

CURRICULUM VITAE

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EDUCATION:

2008 **Ph.D. Cognitive Neuroscience** Dartmouth College
1998 **M.S. Mathematics** Courant Institute New York University
1995 **B.A. Computational Mathematics** University of California at Santa Cruz

HONORS/AWARDS:

2008 NIH T32 Postdoctoral training fellowship
2008 AAAS/Science Program for Excellence in Science
2007 Cold Spring Harbor Laboratory: Structure, Function & Development of the Visual System
2007 Recipient: Marie Center 1982 Award for Research Excellence
2007 Best Visual Illusion of the Year Contest: Judge
2006 Recipient: Marie Center 1982 Award for Teaching Excellence
2006 Best Visual Illusion of the Year Contest: 3rd Place
2005 National Science Foundation Graduate Research Fellow
2005 Nominee: Marie Center 1982 Award for Teaching Excellence
2004 Dartmouth College Summer Institute in Cognitive Neuroscience Fellow
2003 Dartmouth College Presidential Fellow

EMPLOYMENT HISTORY:

2008 - Present	Post-Doctoral Research Fellow	PRINCETON UNIVERSITY Neuroscience of Attention and Perception Laboratory
1998 - 2003	Senior Mathematician	ABRATECH CORPORATION Sausalito, CA
1997	Scientific Programmer	LUCENT TECHNOLOGIES Mathematics of Networks and Systems Murray Hill, NJ
1995 - 1996	UNIX Programmer	AT&T BELL LABORATORIES Information Principles Research Murray Hill, NJ
1994	SONAR Analyst	NAVAL UNDERSEA WARFARE CENTER Combat Data Collection (CDC) New London, CT

TEACHING EXPERIENCE

- 2009: Invited Lecturer: Psychology 352, Advanced Perception
Bucknell University
- 2009: 7th Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'The Bar-Cross-Ellipse Illusion'
- 2008: 6th Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'An opti -mechanical demonstration of differential chromatic and achromatic flicker fusion'
- 2007: 5th Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'Aperture Induced Motion'
- 1998: Private mathematics tutor. Palo Alto, California

Graduate Student Instructor, Dartmouth College

- 2007 Psych 10: Statistics
- 2005 Psych 24: Perception
- 2005 Psych 64: Sensory Psychology
- 2004 Psych 11: Experimental Methods in Psychological Research

Undergraduate Research Supervision

- 2003 - 2008 Supervisor, Undergraduate Research Opportunity, Tse Vision Lab
- 2007 E.J. Ruberry. Honors Thesis. Effects of facial paralysis on ability to identify facial expressions of emotion. Co-author
- 2004 M.R. Samco. Honors Thesis. Neuro-anatomical correlates of psychological traits as revealed by diffusion tensor imaging. co-supervisor

UNIVERSITY SERVICE AT DARTMOUTH COLLEGE:

- 2007 - 2008 Organizer of the Cognitive Brown Bag talk series
- 2006 - 2008 Elected representative to the department graduate committee.
- 2006, 2008 Invited speaker, Graduate Student Research lecture series, Psychological and Brain Sciences Interview weekend
- 2007, 2008 Co-Organizer: Dartmouth College, Department of Psychological and Brain Sciences Colloquia Series
- 2006 - 2007 Organizer: Topics in Cognitive Neuroscience Journal Club
- 2006 Organizer: Graduate Research Roundtable Seminar Series
- 2005, 2006 Volunteer: Workshops on applying for NSF fellowships
- 2005 Co-organizer of the 1st Dartmouth Eye and Vision Research Meeting

JOURNAL REVIEWING:

Journal of Vision
Neuropsychologia

Journal of Neuroscience
Journal of Experimental Psychology: HPP

PUBLISHED ARTICLES:**2009**

1. G.P. Caplovitz, S. Kastner. Carrot sticks or joysticks: video games improve vision. *Nat Neurosci.*;12(5):527-8.
2. P.J. Kohler, G.P. Caplovitz*, P.U. Tse. The whole moves less than the spin of its parts. *Atten Percept Psychophys.*;71(4):675-9.
*corresponding author

2008

3. G.P. Caplovitz, N.A. Paymer, P.U. Tse. The Drifting Edge Illusion: A stationary edge abutting an oriented drifting grating appears to move because of the 'other a perture problem'. *Vision Research*; 48(22):2403-14.
4. G.P. Caplovitz, R. Fendrich, H.C. Hughes. Failures to see: Attentive blank stares revealed by change blindness. *Consciousness and Cognition*; 17(3):877-86
5. G.P. Caplovitz, D.J. Barroso, P-J. Hsieh, P.U. Tse. fMRI Reveals that non-local processing in ventral retinotopic cortex underlies perceptual grouping by temporal synchrony. *Human Brain Mapping*; 29(6):651-61.

2007

6. G.P. Caplovitz , P.U. Tse. Rotating dotted ellipses: Motion perception driven by grouped figural rather than local dot motion signals. *Vision Research*; 47(15), 1979-1991
7. G.P. Caplovitz, P.U. Tse. V3A processes contour curvature as a trackable feature for the perception of rotational motion. *Cerebral Cortex*; 17(5):1179-89
8. X.G. Troncoso, P.U., S.L. Macknik, G.P. Caplovitz, P-J. Hsieh, A.A. Schlegel, J. Otero-Millan, S. Martinez-Conde. BOLD activation varies parametrically with corner angle throughout human retinotopic cortex. *Perception*; 36(6) 808-820

2006

9. G.P. Caplovitz, P.U. Tse. The Bar-Cross-Ellipse Illusion: alternating percepts of rigid and non-rigid motion based on contour ownership and trackable feature assignment. *Perception*; 35(7):993-7.
10. P.U. Tse., G.P. Caplovitz, P-J. Hsieh. Microsaccade directions do not predict directionality of illusory brightness changes of overlapping transparent surfaces *Vision Research*; 46(22):3823-30.
11. G.P. Caplovitz, P-J. Hsieh, P.U. Tse. Mechanisms underlying the perceived angular velocity of a rigidly rotating object. *Vision Research*; 46(18):2877-93
12. P-J. Hsieh, G.P. Caplovitz, P.U. Tse. Bistable illusory rebound motion: Event-related functional magnetic resonance imaging of perceptual states and switches. *Neuroimage*; 32(2):728-39
13. P-J. Hsieh , G.P. Caplovitz, P.U. Tse. Illusory motion induced by the offset of stationary luminance-defined gradients. *Vision Research*; 46(6-7):970-8

2005

14. P.-J. Hsieh, G.P. Caplovitz, P.U. Tse. Illusory Rebound Motion and the motion continuity heuristic. *Vision Research*; 45(23):2972-85

2004

15. D.L. Jewett, G.P. Caplovitz, B. Baird, M. Trumpis, M.P. Olson, L.J. Larson-Prior. The use of QSD (q-sequence deconvolution) to recover superposed, transient evoked-responses. *Clinical Neurophysiology*; 115:2754-2775

MANUSCRIPTS IN PREPARATION:

16. G.P. Caplovitz, P.U. Tse. fMRI reveals interactions between form and motion in extrastriate cortex.
17. G.P. Caplovitz, P.U. Tse. Dotted Ellipses: fMRI reveals extrastriate regions of visual cortex involved in the processing of rotational motion.
18. G.P. Caplovitz, R. Fendrich, H.C. Hughes. Seeing changes without seeing what changed.

BOOK CHAPTERS:**2006**

- P.U. Tse, G.P. Caplovitz. Chapter 15 Contour discontinuities subserve two types of form analysis that underlie motion processing. *Prog Brain Res.*; 154:271-92.

INVITED TALKS:

- 04/2009 *'Feature Exchange'*
Treisman Lab, Princeton University
- 03/2009 *'The other aperture problem'*
Treisman Lab, Princeton University
- 03/2009 *'Form Motion Interactions and what they tell us about perception'*
Departments of Psychology and Cognitive and Linguistic Sciences
Brown University
- 03/2008 *'Looking and Not Seeing'*
Treisman Lab, Princeton University
- 10/2007 *'Mechanisms underlying the perception of rotational motion'*.
Neuroscience of Attention and Perception Laboratory, Princeton
University
- 04/2007 *'Mechanisms underlying the perception of rotational motion'*.
Martinos Center for Biomedical Imaging.

PUBLISHED ABSTRACTS:***Vision Sciences Society Meeting, Naples, FL 2009***

G.P. Caplovitz, P.U. Tse. Dotted Ellipses: Local and emergent motion signals differentially modulate BOLD activity in visual cortex

P.J. Kohler, G.P. Caplovitz, P.U. Tse. The Whole Moves More than the Spin of its Parts

J. Ales, G.P. Caplovitz, A. Norcia. Neural correlates of perceptual grouping in the occluded diamond illusion

European Conference on Visual Perception, Regensburg, Germany 2009

G.P. Caplovitz, K.B. Porter, C.M. Ackerman, P.J. Kohler, P.U. Tse. Independent processing of rotational and translational motion in the perception of moving objects

Vision Sciences Society Meeting, Naples, FL 2008

G.P. Caplovitz, R. Fendrich, H.C. Hughes. Seeing Changes Without Seeing What Changed.

N.A. Paymer, G.P. Caplovitz, P.U. Tse. Stimulus factors that influence the perceived direction of tilt-induced motion.

European Conference on Visual Perception, Arezzo, Italy 2007

G.P. Caplovitz, R. Fendrich, H.C. Hughes. Failures to See: Attentive Blank Stares Revealed by Change Blindness.

Dartmouth Undergraduate Honors Thesis Presentations, 2007

E. J. Ruberry, F.C. Davis, M.A. Stotland, T.F. Heatherton, G.P. Caplovitz, P.J. Whalen: Effects of facial paralysis on ability to identify facial expressions of emotion.

Vision Sciences Society Meeting, Sarasota, FL 2007

G.P. Caplovitz, P.U. Tse. Aperture Induced Motion: Illusory motion percepts arising from conflicting terminator and component motion signals.

P.-J. Hsieh, G.P. Caplovitz, P.U. Tse. Bistable Illusory Rebound Motion: Event-related functional magnetic resonance imaging of perceptual states and switches.

Vision Sciences Society Meeting, Sarasota, FL 2006

G.P. Caplovitz, P.U. Tse. Spinning Ellipses: Dotted contours reveal the spatial resolution for the tracking of unambiguously moving features.

P.U. Tse, G.P. Caplovitz. V3A processes contour curvature as a trackable feature for the perception of rotational motion.

Society for Neurosciences Meeting, Washington, D.C. 2005

G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. The neural correlates of trackable feature motion processing on the basis of second-order motion stimuli.

C. Gomez, G. P. Caplovitz, P.-J. Hsieh, P. U. Tse. Neuronal correlates of common fate (spatial and temporal correlation) in retinotopic cortex.

X.G. Troncoso, P.U. Tse, S.L. Macknik , G.P. Caplovitz, P.-J. Hsieh , A.A. Schlegal, S. Martinez-Conde. fMRI correlates of corner-based illusions show BOLD activation varies gradually with corner angle.

P.-J., Hsieh, G.P. Caplovitz, P.U. Tse. Neuronal activity varies with motion-induced blindness in ipsilateral and contralateral retinotopic cortex and contralateral hMT+.

Optical Society of America Vision Meeting, 2005

X.G. Troncoso, P.U. Tse, S.L. Macknik , G.P. Caplovitz, P.-J. Hsieh , A.A. Schlegal, S. Martinez-Conde. fMRI correlates of corner-based illusions show BOLD activation varies gradually with corner angle.

European Conference on Visual Perception, 2005

P.U. Tse, G.P. Caplovitz, P.-J. Hsieh. The role of contour curvature in form-based motion processing.

X.G. Troncoso, P.U. Tse, S.L. Macknik , G.P. Caplovitz, P.-J. Hsieh , A. A. Schlegal, S. Martinez-Conde. fMRI correlates of corner-based illusions show BOLD activation varies gradually with corner angle.

Vision Sciences Society Meeting, Sarasota, FL 2005

G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. The neural correlates of motion processing on the basis of trackable features.

P.-J. Hsieh, G.P. Caplovitz, P.U. Tse. Neural correlates of conscious visibility found in ipsilateral retinotopic cortex.

P.U. Tse, G.P. Caplovitz, P.-J. Hsieh. Voluntary attention modulates the brightness of overlapping transparent surfaces.

M.R. Samco, G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. Neural correlates of human creativity revealed using diffusion tensor imaging.

C. Gomez, G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. Neuronal correlates of Common Fate (spatial and temporal correlation) in retinotopic cortex.

Society for Neurosciences, 2004

P.U. Tse, M.R. Samco, G.P. Caplovitz, P.-J. Hsieh, Neural correlates of psychological attributes (creativity, schizotypy, psychopathy, handedness, and gender) revealed using Diffusion Tensor Imaging.

Annual Meeting of the Association for Research in Otolaryngology, 2003

D.L. Jewett, G.P. Caplovitz, B. Baird, L. Larson-Prior. Time-domain deconvolution of overlapped waveforms by "Q-Sequences".