Valerie S. Morash

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JUMP TO: Publications, Proceedings, Presentations, Awards & Grants, Presentations, Invited Publications & Presentations, Honors, Additional Skills & Training, Teaching

Positions

2015 - **Postdoctoral Research Fellow**, The 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.*

Professional Memberships and Service

Membership
Sigma Xi (since 2007, full member 2016)
Association for Psychological Science, APS (since 2011)
American Association for the Advancement of Science, AAAS (since 2013)
Institute of Electrical and Electronics Engineers, IEEE (since 2013)
Association for Computing Machinery, ACM (since 2014)

Ad Hoc Reviewer
Perception
Vision Research
IEEE Transactions on Haptics
ACM Transactions on Accessible Computing

Peer-Reviewed Publications

2016 **Morash, V.**, & McKerracher, A. (2016). Low reliability of sighted-normed verbal assessment scores when administered to children with visual impairments. *Psychological Assessment*, (accepted).

2016 **Morash, V.** (2016). Systematic movements in haptic search: Spirals, zigzags, and parallel sweeps. *IEEE Transactions on Haptics*, *9*, 100-110.

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

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*, *7(4)*, 12: 1-21.

2014 Siu, Y.-T., & **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.

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 Papers/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 17$^{\text{th}}$ International ACM SIGACCESS Conference on Computers & Accessibility, Lisbon, Portugal (97-106). 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

2015 **Oculus/Facebook Unrestricted Gift to Support Research**
$25,000 award in support of haptics research.

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 Talk & Poster Abstracts

2016 Siu, Y.-T., & **Morash, V.** (2016, March). *From R&D to adoption: Strategies for updating professionals' tech toolkits.* **Talk** presented at the International Technology & Persons with Disabilities Conference (CSUN), San Diego, CA.

2016 Fusco, G., & **Morash, V.** (2016, March). *Aiding exploration of tactile graphics: The Tactile Graphics Helper (TGH).* **Talk** presented at the International Technology & Persons with Disabilities Conference (CSUN), San Diego, CA.

2015 **Morash, V.**, & McKerracher, A. (2015, November). *Tactile graphics and Nemeth code for math and science Student performance, difficulties, and implications.* **Talk** presented at the annual Getting in Touch with Literacy Conference, Albuquerque, NM.

Peer-Reviewed Talk & Poster Abstracts Continued

2015 McKerracher, A., & **Morash, V.** (2015, November). *Braille oral reading fluency The role of phonological processing.* **Talk** presented at the annual Getting in Touch with Literacy Conference, Albuquerque, NM.

2015 **Morash, V.**, Siu, Y.T., Miele, J., Hasty, L., & Landau, S. (2015, March). *How inexperienced webworkers can author quality image descriptions.* **Talk** presented at the International Technology & Persons with Disabilities Conference (CSUN), San Diego, CA.

2014 Siu, T.S., & **Morash, V.** (2014, March). *TVIs technology proficiency & identification with a community of practice.* **Talk** presented at the International Technology & Persons with Disabilities Conference (CSUN), San Diego, CA.

2014 Landau, S., Miele, J., Siu, Y.T., Hasty, L., & **Morash, V.** (2014, March). *A template-guided system for improving quality of textbook descriptions.* **Talk** presented at the International Technology & Persons with Disabilities Conference (CSUN), San Diego, CA.

2011 van der Velden, B., & **Morash, V.** (2011, November). *Finger tracking in video using ridge detection.* **Poster** presented at the Society for Computers in Psychology (SCiP), Seattle, WA.

2011 Connell Pensky, A., **Morash, V.**, & Miele, J. (2011, CSAIL). *Multiple fingers do more than expand haptic view.* **Talk** presented at the Cognitive Science Association for Interdisciplinary Learning (CSAIL), Hood River, OR.

2009 **Morash, V.**, Cherian, T., & Sinha, P. (2009, November). *Using latency to link behavioral skills with neural correlates: Face recognition and the M170.* **Talk** presented at Object Perception, Attention, and Memory (OPAM), Boston, MA.

2009 **Morash, V.**, Cherian, T., & Sinha, P. (2009, May). *What is between face detection and face recognition.* **Poster** presented at the Annual Meeting of the Vision Sciences Society (VSS), Naples, FL.

2008 **Morash, V.**, & Balas, B. (2008, August). *Haptic object recognition and squeeze strength.* **Talk** presented at the European Conference on Visual Perception (ECVP), Utrecht, Netherlands.

2008 **Morash, V.**, Cherian, T., & Sinha, P. (2008, May). *The magnetoencephalography M170 response to degraded images.* **Poster** presented at the Annual Meeting of the Vision Sciences Society (VSS), Naples, FL.

2008 Cherian, T., **Morash, V.**, & Sinha, P. (2008, May). *Time costs of recognizing degraded images.* **Poster** presented at the Annual Meeting of the Vision Sciences Society (VSS), Naples, FL.

Peer-Reviewed Talk & Poster Abstracts Continued

2006 **Morash, V.**, Bai, O., Furlani, S., & Hallett, M. (2006, August). *Using the CNV for EEG BCI control: 2-D and 1-D.* **Poster** presented at the Neural Interfaces Workshop (NIW), Bethesda, MD.

2005 Carr, L., Arrington, C., Wieth, M., **Morash, V.**, & Carr, T. (2005, May). *Priming, associative strength, and directionality in the remote associates task.* **Poster** presented at the Annual Meeting of the American Psychological Society (APS), Los Angeles, CA.

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

Invited & Other (Not Peer-Reviewed) 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.

Invited & Other (Not Peer-Reviewed) Presentations

2015 **Morash, V.**, Siu, Y. T., Miele, J., Hasty, L., & Landau, S. (2015, October). *Guiding novice web workers in making image descriptions using templates.* **Talk** presented at ASSETS '15: 17th International ACM SIGACCESS Conference on Computers & Accessibility, Lisbon, Portugal.

Academic and Professional Honors

2015 ACM SIGACCESS ASSETS conference travel grant

2015 World Haptics Conference best paper nominee

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

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.
3D Printing
Currently own/use Makerbot 5th generation printer.
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, 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.