge detection.
Poster: Society for Computers in Psychology (SCiP), Seattle, WA.
- 2011** Connell Pensky, A., **Morash, V.**, & Miele, J.
Multiple fingers do more than expand haptic view.
Talk: Cognitive Science Association for Interdisciplinary Learning (CSAIL), Hood River, OR.
- 2009** **Morash, V.**, Cherian, T., & Sinha, P.
Using latency to link behavioral skills with neural correlates: Face recognition and the M170.
Talk: Object Perception, Attention, and Memory (OPAM), Boston, MA.
- 2009** **Morash, V.**, Cherian, T., & Sinha, P.
What is between face detection and face recognition.
Poster: Meeting of the Vision Sciences Society (VSS), Naples, FL.
- 2008** **Morash, V.**, & Balas, B.
Haptic object recognition and squeeze strength.
Talk: European Conference on Visual Perception, Utrecht, Netherlands.
- 2008** **Morash, V.**, Cherian, T., & Sinha, P.
The magnetoencephalography M170 response to degraded images.
Poster: Meeting of the Vision Sciences Society (VSS), Naples, FL.
- 2008** Cherian, T., **Morash, V.**, & Sinha, P.
Time costs of recognizing degraded images.
Poster: Meeting of the Vision Sciences Society (VSS), Naples, FL.
- 2006** **Morash, V.**, Bai, O., Furlani, S., & Hallett, M.
Using the CNV for EEG BCI control: 2-D and 1-D.
Poster: Neural Interfaces Workshop, Bethesda, MD.
- 2005** Carr, L., Arrington, C., Wieth, M., **Morash, V.**, & Carr, T.
Priming, associative strength, and directionality in the remote associates task.
Poster: Meeting of the American Psychological Society, Los Angeles, CA.

PEER-REVIEWED PRESENTATIONS CONTINUED

- 2002** Arrington, C., Carr, L., Wieth, M., Welch, D., **Morash, V.**, Burns, B., Carr, T.
Solution priming in the remote associates task.
Poster: Meeting of the Midwestern Psychological Association, Chicago, IL.

OTHER PUBLICATIONS

- 2012** **Morash, V.**, Connell Pensky, A., & Miele, J. (2012). The Tactile Map Open Stimulus Set for tactile and haptic research. *Journal of Visual Impairment & Blindness*, 106, 501.
- 2007** **Morash, V.**, Celio, C., & Colins, K. (2007). Maslab's autonomous vision-based robot competition. *Robot Magazine, Summer*, 80-82.
- 2006** **Morash, V.** (2006). MIT Maslab robot contest. *Robot Magazine, Summer*, 72-75.

ACADEMIC AND PROFESSIONAL HONORS

- 2012** Abigail Reynolds Hodgen Fund award for publication costs
- 2008** European Conference on Visual Perception travel award
- 2007** Outstanding academics in MIT Brain and Cognitive Sciences award
- 2006** NIH NINDS exceptional summer student award
- 2005** Neural Interfaces Workshop travel award

ADDITIONAL EDUCATION AND TRAINING

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|-------------------|---|
| Statistics | Inter-University Consortium for Political and Social Research (ICPSR)
Structural Equation Models and Latent Variables, 1-week workshop, 2013
Analyzing Developmental Trajectories, 3-day workshop, 2013
Maximum Likelihood Estimation for Generalized Linear Models, 4-week workshop, 2012
Regression Analysis III: Advanced Methods, 4-week workshop, 2012
Data Mining, 2-week lecture, 2012
Missing Data: An Introduction to the Analysis of Incomplete Data Sets, 1-week workshop, 2011 |
| Braille | Hadley School for the Blind
Contracted Braille, 13-month online course, 2013
Uncontracted Braille, 4-month online course, 2011 |

STATISTICS CONSULTING

- 2013 - 2014** **Assessment of Image Description Sorting Tool for Blind Accessibility**
Touch Graphics DIAGRAM project for Benetech.
- 2012 July** **Regression, Plotting, and Geographic Maps in R**
UC Berkeley, McNair Scholar undergraduates preparing work for publication.

SKILLS

- Computing** Expert with Matlab, L^AT_EX, & R.
Experienced with Stata, SPSS, MPlus, PBRT, & C/OpenGL.
- Machining** **Laser Cutting**
Currently own/use Full Spectrum 40 watt, but also familiar with Epilog machines.
- Hand & Power Tools**
Own/use full set of tools, including mallets, fasteners, jig saw, table saw, etc.
- Electrical** **Controllers**
Phidget interface for servo motors and linear actuators with Matlab & C.
E.g., moving platforms for stimulus delivery, automated 2-pt threshold machine, robot baby, etc.
- Violin** **Private Study & Performance, Since 1991**
Current instruction from Monika Gruber at the San Francisco Conservatory of Music.

TEACHING EXPERIENCE

- 2013 Spring** **Introduction to Time Series**
Teaching Assistant for Dr. David Brillinger, UC Berkeley, Statistics.
- 2009 Spring** **Introductory Statistics**
Teaching Assistant for Dr. Jack Gallant, UC Berkeley, Psychology.
- 2008 Fall** **Visual Perception**
Teaching Assistant for Dr. Stephen Palmer, UC Berkeley, Psychology.
- 2005 - 2007** **Vision-Based Autonomous Robotics (MASLab)**
Instructor and Organizer, MIT, Electrical Engineering & Computer Science.