

# **Matthew Nelson**

## **Curriculum Vitae**

111 21<sup>st</sup> Ave. S.  
301 Wilson Hall  
Nashville, TN 37203  
Tel: (615) 322-5134 (W); (615) 838-9985 (H)  
Email: [nelsonmj@caltceh.edu](mailto:nelsonmj@caltceh.edu)

### **Education**

- 2003-present**      **California Institute of Technology (Caltech)**      **Pasadena, CA**  
Ph.D., (*currently pursuing*) Computation & Neural Systems  
GPA 3.9/4.0
- 1999-2003**      **University of Michigan**      **Ann Arbor, MI**  
B.S.E., Chemical Engineering,  
B.S., Biopsychology with Honors  
GPA 3.55/4.0

### **Awards and Academic Honors**

- 2003-2005      NIH Graduate Research Training Grant  
1999-2003      College of Engineering Honor's Scholarship- University of Michigan  
1999-2003      Robert C. Byrd Honor's Scholarship- State of Michigan  
1999      Regent's Scholarship- University of Michigan  
1999      National AP scholar

### **Academic Positions**

- 2006-Present**      **Schall Lab, Vanderbilt University**      **Nashville, TN**  
Graduate Student, Adviser: Jeff Schall
- 2004-2006**      **Andersen Lab, California Institute of Technology**      **Pasadena, CA**  
Graduate Student, Adviser: Richard Andersen
- 1999-2003**      **Aldridge Lab, University of Michigan**      **Ann Arbor, MI**  
Research Assistant/Programmer, Adviser: Wayne Aldridge
- 2001-2003**      **Hagen Lab, University of Michigan**      **Ann Arbor, MI**  
Research Assistant in Developmental Psychology, Employer: John Hagen
- 2001-2003**      **Multimedia Education Lab, University of Michigan**      **Ann Arbor, MI**  
Multimedia Software Developer/Manager, Employer: Susan Montgomery

2001

**Nisbett Lab, University of Michigan**  
Research Assistant, Employer: Dick Nisbett

**Ann Arbor, MI**

## **Publications**

Pesaran, B. P., **Nelson, M. J.**, & Andersen, R. A. (2009) A relative position code for saccades in dorsal premotor cortex. *Journal of Neuroscience* (In press).

Pouget P., Stepniewska I., Crowder E. A., Leslie M. W., Emeric E. E., **Nelson M. J.**, & Schall J. D. (2009) Visual and motor connectivity and the distribution of calcium-binding proteins in macaque frontal eye field: implications for saccade target selection. *Frontiers in Neuroanatomy*. 3:2.

Pesaran, B. P., **Nelson, M. J.**, & Andersen, R. A. (2008) Free choice activates a decision circuit between frontal and parietal cortex. *Nature* 453: 406-410.

**Nelson, M. J.**, Pouget, P., Nilsen, E. A., Patten, C. D. & Schall, J. D. (2008) Review of signal distortion through metal microelectrode recording circuits and filters. *Journal of Neuroscience Methods* 169 (1): 141-157.

Pouget, P., **Nelson, M. J.**, Cohen, J. Y., & Heitz, R. P. (2007) Pulse-pattern sensitivity in the frontal eye field of the macaque monkey. *Journal of Neuroscience* 27(44): 11780-11781.

Pesaran, B. P., **Nelson, M. J.**, & Andersen, R. A. (2006) Dorsal premotor neurons encode the relative position of the hand, eye, and goal during reach planning. *Neuron* 51 (1): 125-134.

## **Manuscripts in Progress**

**Nelson, M. J.**, Boucher, L., Logan, G. D., Palmeri, T. J., & Schall, J. D. (2009) Impact of nonstationarity of response time in stopping and stepping tasks. (Submitted)

## **Invited Seminars**

“Frames of reference and effect of free choice on reaching activity in dorsal premotor cortex and area MIP”, (2006) Miller Lab seminar, *Massachusetts Institute of Technology*, Cambridge, MA

“Frames of reference and effect of free choice on reaching activity in dorsal premotor cortex and area MIP”, (2005) Schall Lab seminar, *Vanderbilt University*, Nashville, TN

## **Conference Presentations**

**Nelson, M. J.**, & Schall, J. D. (2009) Late onset but faster completion of motor processes following a change in planned saccade endpoint, *Society for Neuroscience Annual Meeting*, Chicago, IL

Heitz, R. P., **Nelson, M. J.**, Ferguson, K. E., Cohen, J. Y., Woodman, G. W., & Schall, J. D. (2009) Coherence of neurons and networks in frontal eye field, *Society for Neuroscience Annual Meeting*, Chicago, IL

**Nelson, M. J.**, Boucher, L., Logan, G. D., Palmeri, T. J., & Schall, J. D. (2008) Nonstationarity of saccade response time in stopping and stepping tasks, *Society for Neuroscience Annual Meeting*, Washington DC

**Nelson, M. J.**, Boucher, L., Murthy, A., Thompson, K. G., Logan, G. D., Palmeri, T. J., & Schall, J. D. (2007) Executive control of search-step saccade performance investigated through trial history, *Society for Neuroscience Annual Meeting*, San Diego CA

Pouget, P., Stepniewska, I., Leslie, M. W., Emeric, E. E., **Nelson, M. J.**, & Schall, J. D. (2007) A neuroanatomical test of premotor theory of attention, *Society for Neuroscience Annual Meeting*, San Diego CA, (platform presentation)

**Nelson, M. J.**, Pouget, P., & Schall, J. D. (2006) Effect of electrode impedance on measurement of local field potentials in the supplementary eye field, *Society for Neuroscience Annual Meeting*, Atlanta GA

**Nelson, M. J.**, Pesaran, B. P., & Andersen, R. A. (2005) Dorsal premotor neurons encode the relative position of the hand and eye, *Society for Neuroscience Annual Meeting*, Washington D. C., (platform presentation)

Pesaran, B. P., **Nelson, M. J.**, & Andersen, R. A. (2005) Coherence in dorsal premotor cortex and area MIP during free choice and instructed behaviors, *Society for Neuroscience Annual Meeting*, Washington D. C., (platform presentation)

Hagen, J. W., **Nelson, M. J.**, & Lison E. M. (2003) "Historical and recent trends in Child Development," *Society for Research on Child Development* Tampa

Hagen, J. W., **Nelson, M. J.**, & Karg, K. R. (2002) "Trends in published research in Child Development and other leading journals," *Head Start Conference* Washington D. C.

Hagen, J. W., **Nelson, M. J.**, & Pappas, G. D. (2002) "Trends in published research on adolescence," *Society for Research on Adolescence Bi-ennial Conference* New Orleans

## **Affiliations**

**2005 -** Society for Neuroscience  
**2008-** American Association for the Advancement of Science  
**2008-** Association for Psychological Science  
**2008-** The American Physiological Society  
**2008-** Vision Sciences Society