David C. Somers, Ph.D.
Associate Professor of Psychology
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Research Overview
Research investigates neural mechanisms of perception, attention, and short-term memory using both experimental and computational approaches. Experimental studies focus on human perception using functional magnetic resonance imaging (fMRI) and visual psychophysics. Computational studies focus on detailed modeling of the neural circuitry of visual cortex.

Academic Employment History
Research Scientist, Perceptual Science Laboratory, Department of Brain & Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, March 1996-September 2000.

Research Scientist, Nuclear Magnetic Resonance Center, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, March 1997-June 2000.

Assistant Professor, Department of Psychology, Rutgers University, Newark, NJ, January 2000-June 2000.

Adjunct Assistant Professor, Department of Radiology, University of Medicine & Dentistry of New Jersey, Newark, NJ, January 2000-June 2000.

Assistant Professor, Department of Psychology, Boston University, Boston MA, July 2000 – Aug 2006.

Visiting Scientist, Nuclear Magnetic Resonance Center, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, July 2000 – present.

Assistant Professor, Program in Neuroscience, Boston University, Boston MA, Jan 2001-Aug 2006.

Assistant Professor, Program in Mathematical and Computational Neuroscience, Boston University, Boston MA, Jan 2001- Aug 2006.

Research Fellow, Department of Cognitive & Neural Systems, Boston University, Boston MA May 2001 - present

Associate Professor, Department of Psychology, Boston University, Boston MA, July 2000 – present.

Associate Professor, Program in Neuroscience, Boston University, Boston MA, Sep 2006-present.

Education & Training
B.S., Mathematics and Computer Science, Harvey Mudd College, Claremont, CA. 1987. Psychology Minor.

Ph.D., Cognitive and Neural Systems, Boston University, Boston, MA. 1993.
Research and training in cognitive science, neural networks, visual perception, and dynamical systems. Thesis research on coupled neural oscillators and perceptual feature binding. Thesis Advisors: Stephen Grossberg, founding president, International Neural Network Society, and Nancy Kopell, member, National Academy of Sciences and Mac Arthur Fellow.

Post-Doctoral Fellow, Computational & Cognitive Neuroscience, Department of Brain & Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, 1992-1997. Neuroscience research and training in the laboratory of Mriganka Sur. Computational research focused on circuit--level models of visual cortex: orientation selectivity, non-classical receptive field properties.

Grants, Honors, & Awards

- Student Body President, Harvey Mudd College, 1985--86.
- Durfee Foundation Award, Study of Science & Engineering Education, China, 1987.
- College Fellow, Harvey Mudd College, 1986--87.
- Who's Who Among Students in American Colleges and Universities, 1987.
- Thomas J. Watson Fellow, Independent Study in England, India, & Nepal, 1987--88.
- Presidential University Fellow, Boston University, 1988--89.
- NASA Graduate Student Research Fellow, 1989--1992.
- McDonnell--Pew Fellow in Cognitive Neuroscience, 1992-1994.
- NIH Postdoctoral Research Fellow, Computational Neuroscience, NIMH, 1994-1997.
- NSF, Co-investigator, Human Cognition and Perception Program, Proposal Funded, 1999-2002.
- NIH/NEI, Co-investigator, National Eye Institute, Proposal Funded, 1999-2002.
- NSF grant BCS-0236737, “Mechanisms of Attentional Selection in Human Visual Cortex,” Principal Investigator, Cognitive Neuroscience Program, 2003-2007.
- NIH/NEI, Mentor/Sponsor, post-doctoral grant to Dr. Lotfi Merabet. “The Role of Visual Cortex in Tactile Object Processing.”
- NSF grant BCS-0726061, “Perceptual and Attentional Topography of Human Posterior Parietal Cortex,” Principal Investigator, Cognitive Neuroscience Program, 2007-2011.

- NSF grant SBE-0354378, Center of Excellence for Learning in Education, Science, and Technology (CELEST) grant, 2009-2011.

Other Prizes

- **"**A Treasure's Trove Treasure Hunt Contest of Skill," Beetle Token co-finder. Solved nationwide treasure hunt and claimed prize worth over $50,000. July 2005.
- "Miller Lite Case Chase Treasure Hunt," Grand Prize Winner, Los Angeles. Solved Los Angeles area treasure hunt and claimed prize of $10,000. July 1986.

Faculty Committee Service

Chair Search Committee, Psychology Department, Boston University, 2007.
Undergraduate Neuroscience Curriculum Committee, Boston University, 2007-present.
Ad-hoc Computational Neuroscience Curriculum Committee, Boston University, 2007.
Merit Committee, Psychology Department, Boston University, 2006, 2007.
Social Sciences Curriculum Committee, College of Arts & Sciences, Boston University, 2005-2007.
Faculty Reviewer, The Nerve, student-run neuroscience journal, 2009.
Graduate Admissions Committee, Brain, Behavior & Cognition Program, Department of Psychology, Boston University, 2001-present.
Colloquium Series Organizer, Brain, Behavior & Cognition Program, Department of Psychology, Boston University, Oct 2006-present.

National Organizational Committees

Society for Neuroscience, Education Committee, Board Member 2002-2005.

Selected Invited Research Lectures

NASA – Johnson Space Center, Houston, TX, 1991.
National Institute of Health, Bethesda, MD, 1992.
McMaster University, Hamilton, Ont, Canada, 1992.
Boston University, Boston, MA, 1994, 1999, 2000.
Harvard University, Cambridge, MA, 1995, 1999.
Johns Hopkins University, Baltimore, MD, 1995.
Neurosciences Institute, La Jolla, CA, 1995.
Brandeis University, Waltham, MA, 1995.

New York University, New York, NY, 1995.
MIT Artificial Intelligence Laboratory, Cambridge, MA, 1995.
Frei Universitat, Berlin, Germany, 1996.
Georgetown Medical School, Washington, D.C., 1997.
Duke University, Durham, NC, 1997.
Brown University, Providence, RI, 1997.
Universidad Autonoma de Madrid, Madrid, Spain, 1998.
Maryland Psychiatric Research Institute, Baltimore, MD, 1998.
Courant Institute of Applied Mathematics, New York, NY, 1998
Institute for Mathematics and its Applications, Minneapolis, MN, 1998.
Instituto Juan March, Madrid Spain, 1998.
West Virginia School of Medicine, Morgantown, WV, 1999.
Boston University Medical School, Boston MA, 1999.
Harvard Medical School, Boston, MA, 1999.
Dartmouth University, Hanover, NH, 2000.
NEC Research Labs, Princeton, MA, 2000.
Japanese Winter Workshop on Mind & Brain, Rusutsu, Hokkaido, Japan, 2001.
NTT Research Laboratory, Atsugi, Japan, 2001.
Brigham & Women's Hospital, Boston, MA 2001.
Brigham & Women's Hospital, Boston, MA 2005.
Massachusetts General Hospital, Charlestown, MA, 2005, 2007.
Harvard University, Vision Sciences, Department of Psychology, Cambridge, MA 2005.
7th Gathering for Gardner (G4G7) in celebration of Martin Gardner, Atlanta, GA, 2006.
Shanghai Biophysics Society, Shanghai, China, 2006.
Harvard University, Cognition, Brain & Behavior, Department of Psychology, Cambridge, MA 2007.
Massachusetts Institute of Technology, Vision Seminar, Cambridge, MA, 2008.
Golden Terriers Alumni Luncheon, Boston University, 2009.
Johns Hopkins University / Center for Talented Youth, Neuroscience Day-Boston, 2010.

Invited Addresses

Convocation Address, Harvey Mudd College, Claremont, CA,, August 2000.
Keynote Address, Japanese Winter Workshop on Mind & Brain, Rusutsu, Japan, 2001.

Seminars & Symposia Organized

MIT Cognitive Neuroscience Colloquium Series Coordinator, 1993-1994.

Computational Neuroscience *94 -- ``Recurrent models of cortical circuitry"

Computational Neuroscience *96 -- ``Visual Cortical Orientation Selectivity, (w/ M. Carandini).

Teaching

Summer Course in Methods in Computational Neuroscience, Marine Biological Laboratories, Woods Hole, MA, 1996.

Models of Visual Perception, (graduate-level), Boston University, Invited Lecturer, 1996, 2001.

Computational Neuroscience, (graduate-level), Boston University, Invited Lecturer, 1997.

International Mathematical Association Workshop on Computational Neuroscience, Invited Lecturer, 1998.

Introduction to Cognitive Psychology, (undergraduate-level), Boston University, Professor, Spring ’01, Fall ’01, Spring ’02, Fall ’02, Spring ’03, Summer I ’03, Fall ’03 , Spring ’04, Summer I ’04, Fall ’04 , Spring ’05, Summer I ’05, Fall ’05, Spring ’06, Summer I ’06, Fall ’06, Spring ’07, Summer I ’08, Spring ’09, Summer I ’09, Spring ’10, Summer I ‘10.

Systems & Cognitive Neuroscience, Boston University, Participating Lecturer, Spring ’01, Spring ’02, Spring ’03, Spring ‘04, Spring ’05, Spring ’06, Spring ‘07

Seminar in Human Brain Mapping (Contemporary Trends in Psychology), (mixed graduate & undergraduate), Boston University, Professor, Fall ’01, Fall ’02, Fall ’03, Spring ’05, Spring ’06, Fall ’06, Spring ’09, Spring ’10.

Research Methods in Perception & Cognition (mixed graduate & undergraduate), Boston University, Professor, Spring ’02, Spring ’03, Spring ’04, Fall ‘05

Attention, Graduate Seminar, Spring ‘07

Cognitive Neuroscience, Fall ’08, Fall ’09, Fall ‘10

Other Professional Activities

Chairperson, NIH/CSR, Sensory, Motor & Cognitive Neuroscience Fellowship Study Section (F02B), Feb 2009, June 2009, Oct 2009, Feb 2010, Oct 2010

Reviewing Editor, Frontiers in Systems Neuroscience, 2008-present.

External Advisory Board, Harvard/MGH/MIT Advanced Multimodal Neuroimaging Training Program, 2008, 2009, 2010.

Study section reviewer, NIH/CSR, Sensorimotor Integration NRSA panel, Feb 2005, Oct 2005, Feb 2006, June 2007, Nov 2007, Feb 2008, June 2008.

Study section reviewer, temporary member, NIH/CSR, NEI, Central Visual Processes panel, Oct 2004

Selection Committee & Guest Interviewer, Thomas J. Watson Fellowship Board, New York, 2009-10.

Scientific Advisory Board, Institute for Contemporary Art, Boston. Grand Opening Exhibition: "Super Vision," 2006.

Educational Advisor, Museum of Fine Arts, Boston, Ancient Assyria Exhibition, 2008.

Educational Advisory Board, Treasure's Trove, Inc., 2005-2007.

Ad hoc grant reviewer, NSF, Program in Computational Neuroscience, 1994--95, 1999

Ad hoc grant reviewer, NIH, NEI, Visual Section B, 1999

Grant Reviewer, Biomedial Research Council of Singapore, 2001, 2004, 2005

Grant Reviewer, Binational Science Foundation, 1999, 2004

Grant Reviewer, NSF, 2002

Conference Referee, Neural Information Processing Seminars (NIPS), 1996

Conference Referee, International Conference on Neural Networks (ICNN), 1997

Journal Referee, Neural Networks, 1993, 1995, 1997, 1998

Journal Referee, Journal of Neuroscience, 1995, 1997, 1998, 1999, 2001, 2002, 2005, 2006, 2007, 2008, 2009, 2010.

Journal Referee, Visual Neuroscience, 1996

Journal Referee, Neural Computation, 1996, 1998, 1999, 2000

Journal Referee, Journal of Computatational Neuroscience, 1996, 1998

Journal Referee, Physica D, 1996

Journal Referee, Proceedings of the National Academy of Sciences, (USA), 1996, 1998, 2002

Journal Referee, Nature, 1999, 2000, 2001

Journal Referee, Nature Neuroscience, 2000, 2002

Journal Referee, Network, 2000

Journal Referee, Vision Research, 2000, 2003, 2007

Journal Referee, Journal of Optical Society of America, 2001

Journal Referee, Journal of Neurophysiology, 2001, 2003, 2005, 2006, 2007, 2008, 2009, 2010.

Journal Referee, Neuron, 2001, 2002, 2003, 2004, 2008, 2009.

Journal Referee, NeuroImage, 2002, 2003

Journal Referee, Current Biology 2003

Journal Referee, Cerebral Cortex, 2004

Journal Referee, Journal of Vision, 2006

Journal Referee, Trends in Cognitive Science, 2009

Journal Referee, Attention, Perception & Psychophysics, 2010

Cover Artwork Credits

Journal of Neuroscience, Vol. 15, No. 8, August 1995.

Cerebral Cortex, Vol. 8, No. 3, April/May 1998.

Journal of Cognitive Neuroscience, Vol. 12, No. 3, May 2000.

Cognitive Neuroscience of Memory: An Introduction (by H. Eichenbaum), Oxford Univ. Press, 2002.

Program in Neuroscience, Boston University, contributed art to website and advertising posters.

Group Exhibition

"In the mind's sky: Intersections of art and science." Ruth Chandler Williamson Gallery, Scripps College, Claremont, California. Aug.-Oct. 2000.

"Intrinsic Profiles" Grand Opening Ceremonies, Center for Mind and Brain, University of California, Davis, California, April 2004.

Research Papers

1. *Grossberg, S., and Somers, D.C. (1991) Synchronized oscillations during cooperative feature linking in a cortical model of visual perception. Neural Networks, 4, 453--466.

2. *Grossberg, S., and Somers, D.C. (1992) Synchronized oscillations for binding spatially distributed features into pre-attentive brain representations. Structure: From Physics to General Systems. E. R. Caianello, M. Marinaro, and G. Scarpetta, (Eds.) World Scientific Press.

3. *Grossberg, S., and Somers, D.C. (1992) Synchronized oscillations for binding spatially distributed feature codes into coherent spatial patterns. Neural Networks for Vision and Image Processing. G.A. Carpenter and S. Grossberg (Eds.) pp 385--405. Cambridge, MA: MIT Press.

(*)-- Ph.D.~Thesis research papers written with S. Grossberg were published in accordance with departmental policy of listing authors alphabetically.

4. Somers, D.C., and Kopell, N. (1993) Rapid synchronization through fast threshold modulation. Biological Cybernetics 68, 393-407.

5. Somers, D.C. (1993) Synchronization in networks of neural relaxation oscillators: visual cortical processing and intrinsic oscillator properties. Ph.D. Thesis.

6. Kopell, N., and Somers, D.C. (1995) Anti-phase solutions in relaxation oscillators coupled through excitatory interactions. Journal of Mathematical Biology 33, 261--280.

7. Somers, D.C., Nelson, S.B., and Sur, M. (1995) An emergent model of orientation selectivity in cat visual cortical simple cells. Journal of Neuroscience, 15, 5448-5465, August cover feature.

8. Somers, D.C., Todorov, E.V., Siapas, A.G., and Sur, M. (1995) Vector-based integration of local and long-range information in visual cortex. MIT Artificial Intelligence Laboratory Memo No. 1556. & Center for Biological and Computational Learning Memo No. 127.

9. Somers, D.C., Todorov, E.V., Toth, L.J., Rao, S.C., Kim,D.-S., Nelson, S.B., Siapas, A.G., and Sur, M. (1995). Variable gain properties of local cortical circuitry support context-dependent modulation by fixed strength long-range horizontal connections. Computational Roles of Lateral Connections in the Cortex. J. Sirosh, R. Miikkulainen (Eds.) Univ. of Texas, Electronic Book. URL: http://www.cs.utexas.edu/users/nn/web-pubs/htmlbook96/somers/

10. Somers, D.C., and Kopell, N. (1995) Waves and synchrony in networks of oscillators of relaxation and non-relaxation type. Physica D: Nonlinear Phenomena, 89, 169-183.

11. Somers, D.C., Nelson, S.B., and Sur, M. (1995) An emergent model of visual cortical orientation selectivity. The Neurobiology of Computation. J.M. Bower (Ed.) pp 311--316. Norwell, MA: Kluwer Academic Press.

12. Toth, L.J., Rao, S.C., Kim, D.S., Somers, D.C., and Sur, M. (1996) Subthreshold facilitation and suppression in primary visual cortex revealed by intrinsic signal imaging. Proceedings of the National Academy of Sciences, 93, 9869-9874.

13. Todorov, E.V., Siapas, A.G., Somers, D.C., and Nelson, S.B. (1997) Modeling visual cortical contrast adaptation effects. Computational Neuroscience, Trends in Research. J.M. Bower (Ed.), pp 525--531. New York: Plenum Press.

14. Dragoi, V. and Somers, D.C. (1997) Short and long-term plastic effects induced by the multiple time scales of events at the cellular and synaptic level in a model of spiking neurons in primary visual cortex. Invest. Opthalmol. Vis. Sci., 38 (4), 1791

15. Todorov, E.V., Siapas, A.G., and Somers, D.C. (1997) A model of recurrent interactions in primary visual cortex. Advances in Neural Information Processing Systems, 9, 118-124.

16. Somers, D.C. and Adelson, E.H. (1997) Junctions, transparency, and brightness. Invest. Opthalmol. Vis. Sci., 38 (4), 2126

17. Somers, D.C., Todorov, E.V., Siapas, A.G., and Sur, M. (1997) A local circuit integration approach to understanding visual cortical receptive fields. Computational Neuroscience, Trends in Research, pp 505--510.

18. Somers, D.C., Todorov, E.V., Siapas, A.G., Toth, L.J., Kim, D.S., and Sur, M. (1998) A local circuit integration approach to understanding visual cortical receptive fields, Cerebral Cortex, 8, 204-217. Cover Feature.

19. Somers, D.C., Dale, A.M., Seiffert, A.E., and Tootell, R.B.H. (1999) Functional MRI reveals spatially specific attentional modulation in human primary visual cortex, Proc. Natl. Acad. Sci. USA., 96, 1663-1668.
See also Commentary on Somers et al. 1999 by M.I. Posner & C.D. Gilbert, Proc. Natl. Acad. Sci. USA., 96,. 2585-2587.

20. Kwong, K.K., Somers, D.C., Wu, O. and Chesler, D. A. (1999) High temporal resolution event-related fMRI. Ultrafast Magnetic Resonance Imaging in Medicine. S. Naruse and H. Watari (Ed.) pp 149-152. Amsterdam: Elsevier Science.

21. Somers, D.C., Dragoi V., and Sur, M. (2001) Orientation selectivity and its modulation by local and long-range connections in visual cortex. Cerebral Cortex, Volume 15, Cat Primary Visual Cortex. B. Payne and A. Peters (Eds.) pp 471—520. New York: Academic Press.

22. McMains, S. and Somers, D.C. (2002) Functional MRI investigation of multiple foci of visual spatial attention: More than one spotlight? Cognitive Neuroscience, 5, 5.

23. Seiffert, A.E., Somers, D.C., Dale, A.M., and Tootell, R.B.H. (2003) Functional MRI studies of human motion perception: Texture, luminance, attention, and after-effects. Cerebral Cortex 13, 340-349.

24. McMains, S. and Somers, D.C. (2004) Multiple Spotlights of Attentional Selection in Human Visual Cortex. Neuron, 42, 677-686.
See also Commentary on McMains & Somers 2004 by F. Tong, Neuron, 42. 524-526.

25. Merabet, L.B., Rizzo, J.F., Somers, D.C., Pascual-Leone, A.(2005) What blindness can tell us about seeing again. Nature Reviews Neuroscience, 6, 71-77.

26. Somers, D.C. and McMains, S. (2005) Spatially-Specific Attentional Modulation Revealed by fMRI. Neurobiology of Attention. L. Itti, G. Rees, J. Tsotsos (Eds.) pp 377—382. New York: Academic Press.

27. Logvinenko, A.D., Adelson, E.H., Ross, D.A. & Somers, D.C. (2005). Straightness as a cue for luminance edge classification. Perception & Psychophysics, 67, 120-128.

28. McMains, S.A., and Somers, D.C. (2005). Processing efficiency of divided spatial attention mechanisms in human visual cortex. Journal of Neuroscience, 25, 9444-8.

29. Merabet, L, Swisher, JD, McMains, SA, Halko, MA, Amedi, A, Pascual-Leone, A, Somers, D.C. (2006) Combined activation and deactivation of visual cortex during tactile sensory processing. J Neurophysiol 97, 1633-41.

30. Swisher, JD, Halko, MA, Merabet, L, McMains, SA, Somers, D.C. (2007) Visual Topography of Human Intraparietal Sulcus. Journal of Neuroscience, 27, 5326-37.

31. Schon, K., Tinaz, S., Somers, D.C., Stern, C.E. (2008) Delayed match to object or place: An event-related fMRI study of short-term stimulus maintenance and the role of stimulus pre-exposure. Neuroimage, 39, 857-872.

32. Halko, M., Mingolla, E., Somers, D.C. (2008) Multiple mechanisms of illusory contour perception. (2008) Journal of Vision, 8(11):17, 1-17.

33. Bettencourt, K.C. and Somers, D.C. (2009) Effects of target enhancement and distractor suppression on multiple object tracking capacity. Journal of Vision, 9(7): 9, 1-11.

34. Sheremata, S.L, Bettencourt, K.C., Somers, D.C. (2010) Hemispheric asymmetry in visuotopic posterior parietal cortex emerges with visual short-term memory load. Journal of Neuroscience, 30, 12581-8.

35. Bettencourt, K.C., Sheremata, S.L., and Somers, D.C. (2010) Dual Indexing of Targets and Distractors in Visuotopic Human Posterior Parietal Cortex, in revision.

ABSTRACTS

- Grossberg, S., and Somers, D.C. (1991) Synchronized oscillations during cooperative feature linking in visual cortex. Proceedings of the International Joint Conference on Neural Networks, 1991 SEATTLE, Vol. 2, 249--254.

- Somers, D.C., and Grossberg, S. (1991) Synchronized oscillations during cooperative feature linking in a model of visual cortex. Society for Neuroscience Abstracts, 17, 479.2.

- Somers, D.C., and Kopell, N. (1992) Threshold properties of individual model neural oscillators contribute to rapid network synchronization and may potentially play a role in perceptual feature binding. Society for Neuroscience Abstracts, 18, 131.6.

- Somers, D.C., Nelson, S.B., and Sur, M. (1993) A computational investigation of the role of short—range intracortical excitation in orientation selectivity in visual cortex. Society for Neuroscience Abstracts, 19, 263.5.

- Somers, D.C. (1993) Dynamic feature binding properties of neural relaxation oscillators. Invest. Opthalmol. Vis. Sci. Suppl., 34 (4), 457.

- Somers, D.C., Nelson, S.B., and Sur, M (1994) Effects of long-range connections on gain control in an emergent model of visual cortical orientation selectivity. Society for Neuroscience Abstracts, 20, 646.7.

- Somers, D.C., Nelson, S.B., and Sur, M (1995) Analysis of temporal dynamics of orientation selectivity in feedback and feedforward models of visual cortex. Society for Neuroscience Abstracts, 21, 162.1.

- Siapas, A.G., Todorov, E., and Somers, D.C. (1995) Computing mean firing rates of ensembles of realistic neurons. Society for Neuroscience Abstracts, 21, 649.4

- Somers, D.C., Todorov, E.V., Siapas, A.G., and Nelson, S.B. (1996) Contrast adaptation effects modeled as thalamocortical and intracortical synaptic transmission changes. Society for Neuroscience Abstracts, 22, 254.19

- E.H. Adelson and Somers, D.C. (1997) Statistics and configuration in lightness perception. European Conference on Visual Perception, oral presentation.

- Mazer, J.A., Somers, D.C, and Adelson, E.H. (1997) Sensitivity of area V1 neurons to apparent brightness in awake behaving macaque monkeys. Society for Neuroscience Abstracts, 23, 178.3.

- Somers, D.C., Dale, A.M., Mendola, J.D., Adelson, E.H., and Tootell, R.B.H. (1997) A functional magnetic resonance imaging investigation of apparent brightness perception. Society for Neuroscience Abstracts, 23, 178.22.

- Somers, D.C., Seiffert, A.E., Dale, A.M., and Tootell, R.B.H. (1998) Second-order motion stimulus-induced activation and attentional modulation of human visual cortical areas MT and V3A. Invest. Opthalmol. Vis. Sci. Suppl., 39, S1129.

- Somers, D.C., Seiffert, A.E., Dale, A.M., and Tootell, R.B.H. (1998) fMRI analysis of 2nd-order visual motion perception and attentive tracking. NeuroImage, 7, S323.

- Somers, D.C., Seiffert, A.E., Dale, A.M., and Tootell, R.B.H. (1998) An fMRI investigation of second-order visual motion processing with attentional modulation. Society for Neuroscience Abstracts, 24, 213.4.

- Somers, D.C., Seiffert, A.E., Dale, A.M., and Tootell, R.B.H. (1999) fMRI investigations of motion aftereffects with 1st and 2nd-order stimuli. Invest. Opthalmol. Vis. Sci. Suppl., 40, S1049.

- Tootell, R.B.H., Hadjikhani, N., and Somers, D.C. (1999) fMRI reveals subthreshold activation in human visual cortex: implications for consciousness. Society for Neuroscience Abstracts, 25, 6.12

- Somers, D.C., Seiffert, A.E., Dale, A.M., and Tootell, R.B.H. (1999) Effects of task difficulty and stimulus contrast on attentional modulation in human striate and extrastriate cortex revealed by fMRI. Society for Neuroscience Abstracts, 25, 6.10

- Somers, D.C., Nichols, K.R., and Adelson, E.H. (2000) Temporal dynamics reveal multiple mechanisms of brightness perception. Invest. Opthalmol. Vis. Sci. Suppl., 41, S956.

- Adelson, E. H. and Somers, D.C. (2000) Shadows are fuzzy and straight; paint is sharp and crooked. European Conference on visual Perception 142.

- Adelson, E.H., and Somers, D.C (2001) Straightness, Structure, and Shadows. Journal of Vision, vol. 1, no. 3, A204.

- McMains, S.A. and Somers, D.C. (2002) Multiple Spotlights of Attentional Selection in Human Visual Cortex .Society for Neuroscience Meeting.

- Somers, D.C., and McNally, R. (2003) Kinesthetic Visual Capture Induced By Apparent Motion. Journal of Vision, vol. 3, no. 9, A35.

- Swisher, J., Brooking, C., Somers, D. (2004) Spatial frequency and facial expressions of emotion, Journal of Vision, vol. 4, no. 8, A905.

- McMains, S.A. and Somers, D.C. (2004) fMRI cost-benefit analysis of split spotlight and zoom lens spatial attention mechanisms in human visual cortex. Society for Neuroscience Meeting.

- Halko, M.A. and Somers, D.C. (2004) Robust, moving illusory contours induced by 'munching' pacman Kanizsa display. Society for Neuroscience Meeting.

- Swisher, J.D. and Somers, D.C. (2004) Multitaper analysis of phase-encoded functional imaging data. Society for Neuroscience Meeting.

- Somers, D.C. and Adelson, E.H. (2005) Turning a brightness illusion on and off via selective attention. Society for Neuroscience Meeting.

- Schon, K., Tinaz, S., Somers, D.C., Stern C.E. (2005) Frontal eye field activity is not specific to active maintenance of spatial locations: an fMRI study. Society for Neuroscience Meeting.

- McMains, S.A., Crum, K.E., Swisher, J.D., Somers, D.C. (2005). Human fronto-parietal circuitry for "split spotlight" and "zoom lens" visual spatial attention. Society for Neuroscience Meeting.

- Halko, M.A., Mingolla, E., Somers, D.C. (2005). Dynamic cues override contradictory occlusion cues to support robust illusory contour formation and neon color spreading. Society for Neuroscience Meeting.

- Merabet, L.B., Swisher, J.D., McMains, S.A., Halko, M.A., Amedi, A., Pascual-Leone, A., Somers, D.C. (2005) Tactile cross-modal processing in visual cortex. Society for Neuroscience Meeting.

- Swisher, J.D., Crum, K.E., McMains, S.A., Halko, M.A., Sheremata, S.L., Somers, D.C. (2005) Stimulus-driven retinotopic maps in human parietal cortex observed via fMRI. Society for Neuroscience Meeting.

- Sheremata SL, Somers DC, Attention to features affects visual short-term memory representations. Program 118.1. 2006 Neuroscience Meeting Planner. Atlanta, GA: Society for Neuroscience, 2006. Online.

- Swisher JD, Merabet L, Pascual-Leone A, Somers DC, Distinct regions of tactile and visual activation in human parietal cortex. Program 437.1/F11. 2006 Neuroscience Meeting Planner. Atlanta, GA: Society for Neuroscience, 2006. Online.

- Halko MA, Somers DC, Functional MRI evidence for multiple mechanisms of illusory contour perception. Program 604.6. 2006 Neuroscience Meeting Planner. Atlanta, GA: Society for Neuroscience, 2006. Online.

- Merabet LB, Swisher JD, McMains SA, Halko MA, Rizzo JF, Pascual-Leone A, Somers DC. (2006) Activation and Deactivation of Visual Cortical Areas During Tactile Processing. Invest Ophthalmol Vis Sci 2006;47: E-Abstract 5877.

- Brady, D.K., Swisher, J.D., and Somers, D.C. (2006) Effects of attention on the spatial extent of crowding. Journal of Vision, vol. 6, no. 6, 590.

- Bettencourt, K.C. and Somers, D.C. (2007) Effects of Task Difficulty on Multiple Object Tracking Performance. Journal of Vision, vol. 7, no. 9, 898.

- Cassidy, B.S., Sheremata, S., Somers, D.C. (2007) Spatially specific training effects in multiple spotlight attention. Journal of Vision, vol. 7, no. 9, 700.

- Bettencourt, K.C. and Somers, D.C. (2008) Correlations between visual short-term memory and attentional capacity limits. Journal of Vision, vol. 8, no. 6, 862.

- Halko, M.A., Lymberis, J., Somers, D.C. (2008) Interactions between visual short-term memory and visuospatial attention. Journal of Vision, vol. 8, no. 6, 197.

- Somers, D.C. and Sheremata, S.L. (2008) Cross-hemifield attention benefits for visual enumeration. Journal of Vision, vol. 8, no. 6, 983.

- Sheremata, S.L. and Somers, D.C. (2008) Role of encoding duration on visual short-term memory capacity. Journal of Vision, vol. 8, no. 6, 1173.

- Bettencourt, K.C., Sheremata, S.L., and Somers, D.C. (2008) Attentional modulations of BOLD activity in human posterior parietal cortex produced by multiple target selection and distractor suppression. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008. Online.

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