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   Fusco, G., & **Morash, V.** (2015, October). *The Tactile Graphics Helper: Providing audio clarification for tactile graphics using machine vision.* Paper presented at ASSETS '15: Proceedings of the 17th International ACM SIGACCESS Conference on Computers & Accessibility, Portugal (accepted). ACM.

2015   **Morash, V.** (2015, June). *Detection radius modulates systematic strategies in unstructured haptic search.* Paper presented at the World Haptics Conference (WHC), Chicago (1-6). 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.

Competitive Awards, Grants, & Fellowships Continued

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.

PEER-REVIEWED PRESENTATIONS CONTINUED

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.

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

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.

ADDITIONAL EDUCATION AND TRAINING

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

SKILLS

Computing	Expert with Matlab, LaTeX, & 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.