

VALERIE S. MORASH

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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

2016 - Psychonomic Society

2014 - Association for Computing Machinery, ACM

2013 - Institute of Electrical and Electronics Engineers, IEEE

2013 - American Association for the Advancement of Science, AAAS

2011 - Association for Psychological Science, APS

2007 - Sigma Xi (full member since 2016)

PEER-REVIEWED PUBLICATIONS

- 2016** **Morash, V.** & Siu, Y.-T. (2016). Social predictors of assistive technology proficiency among teachers of students with visual impairments. *ACM Transactions on Accessible Computing*, (accepted).
- 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.
- 2016** **Morash, V.**, & van der Velden, B. (2016). Determining the bias and variance of a deterministic finger-tracking algorithm. *Behavior Research Methods*, 48(2), 772-782.
- 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 17th 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 GRANTS, FELLOWSHIPS, & AWARDS

- 2016** **K99/R00 National Eye Institute (NEI), NIH**
1K99EY026997 **Role: Principal Investigator (PI)** **10/1/2016 - 9/30/2021**
 Title: Resolving the hand movements that improve tactile graphic and braille literacy for blindness rehabilitation.
- 2015** **Oculus/Facebook Unrestricted Gift to Support 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** Lei, D., MacKeben, M., & **Morash, V.** (2016, November). *Regressions in Braille Reading*. **Poster** presented at the annual meeting of the Psychonomic Society, Boston, MA.
- 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.
- 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, August). *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.

PEER-REVIEWED TALK & POSTER ABSTRACTS CONTINUED

- 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.
- 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

- 2016** **Morash, V.** (2016, September). *Hand movements in braille reading: Regressions and two-handed strategies*. **Talk** presented at Bay Area Vision Research Day, Berkeley, CA.
- 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

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.