

## Stephen Gandert Romero

<http://www.union.edu/PUBLIC/PSYDEPT/romeros/index.htm>

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### Training & Experience

#### Academic History:

- 8/2007-present—Associate professor of Psychology, Department of Psychology, Union College, Schenectady, NY.
- 8/2007-Present— Adjunct Associate Professor of Neurology, Department of Neurology, Albany Medical College, Albany, NY
- 8/2003-present—Neuroscience Co-director, Union College, Schenectady, NY
- 8/2001-8/2007—Assistant Professor of Psychology, Department of Psychology, Union College, Schenectady, NY.
- 8/2001-8/2007— Adjunct Assistant Professor of Neurology, Department of Neurology, Albany Medical College, Albany, NY
- 1998-8/2001—Post-doctoral fellow, Cognitive Neuroscience Section of the National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD.
- 1993-1998—Ph.D., Cognitive Psychology, University of Colorado, Minors: quantitative, neuroscience
- 1993-1997—Certificate in Cognitive Science, Institute of Cognitive Science, University of Colorado
- 1993-1995—M.A., Cognitive Psychology, University of Colorado
- 1986-1990—B.M., Music Synthesis, Berklee College of Music

#### Internships:

- National Institutes of Health (NIH) Summer Intern, National Institute of Neurological Disorders and Stroke (NINDS), Cognitive Neuroscience Section. Supervisors: Jordan Grafman & Timothy Rickard. 1995, 1996, & 1997.

#### Workshops and Summer Schools:

- McDonnell Summer Institute in Cognitive Neuroscience, June 29-July 12, 1997. Dartmouth College, NH.
- Summer workshop on connectionist modeling conducted by K., Plunkett & E. T., Rolls, July 20-August 2, 1996. Oxford University, Oxford, England
- 3 Caps cognitive simulation workshop conducted by M., Just, H., Haarmann, S., Varma, M., Byrne & A., Miyake, January 11-14, 1996. University of Colorado, Boulder, Colorado.

#### Teaching:

*Assistant Professor*, Union College 2001-present

Developed and taught courses in:

- Cognitive Neuroscience
- Sensation and Perception
- Brain & Behavior
- Introduction to Statistics
- Introduction to Psychology

*Teaching Assistant*, University of Colorado Boulder, 1993-1998.

- 5 semesters introductory statistics
- 1 semester graduate level statistics
- 1 semester psychology of personality
- 1 semester introduction to psychology

- 1 semester psychology of perception
- 4 semesters graduate level research practicum
- 1 semester graduate level issues and methods in cognitive science
- 1 semester graduate level cognitive simulation

Supervisors: Ed Crothers, Peter Polson, David Chiszar, Doris Thomas, Kurt Schlesinger, Howard Bashinski, Lyle Bourne, Alice Healy, Randall O'Reilly, and Mike Eisenberg.

**Reviewing Activities:**

- Ad hoc reviewer for Psychological Science, 1996.
- Ad hoc reviewer for Neuropsychologia, 1999.
- Ad hoc reviewer for Cognitive Neuropsychology, 2000.
- Ad hoc reviewer for Clinical Neurophysiology, 2000.
- Ad hoc reviewer for NeuroImage, 2001, 2002.
- Ad hoc reviewer for Cortex, 2001.
- Ad hoc reviewer for Journal of the international Neuropsychological Society, 2001, 2002, 2004, 2005
- Peer Reviewer for the Alzheimer's disease association grants cycle 2004-2006
- Ad hoc reviewer for Thomson Wadsworth publishing, psychology text division 2004.
- Ad hoc Reviewer for Palgrave Macmillan publishing, psychology text division 2006.
- Ad hoc reviewer for Perception and Psychophysics, 2007

**Professional Experience:**

- Statistical consultant for the Statistical Computing and Consulting office of the Information Technology Services at the University of Colorado. Supervisor: Alex Pearson. 1993-1998
- Consultant for the Computer Laboratory for Instruction in Psychological Research. University of Colorado. Supervisor: Jon Roberts. Spring 1997.

**Association Memberships**

- American Psychological Association
- Psychonomic Society
- Cognitive Neuroscience Society

**Honors**

- Protected class fellowship, University of Colorado at Boulder, 1993, 1994, 1995, 1996, 1997, 1998.
- Deans small grant award, University of Colorado at Boulder, 1997.
- Studentship, Oxford University summer workshop on connectionist modeling, 1996.
- Letter of commendation, Summer internship program, National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH), August, 1995.
- University fellowship, University of Colorado at Boulder, 1993, 1995.

**Current Research**

Current research pursues three general goals: (1) Investigating neuronal plasticity associated with acquisition of new cognitive skills, recovery of function after brain injury, and associated with neurological and psychological disorders. These studies include the use of behavioral, functional magnetic resonance imaging (fMRI), magnetic resonance spectroscopy (MRS) and event related potentials (ERP) with patients and unimpaired volunteers; (2) Investigating the use and effects of implicit and explicit memory in the acquisition of cognitive skill using behavioral measures in patients and unimpaired populations; (3) Investigating neurological basis of social cognitive processing through the use of behavioral, fMRI, MRS with different populations.

**References**

Lyle Bourne Jr. Ph.D., University of Colorado, Department of Psychology, Campus Box 345, Boulder, CO 80309. lbourne@clipr.colorado.edu

Alice Healy Ph.D., University of Colorado, Department of Psychology, Campus Box 345, Boulder, CO 80309. [ahealy@clipr.colorado.edu](mailto:ahealy@clipr.colorado.edu)  
Jordan Grafman Ph.D., Cognitive Neuroscience Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Building 10 Room 5C205, 10 Center Drive MSC 1440, Bethesda, Maryland 20892-1440. [grafmanj@ninds.nih.gov](mailto:grafmanj@ninds.nih.gov)  
Robert Gillen Ph.D., Dept of Psychology, Sunnyview Hospital and Rehabilitation Center, 1270 Belmont Ave, Schenectady, NY 12308. [RGillen@sunnyview.org](mailto:RGillen@sunnyview.org)  
Anthony Cacace Ph.D., Wayne State University Communication Sciences and Disorders Rackham Memorial Building 60 Farnsworth Detroit, MI 48202  
[cacacea@wayne.edu](mailto:cacacea@wayne.edu)

### **Grants Funded**

Principal Investigator on **Union College Faculty Research Grant** (awarded 3/04)

Award: 600.00

**Title:** MRI data analysis support

Co-Principal Investigator with Seth Greenberg on **Union College Faculty Research Grant** (awarded 3/04)

Award: \$945.00

**Title:** Does own face activate the fusiform face area?

Collaborator on **Tinnitus Research Consortium** (Awarded 5/07)

Award: 177,000

**Title:** Mechanisms of tinnitus suppression using repetitive transcranial magnetic stimulation (rTMS): A prospective randomized sham-controlled proton magnetic resonance spectroscopy (<sup>1</sup>H MRS) study

Collaborator on **Tinnitus Research Initiative award** (Awarded 5/07)

Award: 80,000

**Title:** Structural and neurobiochemical correlates of noise induced tinnitus: A Magnetic Resonance Imaging and Spectroscopy study.

### **Grants submitted under review and under revision**

Principal Investigator on **National Science Foundation Major Research Instrumentation award** (under review 1/08)

Award: 397,501.00

**Title:** MRI: Acquisition Of Instrumentation To Support Simultaneous EEG And Fmri Studies And To Establish An Undergraduate Image Analysis Laboratory At Union College

Collaborator on **Department of Defense** (under review 12/07)

Award: 16,193,192.00

**Title:** Dedicated Head-Only High Field MRI System for Improved Assessment of Traumatic Brain Injury and Post-Traumatic Stress Disorder

Principal Investigator on **Beckman Scholars Program** (under review 11/07)

Award: 77,200

**Title:** Union College Beckman Application

Collaborator on **American Tinnitus Association award** (under review 7/06)

Award: 99,130.00

**Title:** Testing the release from inhibition hypothesis of noise-induced tinnitus: A magnetic resonance spectroscopy study.

Principal Investigator on SOMAS program. **New investigator award.** (under revision 2/06)  
Award: \$50,000  
**Title:** fMRI of item specific and relational memory processes.

Collaborator on **NIH SBIR**, Principal investigator Janie Tremlett, Cyclebridge Inc. Framingham, MA (Submitted 7/03, unfunded)  
Award: \$182,000.  
**Title:** Knowledge Integration Across Distributed Heterogeneous Data Sources.

Principal Investigator on Alzheimer's Disease Association, **New investigator award**, (submitted 12/2003, under revision)  
Award: \$100,000.  
**Title:** Social Cognition in Alzheimer's Disease: A voxel-based morphometric analysis

Principal Investigator on **NIH R-15 AREA**, (submitted 12/2002, under revision)  
Award: \$100,000.  
**Title:** Systems Level Neuroplasticity in Alzheimer's Disease: Behavioral and Neuroimaging Studies of Cognitive Skill.

Principal Investigator on Alzheimer's Disease Association, **New investigator award**, (Submitted 12/2001, resubmitted 12/2002, unfunded)  
Award: \$100,000.  
**Title:** Systems Level Neuroplasticity in Alzheimer's Disease: Behavioral and Neuroimaging Studies of Cognitive Skill

## **Publications**

\* Denotes Student co-authors

### **Submitted**

#### **2008**

Romero, S. G., McFarland D. J., \*Faust R., \*Farrell, L. & Cacace A. T., (2008)  
Electrophysiological markers of skill-related neuroplasticity, *Biological Psychology*, 78, 221-230

#### **2006**

Romero, S. G., Rickard, T. Bourne, L. E., Jr. (2006) On verification of multiplication facts: An investigation using retrospective protocols. *American Journal of Psychology*, 119, 87-120

#### **2005**

Wood, J.N., Romero, S.G., Knutson K. M., & Grafman, J. (2005). Representation of attitudinal knowledge: Role of prefrontal cortex, amygdala, and parahippocampal gyrus  
*Neuropsychologia*. 43, 249-259.

#### **2003**

Wood, J.N., Romero, S.G., Makale, M., & Grafman, J. (2003) Category-specific representations of social and non-social knowledge in the human prefrontal cortex. *Journal of Cognitive Neuroscience*.15, 236-248.

#### **2002**

Romero, S. G., Manly, C., & Grafman J., (2002) Investigating cognitive neuroplasticity in single cases: Lessons learned from applying functional neuroimaging techniques to the traditional neuropsychological case study framework. *Neurocase*.8, 355-368.

#### **2001**

Grafman, J., Romero, S. G., (2001) Appearances May Not Be Deceiving: Calculation Deficits Due to a Brain Structure Abnormality in Neurologically Normal Children. *Brain*, 124, 1681-1682.

#### **2000**

Rickard, T., Romero, S. G., Wharton, C., Basso, G., Flitman, S., & Grafman, J. (2000). The calculating brain: A fMRI study. *Neuropsychologia*, 38, 325-335

#### **1998**

Buck-Gengler, C., Romero S. G., Healy, A. F. & Bourne L. E. Jr. (1998) The Effect of Alphabet and Fluency on Unitization Processes in Reading. In Healy, A. F., & Bourne L. E. Jr. (Eds.) *Foreign language learning: Psycholinguistic experiments on training and retention*. Mahwah, NJ: Erlbaum.

Healy, A. F., Barshi, I., Crutcher, R., Tao, L., Rickard T., Marmie, W. R., Schneider, V., Feldman, A., Buck-Gengler, C., Romero, S. G., Sherrod, N. B., Parker, J., & Bourne L. E. Jr. (1998) Towards the improvement of training in foreign languages. In Healy, A. F., & Bourne L. E. Jr. (Eds.) *Foreign language learning: Psycholinguistic experiments on training and retention*. Mahwah, NJ: Erlbaum.

#### **Book Reviews**

Romero, S. G. (2000). Review of: *What counts: How Every Brain is Hardwired for Math*, Butterworth, B. *Quarterly Review of Biology*, 75, 368.

#### **Manuscripts in Preparation or under revision**

Romero, S. G. Granetz, J., Makale, M., Manly, C., & Grafman J., (under revision) Learning and memory in developmental dyscalculia.

Romero, S. G., Staples, N., & Zimmerman, E. A., (in prep) Linear and non-linear changes in brain activation as a function of cognitive skill learning.

#### **Invited Colloquia and Addresses**

Romero, S. G. Magnetic resonance imaging in the study of the human brain: Function and dysfunction, Skidmore College, Saratoga Springs NY, February 15, 2007

Romero, S. G. Magnetic resonance imaging in the study of the human brain: Function and dysfunction, Williams College, Williamstown, MA, January 26, 2006

Romero, S. G. Magnetic resonance imaging in the study of the human brain: Function and dysfunction, Skidmore College, Saratoga Springs NY, March 9, 2006

Romero, S. G. Magnetic resonance imaging in the study of the human brain: Function and dysfunction, Skidmore College, Saratoga Springs NY, February 23, 2005

Romero, S. G. Neuroplasticity in cognitive and social neuroscience. State University of New York, Albany, September 25, 2003.

Romero, S. G. Investigating cognitive neuroplasticity in single cases and patient groups. Hudson Berkshire Neuroscience group, Albany, October 16, 2001.

Romero, S. G. Learning and memory in developmental dyscalculia, University of Chicago, Chicago February 21, 2001.

Romero, S. G. Skill Acquisition and Neuronal Plasticity, University of Chicago, Chicago, February 20, 2001.

Romero, S. G. Learning and memory in developmental dyscalculia, The Neurosciences Institute, San Diego, February 2, 2001.

Romero, S. G. Learning and memory in developmental dyscalculia. Cognitive Science Colloquia, University of Delaware, Newark, April 24, 2000.

Romero, S. G. Learning and memory in developmental dyscalculia.

Psychology Department, Union College, Schenectady, January 20, 2000

Romero, S. G., Learning and memory in developmental dyscalculia. Cognitive Neurology and Alzheimer's Disease Center, Department of Neurology, Northwestern University, Chicago, January 6, 2000

#### **Published Abstracts and Presentations**

Cacace, A. T., Romero, S. G., \*Guay, R. C., Silver, S. M. (2007, July) Structural and Neurobiochemical correlates of noise-induced tinnitus: A magnetic resonance imaging and

- spectroscopy study. Poster presented at the annual meeting of the Tinnitus Research Consortium, Monte Carlo, Monaco.
- Romero, S. G., McFarland, D. J., \*Faust, R., \*Farrell, L. & Cacace, A. T. (2007, May) Electrophysiological markers of skill-related neuroplasticity. Poster presented at the annual meeting of the Cognitive Neuroscience Society, New York, NY.
- \*Hutchison, E., Hancu, I., & Romero S. G., (2004, April) A Study Examining The Impact of Signal to Noise Ratio on the Repeatability of Proton Magnetic Resonance Spectroscopy (H-MRS) Data Quantification, and The Sensitivity of the Newly Developed PRESS-J H-MRS Technique in Alzheimer's Disease Patients. Poster presented at the annual National Conference for Undergraduate Research. Indianapolis, IA.
- \*Chuang, L., & Romero S. G., (2003, May) Neuroplasticity and Alzheimer's Disease. Poster presented at the annual Stanford Undergraduate Psychology Conference, Palo Alto, CA
- \*Chuang, L., & Romero S. G., (2003, May) Neuroplasticity and Alzheimer's Disease. Poster presented at the annual Pace University Undergraduate Psychology Conference, New York, NY
- Wood, J. N., Romero, S. G., & Grafman J. (2002, November) Social cognition and the brain: An fMRI study of emotional attitudes Poster presented the annual meeting of the Society for Neuroscience, Orlando, FL.
- Wood, J. N., Romero, S. G., Makale, M. & Grafman, J. (2002, April) Category-specificity of representational knowledge in the human prefrontal cortex. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Romero, S. G. (2001, September) Investigating cognitive neuroplasticity in single cases and patient groups. Talk presented at the Albany conference on Biotechnology in the Capital Region, Rensselaerville, NY.
- Manly, C. F., Romero, S. G., Harris A., Lobo, A., Makale, M., & Grafman J., (2001, March) Individual differences in strategy preference and associated cerebral blood flow during route information recall. Poster presented at the meeting of the Cognitive Neuroscience Society, New York, NY.
- Romero, S. G., Granetz, J., Makale, M., Manly, C., & Grafman, J. (2000, April) Learning and memory in developmental dyscalculia. Poster session presented at the seventh annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Basso G., Romero S. G., Pietrini P, Beeson P. M., Rapczack S., Grafman J. (1998, June) Neurofunctional correlates of language reorganization after massive hemisphere stroke. Poster session presented at the Fourth International Conference On Functional Mapping Of The Human Brain, Montreal, Canada.
- Grafman J., Basso G., Romero S. G., Beeson P. M., Rapczack S., Pietrini P., Rickard T., (1998, April) Mathematical abilities after massive left hemisphere stroke: fMRI studies prior to, and after, training. Presented at the annual Meeting of the American Academy of Neurology, Minneapolis, MN.
- Romero, S. G., Rickard, T. C., Basso, G., Wharton, C., Grafman, J. (1997, March) Where the brain verifies a numerical fact. Poster session presented at the annual meeting of the Cognitive Neuroscience Society, Boston, MA.
- Romero, S. G., Rickard, T. C., Bourne, L. E. Jr., (1994, November). On verification of multiplication facts: An investigation using retrospective protocols. Poster session presented at the annual meeting of the Psychonomic Society, St. Louis, MO.