Silvia A. Bunge, Ph.D.

University of California, Berkeley
Department of Psychology &
Helen Wills Neuroscience Institute
132 Barker Hall, MC3190
Berkeley CA 94720
sbunge@berkeley.edu
http://www.bungelab.berkeley.edu

Positions and Employment

Aug 2011 –	Vice Chair (one of two), Dept. of Psychology
July 2009 –	Associate Professor, Dept. of Psychology & Helen Wills Neuroscience Institute
Jan, 2007 – 2009	Assistant Professor, Dept. of Psychology & Helen Wills Neuroscience Institute *University of California at Berkeley*
2003 – Dec, 2006	Assistant Professor, Dept. of Psychology & Center for Mind and Brain *University of California at Davis*
2001 – 2003	Postdoctoral Associate, Department of Brain and Cognitive Sciences *Massachusetts Institute of Technology*
1996 – 2001	Ph.D., Neurosciences Program *Stanford University*
1992 – 1996	B.S. Intensive in Biology (psychobiology); cum laude; Distinction in Biology *Yale College*
1990 – 1992	Diploma of Collegiate Studies: Health Sciences & Pure and Applied Sciences *Collège Jean-de-Brébeuf, Montreal*

Research Experience

2001 – 2003	Postdoctoral research with Dr. Anthony Wagner at MIT *Investigations of prefrontal cortex and cognitive control*
1997 – 2001	Ph.D. research with Dr. John Gabrieli at Stanford University *Investigations of prefrontal cortex and cognitive control*
1995 – 1996	Undergraduate research with Dr. Thomas Carew at Yale University *Short-term memory mechanisms in Aplysia*

Awards

2011	James S. McDonnell Foundation Scholar Award Finalist, Aspen Brain Forum Award in NeuroEducation for Senior Investigator
2007	Young Investigator Award, Cognitive Neuroscience Society
2004 - 2009	John Merck Scholarship in the Biology of Developmental Disabilities
2001	Finalist for MIT Science Fellowship
1999	McDonnell Summer Institute in Cognitive Neuroscience Fellowship
1996 – 2001	Baxter Foundation Fellowship, Stanford Medical School
1996	Distinction in Biology; graduated with honors from Yale College

Professional Memberships

2011 –	National Scientific Council on the Developing Child (elected)
2010 –	Frontiers of Innovation: A community dedicated to reducing early barriers to learning. (Subteam: Building Caregiver Capacities)
2007 – 2010	MacArthur Law and Neuroscience Consortium (elected)
2006 –	Memory Disorders Research Society (elected)
2004 –	Association for Psychological Science

1998 –	Society for Neuroscience
1998 –	Cognitive Neuroscience Society
1996	Vice-President, Undergraduate Science Symposia, Yale College
1995 – 1996	Co-President, Yale Science & Engineering Association, Undergraduate Chapter
1994 – 1996	Vice-President, Bioethics Society, Yale College

Teaching Experience

2010-2012	Professional Development for 2nd-year graduate students (PSYCH 293, UCB)
2009	Developmental Proseminar (PSYCH 240, co-instructor, UCB)
	Neurological Disorders in Famous Artists (PSYCH 128, UCB)
	Professional Development for 2nd-year graduate students (PSYCH 293, UCB)
2008	The Developing Brain (PSYCH 125, UCB), Fall 2008
	Professional Development for 2nd-year graduate students (PSYCH 293, UCB)
2007	Developmental Cognitive Neuroscience (PSYCH 192, UCB)
	Developmental Proseminar (PSYCH 240, co-instructor, UCB)
	Faculty Sponsor, Brain and Medicine DeCal course
2003 – 2006	Cognitive Neuroscience (PSC 135, Bunge, UCD; 4 times)
2004 – 2006	Cognitive Neuroscience (PSC 261/NSC 223; co-instructor at UCD; 3 times)

Guest lectures

2012	Graduate course in Cognitive Neuroscience, UCSF (Gazzaley)
2011	DeCal course for UC Berkeley Undergraduate Journal in Psychology
2010	Max Planck Institute in Human Development, seminar for LIFE fellows
2009	Instructor (20 hours total), Master Program in Cognitive Neuroscience, Psychology Department, University of Granada, Spain
2008	Riken Brain Science Institute Summer Lecture Course, "Developmental Foundations of Brain Function and Dysfunction", Tokyo
2008	Pierce College, a community college in Los Angeles
	Social/Personality Proseminar (Chen, UCB; October)
	Graduate course in Cognitive Neuroscience, UCSF (Gazzaley; 2 sessions)
2007	Developmental Psychology (Markson, UCB)
	Developmental Psychopathology (Zhao, UCB)
2006	Cognitive Neuroscience (Wojciulik, UCD)
2005	Medical school Neurobiology course (Kumari, UCD)
2003	Proseminar in Psychology (PSC 200; Goodman, UCD)
2002	Foundations of Human Memory and Learning (Wagner, MIT)
	Cognitive Neuroscience (Corkin, MIT)
2001	Developmental Cognitive Neuroscience (Shelton and Turner, Stanford)
1996-2001	Presentations on neuroscience in local public schools

Teaching assistantships (Stanford University)

2000	Cellular Neuroscience (Wine)
1999	Behavioral Neuroscience (Wandell and Wine)
1998	Cellular Neuroscience (Wine)
	The Nervous System (Barres): Co-taught weekly laboratory section

Mentoring

2007 – 2008	Erasmus Scholarship for a student visiting UCB from the University of Oslo
2007	Participation in Berkeley Edge Program
2007	Pierce Summer Internship for undergraduate student, HWNI, UCB
2005	Honors Challenge Course (individual instruction for student in PSC 135)
2004 –	Honors thesis supervision for two students at UCD
2003 –	Members of Cognitive Control laboratory at UCD and UCB
2002 –	High school student in NSF-funded Authentic Science Research course
2001 – 2003	Students in Undergraduate Research Opportunities Program, MIT

Invited Talks (Last Five Years)

2012	2nd Latin American School for Education, Cognition, and Neural Sciences (funded by the James S. McDonnell Foundation), Argentina (March)
	Sociedad Científica de Argentina (Scientific Society of Argentina), Buenos Aires
2011	Building Caregiver Capacities meeting with healthcare providers and policymakers from the State of Washington, Seattle
	37th Minnesota Symposium on Child Psychology: Developing Cognitive Control Processes: Mechanisms, Implications, and Interventions (October)
	Aspen Brain Forum/New York Academy of Sciences meeting
	Margaret and Paul Baltes Memorial Conference on Life-Span Brain Plasticity and Cognition, Wayne State University
	Seminar, Lifespan Psychology Group, Max Planck Institute, Berlin
	Nobel Forum symposium on brain plasticity, "Boosting the Brain", Stockholm
	Seminar, Basque Center on Cognition, Brain, and Language, San Sebastian
	International Scientific Meeting on Attention (RECA VIII), Sevilla
	UCSD Cognitive Science Colloquium
	Contra Costa Office of Education
	Vanderbilt Kennedy Center Lecture Series on Human Development and Developmental Disabilities
	Pennsylvania State University Neuroscience Seminar Series
	Learning and the Brain Conference, San Francisco
	Duke Institute for Brain Sciences' Cognitive and Affective Control, Seminar series
	Cambridge University Neuroscience seminar
	Experimental Psychological Society, London
2010	National Scientific Council on Child Development
	Seminar at the University of Frankfurt Department of Psychology
	International Max Planck Research School LIFE, Berlin
	Symposium speaker, "Functional Neuroimaging Insights into Cognitive Development and Pediatric Neuropsychiatric Disorders", Society for Neuroscience
	Symposium speaker, "Developmental Systems and Cognitive Neuroscience Approach to Tourette Syndrome", Child Neurology Society
2009	Invited talk at National Institute on Mental Health
	Expert meeting, "Methods and Challenges in Developmental Neuroimaging", Amsterdam (*unable to attend*)
	Neuroscience Institute seminar, Princeton University
	Neuroscience and Cognitive Sciences seminar, U Maryland, College Park
	Learning and the Brain Conference, "The Social Brain and Learning"
	Colloquium, Max Planck Institute for Human Development, Berlin
	Pediatric Neuropsychology Seminar, UCSF
2008	Cognitive Science Colloquium, University of Arizona, Tucson
	Symposium, Memory Disorders Research Society, St. Louis
	Tamagawa Research Institute, Tokyo
	Speaker, Summer Institute in Cognitive Neuroscience (for contributors to "The Cognitive Neurosciences III", edited by Michael Gazzaniga), Tahoe
	RAMBLE Cognitive Neuroscience meeting, UC Berkeley
	Discussant, Peter Thiel's Cartesian Club, San Francisco
	Days of Molecular Medicine symposium, Stockholm (*declined*)
	International Summer Campus, Korea University (*declined*)
	Washington University, Neuroscience seminar series
	University of Michigan, fMRI Seminar Series
	San Lorenzo School District meeting for elementary school principals

Parent-Teacher Association, Rosa Parks Elementary School, Berkeley
Learning and the Brain Conference, San Francisco
Neuropsychology Brown Bag Lunch, Martinez VA
Learning Brain Expo, San Francisco

2007 Center for the Neural Basis of Cognition Colloquium, Carnegie Mellon & University of Pittsburgh
Memory Disorders Research Society, Cambridge University, U.K.
Faculty seminar for Biology Fellows Forum and Pierce Summer Internship
Chair, Symposium at Jean Piaget Society meeting on "Social Developmental Cognitive Neuroscience", Amsterdam
Adolescent Expert Meeting, Leiden University
RAMBLE Cognitive Neuroscience meeting, UC Berkeley
Symposium at Society for Research on Child Development, Boston
Cognition, Brain, and Behavior/ICBS Colloquium, UC Berkeley
Cognitive Seminar, Stanford Department of Psychology

Conferences and Workshops

2011 Course Director, 1 week of Summer Institute in Cognitive Neuroscience
Co-Chair, Symposium at International Conference on Cognitive Neuroscience
Frontiers of Innovation Workshop, Center on the Developing Child, Harvard

2010 Frontal Lobes Conference 2010, Rotman Institute, Toronto; Speaker & Co-organizer of symposium on Prefrontal Development
Gordon Research Conference on Neurobiology of Cognition
"Reprogramming the Human Brain" Conference, Dallas
Robert Wood Johnson Foundation Forum on the Future Impact of Neuroscience and Behavior Change

2009 Organizer, UCB Conference on Neurocognitive Development (over 200 participants and 60 presentations)

2008-2011 Young Investigator Awards Committee, Cognitive Neuroscience Society
Talk Session Committee, Cognitive Neuroscience Society

2009 Reviewer for submissions to Society for Research on Child Development
Biennial Meeting – Panel 3: Childhood: Biological and Cognitive Processes

2008 –2011 Co-Sponsor, Learning and the Brain Conference, San Francisco

2006 Judge, travel fellowships for SF Bay Area Chapter of Society for Neuroscience
Chair, Slide Session on Cognitive Development at Society for Neuroscience

2005 Chair, Minisymposium at Society for Neuroscience
Chair, Invited Symposium at American Psychological Society

2004 – 2005 Travel fellowship committee for UCD Chapter of Society for Neuroscience

2003 – 2004 Co-organizer, "Multiple perspectives on Decision making" conference
Co-organizer, Annual Psychology Department Conference
Representative, Local Chapter of the Society for Neuroscience (UCD)

Reviews

Journals:
Acta Psychologica; Archives of General Psychiatry; Behavioral Neuroscience; Biological Psychiatry; Biological Psychology; Brain; Brain and Cognition; Cerebral Cortex; Cognition; Cognitive, Affective & Behavioral Neuroscience; Cognitive Brain Research; Cortex; Current Directions in Psychological Science; Developmental Cognitive Neuroscience; Developmental Science; Experimental Brain Research; Emotion; European Journal of Neuroscience; Frontiers in Human Neuroscience; Frontiers in Neuroscience; Journal of Child Psychology and Psychiatry; Journal of Cognitive Neuroscience; Journal of Neurophysiology; Journal of Neuroscience; Nature Neuroscience; NeuroImage; Neuron; Neuropsychologia; Neuropsychology; Quarterly Journal of Experimental

Psychology; Personality and Individual Differences; Proceedings of the National Academy of Sciences; Psychological Research; Psychological Science; Trends in Cognitive Sciences

NIH Study Sections: Ad-hoc committee member for Child Psychopathology & Developmental Disabilities (2x); NIMH Child Interventions Review; Physiology and Modeling Review; Pediatric Functional Neuroimaging Research Network; NIMH Pathway to Independence (K99); Biobehavioral and Behavioral Processes Special Emphasis Panel
NSF grant programs: Cognitive Neuroscience Initiative; Research on Learning and Education; Perception, Action & Cognition; Behavioral Systems Cluster; CAREER award; Research and Evaluation on Science Education; Developmental and Learning Sciences
Other granting agencies: France-Berkeley Fund; Israel Science Foundation
Book proposals: Guilford Press; Cambridge University Press
Summaries for book jackets: "The Agile Mind", by Wilma Koutsdaal; "Origins and Development of Recollection: Perspectives from Psychology and Neuroscience", by Simona Ghetti & Patricia Bauer

Editorial Service

2011 – 2012	Co-Editor with Sarah-Jayne Blakemore, Special Issue of *Developmental Cognitive Neuroscience*: Supplement on Neuroscience and Education
2010 – 2011	Co-Editor with Arthur Toga, Book section (7 chapters) on Frontal Lobe Development for Oxford Handbook of Frontal Lobe Functions, Stuss & Knight, eds, in press.
2012 – 2013	Editorial Board member, *Psychological Science*
2011 –	Advisory Board member, *Developmental Cognitive Neuroscience*
2009 –	Editorial Board member, *NeuroImage*
2009 – 2010	Guest Editor, Special Issue of *Frontiers in Human Neuroscience*: The Developing Human Brain.
2008 – 2011	Associate Editor for *Frontiers in Human Neuroscience*
2007 – 2008	Consulting Editor for *Cognitive, Affective, and Behavioral Neuroscience*
2004 - 2005	Guest Editor for Special Issue of *Cognitive Brain Research*: Multiple Perspectives on Decision Making, 23(1): 1-151, 2005.

Supervision of Students and Postdoctoral Fellows

Undergraduate honors thesis supervision: Forrest Riege (planned for 2012), Natalie De Shetler, Sasha Gupta, Justin Louie, Mehdi Bouhaddou, Sandeep Sahblock, Bryan Matlen, Michael Souza

Supervisor for summer research programs: Andrea Larco, Jessica Rivera, Faith Hill, Michael Harris, Jessica Guerrero, Desirae Martinez

Graduate students
Michael Souza (Psychology): Currently Assistant professor in Psychology, U British Columbia
Allyson Mackey (Neuroscience): National Science Foundation graduate fellowship, 07/2009-07/2012
Sarah Munro (Neuroscience): National Science Foundation graduate fellowship, 07/2009-07/2012
Espen Hauk Helskog (Visiting Master's student): Erasmus Scholarship from University of Oslo
Anett Gyurak & Anna Luerssen (Psychology): Research fellowship from Greater Good Science Center, "Self-regulatory skills and social well-being in childhood (Mentors: Ozlem Ayduk & Silvia Bunge)
Kirstie Whitaker (Neuroscience): Fulbright Foundation graduate fellowship
Alison Miller Singley (Psychology): Research in Cognition and Mathematics Education Fellowship
Elizabeth Johnson (Psychology): Recipient of an American Psychological Association of Graduate Students/Psi Chi Junior Scientist Fellowship ($1000)
Chloe Green (School Psychology)

Full-time research assistants:
Sarah Donohue: currently an NSF predoctoral fellowship awardee at Duke University
Carol Baym: currently a DOD predoctoral fellowship awardee at U Illinois
Susanna Hill: currently a research assistant in pediatric neurology research at UCSF
Chloe Green: began Ph.D. program in School Psychology at UC Berkeley in Fall 2011

Postdoctoral fellows:
Eveline Crone: Postdoctoral fellowship from the Netherlands Organization for Scientific Research.
Eveline Crone: VENI grant from the Netherlands Organization for Scientific Research, 2005
Pedro Paz-Alonso: Juan de la Cierva Grant, Spanish Ministry of Education. 01/01/2008-12/31/2011 (Collaborator/host laboratory). Has accepted a tenure-track research faculty position at the Basque Center on Brain, Cognition, and Language.
Jessica Church-Lang: Tourette Syndrome Association Postdoctoral fellowship. "Medication-induced changes in brain function in children with Tourette Syndrome" (Co-mentor, with Bradley Schlaggar) 4/1/08 -3/31/09.
Jessica Church-Lang, Postdoctoral NRSA fellowship. "Medication-induced changes in brain function in children with Tourette Syndrome" (Secondary mentor, with Bradley Schlaggar) 2010-2011. Has accepted a tenure-track faculty position at the University of Texas at Austin.
Chris Blais: "The Cognitive Control of Response Competition" (Mentor) NSERC Postdoctoral Fellowship from Canadian government. 06/01/2008-05/31/2010.

Service to Graduate Programs

2009-2010	Graduate Advisor for Neuroscience graduate program: Cognitive Neuroscience
2008, 2009, 2010	Neuroscience Program Admissions Committee, UCB
	Neuroscience Graduate Recruitment speaker
	Chair of qualifying exam for Jenny Chai, UCB Psychology
	Orals committee member for Ben Mullin, UCB Psychology
	Ph.D. thesis committee member for Anett Gyurak, UCB Psychology
	Ph.D. thesis committee member for Chung-Hay Luk, UCB Neuroscience
	Qualifying exam committees in Neuroscience: Maya Cano, Drew Fagen
	Master's thesis committee in Psychology: Meghan Miller
	Chair of qualifying exam committee in Psychology: Anna Luerssen
	New thesis committee membership: Jen Sloan (Neuroscience)
	Chair of Qualifying Exam for Linh Dang, Neuroscience, UCB
	Ph.D. thesis committee member (students: Jenny Chai, Psychology, UCB; Anett Gyurak, Psychology, UCB; Chung-Hay Luk, Neuroscience, UCB; Isaac Liao, Neuroscience, UCD; Heesoo Kim, Neuroscience, UCB; Linh Dang, Neuroscience, UCB)
2004 – 2006	Graduate Student Advisor, Department of Psychology, UCD
2005, 2006	Examiner, preliminary written & oral exams for all 2nd-year graduate students in Neuroscience program, UCD
2003 – 2006	Ph.D. thesis committee member at UCB (students: Bong Walsh, Jamil Bhanji; Robert Blumenfeld, Anne Richards)

Departmental and University Service

2011 –	Co-Vice Chair, Department of Psychology, UC Berkeley
	Vice Chair, Committee for the Protection of Human Subjects (CPHS-I)
2009 –	Executive Committee, Helen Wills Neuroscience Institute, UC Berkeley
2008 –	Search committee: Director of Institute of Human Development, UCB
	Faculty search committee member, Sensation & Perception, Psychology Dept.
2007 – 2009	Committee for the Protection of Human Subjects, UCB
2007 –	Faculty Merit Reviews, Psychology Department
2003 – 2004	Faculty search committee, Center for Mind and Brain, UCD

	Faculty search committee, Social-Personality area of Psychology, UCD
2004 – 2005	Faculty search committee, Developmental area of Psychology, UCD
2004 - 2006	Member, Department Chair's Advisory Committee, UCD
2003-2005	Member, Safety committee, UC Davis Imaging Research Center
2008, 2009	CUSH Regents' and Chancellor's Scholarship Subcommittee, UCB

External Advisory Role

2010 – 2012	External Advisor, Max Planck Institute in Human Development
2010, 2012	External Advisory Committee for NIMH Center on "Executive Function and Dysfunction" at University of Colorado at Boulder
2009 –	Consultant on development of Academic Readiness tools, Scientific Learning Corporation
2009	Robert Wood Johnson Forum on the Future Impact of Neuroscience and Behavior Change

Expert Testimony

2011	Expert witness on adolescent brain development, California Senate Bill 9
2010	Contribution to American Medical Association Amicus Brief for the Supreme Court on life without parole sentencing for adolescents
	Contribution to statement from developmental cognitive neuroscientists
	Contribution to Graham v. Florida

Grants

Active Grants

Principal Investigator: *Silvia Bunge, Ph.D.*
Project Title: Relational reasoning: Neural mechanisms, development, & plasticity
Source of Support: James S. McDonnell Foundation Scholar Award
Total Award Amount: $600,000. Total Award Period Covered: 8/1/11 -8 /1/17
Location of Project: University of California, Berkeley
Description: This Scholar Award supports several new lines of inquiry in the area of relational reasoning.

Principal Investigators: *Simona Ghetti, Ph.D. and Silvia Bunge, Ph.D.*
Project Title: Neural Development of the Fronto-Temporal Episodic-Memory Network in Childhood
Source of Support: Submission to National Institute of Mental Health in July 2010
Total Award Amount: $2,842,260. UC Berkeley subaward: $711,765
Total Award Period Covered: 06/07/2011-06/06/2016
Location of Project: UC Davis; sub-award to UC Berkeley
Description: This project aims to examine changes in hippocampal structure, function, and connections that underlie episodic memory development.

Principal Investigators: Silvia Bunge and Emilio Ferrer
Project Title: NS057146-01 Neural Changes Underlying the Development of Fluid Reasoning
Source of Support: National Institute of Neurological Disorders and Stroke
Total Award Amount: $1,093,750, Total Award Period Covered: 07/01/07-12/31/12
Location of Project: University of California, Berkeley
Description: This grant focuses on longitudinal changes in brain structure and function that lead to developmental improvements in fluid reasoning

Principal Investigator: *Mark D' Esposito*; Role: Co-Investigator
Project Title: NS040813-06 Executive Function and Frontal Cortex
Source of Support: P01 National Institute of Neurological Disorders and Stroke
Total Award Amount: $7,559,148, Total Award Period Covered: 12/01/07-11/30/12
Location of Project: University of California, Berkeley
Description: This program project covers research on the organization and functions of lateral prefrontal cortex.

Principal Investigator: *Silvia Bunge, Ph.D.*
Project Title: Neural Mechanisms of Cognitive Control and Reward-based Learning in Children with Tourette Syndrome
Source of Support: Tourette Syndrome Association
Total Award Amount: $75,000 Total Award Period Covered: 6/18/10-7/18/11
Location of Project: University of California, Berkeley
Person-Months Per Year Committed to the Project. Cal: Acad: .08 Summer:
Description: This grant focuses on the neural basis of Tourette syndrome.

Principal Investigators: *Jacob Neufeld, M.D. and Silvia Bunge, Ph.D.*
Project Title: Effects of Early Damage to Prefrontal Cortex
Source of Support: Children's Hospital Oakland Research Institute
Location of Project: Children's Hospital Oakland & University of California, Berkeley
Description: This award provides seed funds for a new project tracking the cognitive outcomes of children with early focal brain injury

Principal Investigators: *Anthony Chen, M.D. and Mark D'Esposito, M.D.*
Role: Co-Investigator
Project Title: "Translation of Cognitive Neuroscience to Rehabilitation for Patients with Traumatic Brain Injury" Source of Support: Department of Defense FY07 Intramural TBI Investigator-Initiated Research Award. Award Number W81XWH-08-2-0088. 08/01/2008 – 30/08/2012.

Principal Investigator: Brad Schlaggar
Role: Co-Investigator
Source of support: R21MH091512
Project Title: "Longitudinal effects of treatment on brain function in Tourette Syndrome"

Pending Applications
Principal Investigators: *Emilio Ferrer, Ph.D.; Co-PI: Silvia Bunge, Ph.D.*
Project Title: Longitudinal interrelations between fluid reasoning and school achievement: Mediators of trajectories of reading and mathematics
Source of Support: Submission to Institute of Educational Sciences in Sept 2010
Location of Project: University of California, Davis
Description: This project aims to conduct behavioral assessments at a third timepoint for children enrolled in a longitudinal study of fluid reasoning development (NIH NS05714601)

Completed Grants
Bunge (P.I.) & Knight (co-P.I.) Effects of early damage to prefrontal cortex: Implications for criminal responsibility. MacArthur Law and Neuroscience Project $80,500

Bunge, P.I. Brain maturation subserving cognitive control development.
National Science Foundation (0448844) 04/01/2005 – 04/01/2008 $450,000

Bunge (P.I.) Merck Grant: Neural Underpinnings of Deficient Cognitive Control in Developmental Disorders Affecting Frontostriatal Circuitry 06/04 – 06/09 $300,000

Co-PI, R03. “Neural substrates of the development of recognition memory” (R03HD054636-01). P.I.: Simona Ghetti, UC Davis.

Consultant, R21, “The impact of reappraisal ability in the adjustment to stressful life events in a community sample.” NIA, 04/2008 – 04/2010 P.I.: Iris Mauss, U Denver.

Publications (over 70 total)

Edited book

Bunge & Wallis, eds. The Neuroscience of Rule-Guided Behavior, Oxford University Press, 2007.

Peer-reviewed journal articles

Wendelken, C.*, Munakata, Y.*, Baym, C., Souza, M., & **Bunge,** S.A. (in press) Flexible Rule Use: Common Neural Substrates in Children and Adults. *Developmental Cognitive Neuroscience* * = joint first authors.

Blais, C., Harris, M.B., Sinanian, M.H., & **Bunge**, S.A. Trial-by-trial adjustments in control triggered by incidentally encoded semantic cues. Accepted pending minor revision, *Quarterly Journal of Experimental Psychology.*

Wendelken, C., O’Hare, E.D., Whitaker, K.J., Ferrer, E., & **Bunge**, S.A. (2011) Increased Functional Selectivity over Development in Rostrolateral Prefrontal Cortex. *Journal of Neuroscience. 31(47):17260-8.*

Wendelken, C., Chung, D., & **Bunge**, S.A. (2011) Domain-General Integration of Representations in Rostrolateral PFC. *Human Brain Mapping.* doi: 10.1002/hbm.21336. [Epub ahead of print]

Wendelken, C., Baym, C. L., Rubens, M., Gazzaley, A., & **Bunge**, S.A. (2011) Neural indices of improved attentional modulation over middle childhood*. Developmental Cognitive Neuroscience*. Apr 1;1(2):175-186.

Mackey, A.P., Hill, S.S., Stone, S.I., & **Bunge**, S.A. (2011) Dissociable effects of reasoning and speed training in children. *Developmental Science*, May;14(3):582-90

Liao IH, Corbett BA, Gilbert DL, **Bunge** SA, Sharp FR. (2010) Blood gene expression correlated with tic severity in medicated and unmedicated patients with Tourette Syndrome*. Pharmacogenomics*. 11(12):1733-41.

Ghetti S, DeMaster DM, Yonelinas AP, **Bunge** SA. (2010) Developmental differences in medial temporal lobe function during memory encoding. *Journal of Neuroscience* 30(28):9548-56.

Blais C, Harris MB, Guerrero JV, **Bunge** SA. (2010) Rethinking the role of automaticity in cognitive control. *Quarterly Journal of Experimental Psychology* 29:1-9.

Baldo JV, **Bunge** SA, Wilson SM, Dronkers NF. (2010) Is relational reasoning dependent on language? A voxel-based lesion symptom mapping study. Brain Lang. May;113(2):59-64. Epub 2010 Mar 5.

Blais, C., Risko, I., & **Bunge**, S.A. (2009) Item-specific cognitive control. *Journal of Cognitive Neuroscience* Nov 19. Epub ahead of print.

Paz-Alonso, P.M., Ghetti, S., Matlen, B.J., Anderson, M.C., & **Bunge**, S.A. (2009) Memory Suppression is an Active Process that Improves over Middle Childhood. *Frontiers in Human Neuroscience* 3:24.

Wendelken, C., Ditterich, J., **Bunge**, S.A., & Carter, C.S. (2009) Stimulus and Response Conflict Processing During Perceptual Decision-Making. *Cognitive, Affective, and Behavioral Neuroscience.* Dec;9(4):434-47.

Bhanji, J.P., Beer, J.S., & **Bunge**, S.A. (2009) Taking a Gamble or Playing by the Rules: Dissociable Prefrontal Systems for Probabilistic versus Deterministic Rule-based Decision Making. *NeuroImage* 49(2):1810-9.

Wendelken, C. & **Bunge**, S.A. (2009) Transitive Inference: Distinct Contributions of Rostrolateral Prefrontal Cortex and the Hippocampus. *Journal of Cognitive Neuroscience*, Mar 25

Bunge, S.A., Hauk Helskog, E., & Wendelken, C. (2009) Left, but not right, rostrolateral prefrontal cortex meets a stringent test of the relational integration hypothesis. *NeuroImage*, 46(1), 338-342.

Ferrer, E., O'Hare, E.D., **& Bunge**, S.A. (2009) Fluid reasoning and the developing brain. Focused review for *Frontiers in Neuroscience*, 3(1), 1-6.

Souza, M.J., Donohue, S.E., & **Bunge**, S.A. (2009) Controlled retrieval and selection of action-relevant knowledge mediated by partially overlapping regions in left ventrolateral prefrontal cortex, *NeuroImage*, 46(1), 299-307.

Crone, E.A., Wendelken, C., van Leijenhorst, L., Honomichi, R.D., Christoff, K., **Bunge**, S.A. (2009) Neurocognitive Development of Relational Reasoning. *Developmental Science*, 12(1):55-66.

Corbett, B.A., Mendoza, S.P., Baym, C.L., **Bunge**, S.A., & Levine, S. (2009) Examining cortisol rhythmicity and responsivity to stress in children with Tourette Syndrome. *Psychoneuroendocrinology*, 33(6):810-20.

Wright, S.B., Matlen, B.J., Baym, C.L., Ferrer, E., & **Bunge**, S.A. (2008) Neural correlates of fluid reasoning in children and adults. *Frontiers in Human Neuroscience*.

Paz-Alonso, P.M., Ghetti, S., Donohue, S.E., Goodman, G.S., & **Bunge**, S.A. (2008) Neurodevelopmental correlates of true and false recognition. *Cerebral Cortex,* 18(9):2209-16.

Wendelken, C., **Bunge**, S.A., & Carter, C.S. Parietal and prefrontal roles in maintaining structured information. *Neuropsychologia*, 2007; Oct 6; [Epub ahead of print]

Baym, C.L., Corbett, B.A., Wright, S.B. & **Bunge**, S.A. (2008) Neural correlates of tic severity and cognitive control in children with Tourette Syndrome. *Brain*, 131:165-79.

Mauss, I.B., **Bunge**, S.A. & Gross, J.J. Automatic Emotion Regulation: Neuroscientific Considerations. *Social and Personality Psychology Compass*, 2007.

Wendelken, C., Nakhabenko D., Donohue, S.E., Carter, C.S. & **Bunge**, S.A. (2008) 'Brain is to Thought as Stomach is to…?' – Investigating the role of rostrolateral prefrontal cortex in relational reasoning. *Journal of Cognitive Neuroscience*, 20:682-93.

Donohue, S.E., Wendelken, C. & **Bunge**, S.A. (2008) Neural correlates of preparation for action selection as a function of specific task demands. *Journal of Cognitive Neuroscience*, 26(43):11239-47.

Bunge, S.A. & Wright, S.B. (2007) Neurodevelopmental changes in working memory and cognitive control. *Current Opinion in Neurobiology*, 17(2), 243-50.

Crone, E.A., Donohue, S., Honomichl, R., Wendelken, C., & **Bunge**, S.A. (2006) Brain regions mediating flexible rule use during development. *Journal of Neuroscience,* 26(43): 11239-47.

Crone, E.A., Donohue, S.E., van Leijenorst, L., Wendelken, C. & **Bunge**, S.A. (2006) Neurocognitive development of the ability to manipulate information in working memory. *Proceedings of the National Academy of Sciences,* 103(24):9315-20.

Bunge, S.A. & Zelazo, P.D. A Brain-Based Account of the Development of Rule Use in Childhood. *Current Directions in Psychological Science,* 15(3): 118-21, 2006.

Crone, E.A., **Bunge**, S.A., van der Molen, M.W., & Ridderinkhof, K.R. (2006) Switching between tasks and responses: A developmental study. *Developmental Science,* 9(3): 278-87.

van Leijenhorst, L., Crone, E.A. & **Bunge**, S.A. (2006) Neural correlates of developmental differences in risk estimation and feedback processing. *Neuropsychologia,* 44(11):2158-70.

Bunge, S.A., Wallis, J.D., Parker, A., Brass, M., Crone, E.A., Hoshi, E., & Sakai, K. (2005) Neural circuitry underlying rule use in humans and non-human primates. *Journal of Neuroscience,* 25(45):10347-50.

Crone, E.A., Wendelken, C., Donohue, S.E., & **Bunge**, S.A. (2005) Neural evidence for dissociable components of task-switching. *Cerebral Cortex,* 16(4):475-86.

Gillath, O., **Bunge**, S.A., Shaver, P.R., Wendelken, C., & Mikulincer, M. (2005) Attachment-style differences in the ability to suppress negative thoughts: Exploring the neural correlates. *NeuroImage*, 28(4):835-47.

Crone, E.A., **Bunge**, S.A., Latenstein, H. & van der Molen, M.W. (2005) Characterization of children's decision making: Sensitivity to punishment frequency, not task complexity. *Child Neuropsychology* 11(3):245-63.

Donohue, S.E., Wendelken, C., Crone, E.A., & **Bunge**, S.A. (2005) Retrieving rules for behavior from long-term memory. *NeuroImage* 26:1140-49.

Narayanan, N., Prabhakaran, V., **Bunge**, S.A., Christoff K., Fine E.M., & Gabrieli, J.D. (2005) The role of prefrontal cortex in the maintenance of verbal working memory: An event-related fMRI analysis. *Neuropsychology* 19:223-32.

Crone, E.A., **Bunge**, S.A., de Klerk, P., van der Molen, M.W. (2005) Cardiac concomitants of performance monitoring: Context dependence and individual differences. *Brain Research Cognitive Brain Research* 23(1): 93-106.

Vaidya, C. J., **Bunge**, S. A., Dudukovic, N. M., Zalecki, C. A., Elliott, G. R., & Gabrieli, J. D. (2005) Altered neural substrates of cognitive control in childhood ADHD: Evidence from functional magnetic resonance imaging. *American Journal of Psychiatry,* 162(9):1605-13.

Bunge SA, Wendelken C, Badre D, Wagner AD. (2005) Analogical reasoning and prefrontal cortex: evidence for separable retrieval and integration mechanisms. *Cereb Cortex.* 2005 Mar;15(3):239-49. Epub 2004 Jul 6.

Bunge, S. A. (2004) How we use rules to select actions: A review of evidence from cognitive neuroscience. *Cognitive, Affective, and Behavioral Neuroscience* 4(4): 564-79.

Bunge, S.A., Burrows, B., & Wagner, A.D. (2004) Prefrontal and hippocampal contributions to visual associative recognition: Interactions between cognitive control and episodic retrieval. *Brain and Cognition* 56:141-52.

Bunge, S.A., Kahn, I., Wallis, J.D., Miller, E.K., & Wagner, A.D. (2003) Neural circuits subserving the retrieval and maintenance of abstract rules. *Journal of Neurophysiology,* 90(5):3419-28

Hazeltine, E., **Bunge**, S.A. & Gabrieli, J.D. (2003) Material-dependent and material-independent selection processes in the frontal and parietal lobes: An event-related fMRI investigation of response competition. *Neuropsychologia* 41:1208-17.

Bunge, S.A., Hazeltine, E., Scanlon, M., Rosen, A. & Gabrieli, J.D. (2002) Dissociable contributions of prefrontal and parietal cortices to response selection. *NeuroImage* 17:1562-1571.

Ochsner, K.N., **Bunge**, S.A., Gross, J.J. & Gabrieli, J.D. (2002) Rethinking feelings: An fMRI study of the cognitive regulation of emotion. *Journal of Cognitive Neuroscience* 14(8):1215-29.
[Manuscript reproduced in "*Key Readings in Social Psychology: Social Neuroscience", edited by Cacioppo and Berntson; Psychology Press, 2005]*

Bunge, S.A., Dudukovic, N.M., Thomason, M.E., Vaidya, C.J. & Gabrieli, J.D. (2002) Immature frontal lobe contributions to cognitive control in children: Evidence from fMRI. *Neuron*, 33:301-311.

Bunge, S.A., Ochsner, K.N., Desmond, J.E., Glover, G.H. & Gabrieli, J.D. (2001) Prefrontal regions involved in keeping information in and out of mind. *Brain*, 124:2074-86.

Bunge, S.A., Klingberg, T., Jacobsen, R.B. & Gabrieli, J.D. (2000) A Resource Model of the Neural Basis of Executive Working Memory. *Proceedings of the National Academy of Sciences*, 97:3573-78.

Bunge, S.A., Mauelshagen, J. & Carew, T.J. Reversal of relative thresholds for synaptic facilitation and increased excitability induced by serotonin and tail nerve stimulation in *Aplysia* sensory neurons. *Neurobiology of Learning and Memory,* 67:259-263, 1997.

Chapters, commentaries, and encyclopedia entries

Blakemore, S.J. & **Bunge**, S.A. (in press). At the nexus of neuroscience and education. Supplement on Neuroscience and Education, *Developmental Cognitive Neuroscience.*

Bunge, S.A., & Munro, S.E. (under review). Developmental cognitive neuroscience is growing up. Proceedings of the 37th MN Symposium on Child Psychology at the University of Minnesota.

Paz-Alonso, P., **Bunge**, S.A., & Ghetti, S. (under review) Emergence of higher cognitive functions: Reorganization of large-scale brain networks during childhood and adolescence. Chapter submitted to Oxford Handbook on Higher Cognitive Functions, edited by Steven Kosslyn and Kevin Ochsner. Oxford University Press.

Ghetti, S. & **Bunge**, S.A. (under review) Why does Episodic Memory Improve during Childhood? An Examination of the Underlying Neural Mechanisms.

Mackey, A., Raizada, R., & **Bunge**, S.A. (in press). Environmental influences on prefrontal development. In: Oxford Handbook of Frontal Lobe Functions, edited by Donald Stuss & Robert Knight. Oxford University Press.

Bunge, S.A. & Toga, A. (in press). Introduction to Frontal Lobe Development. In: Oxford Handbook of Frontal Lobe Functions, edited by Donald Stuss & Robert Knight. Oxford University Press.

Bunge, S.A. & Preuss, T.M. (2010) Evolutionary and developmental issues in cognitive neuroscience. Encyclopedia of Behavioral Neuroscience, edited by George Koob, Richard F Thompson & Michel Le Moal.

Bunge, S.A. (2009) Conference Report: UC Berkeley Conference on Neurocognitive Development. *Frontiers in Neuroscience. http://frontiersin.org/UC_Berkeley/*

Bunge, S.A. & Wendelken, C. (2009) Comparing the Bird in the Hand with the Ones in the Bush. *Neuron* 62, June 11.

Bunge, S.A., Mackey, A., & Whitaker, K. Neurodevelopmental changes in cognitive control and fluid reasoning over childhood. The Cognitive Neurosciences III, edited by Michael Gazzaniga.

Bunge, S.A. (2008) Changing Minds, Changing Brains. *Human Development*, 51(3), Editor's Corner, 51:162–164.

Bunge, S.A. & Crone, E.A. Neural correlates of the development of cognitive control. In: Neuroimaging in Developmental Clinical Neuroscience. J. Rumsey, & M. Ernst, eds. Cambridge University Press, in press.

Mauss, I.B., **Bunge**, S.A., & Gross, J.J. Culture and Automatic Emotion Regulation. In: Regulating emotions: Social necessity and biological inheritance. S. Ismer, S. Jung, S. Kronast, C. van Scheve, & M. Vanderkerckhove, eds. London: Blackwell Publishing, in press.

Bunge, S.A. & Souza, M.J. Neural representations used to specify actions. In S. Bunge & J. Wallis (Eds.), The Neuroscience of Rule-Guided Behavior. Oxford University Press, 2007.

Bunge, S. A. & Kahn, I. "Cognition, neuroimaging", In: The Encyclopedia of Neuroscience, 4th edition. Adelman & Smith, eds. Elsevier, in press.

Bunge, S. A. & Souza, M.J. "Executive functions: Neuroimaging of", In: The Encyclopedia of Neuroscience, 4th edition. Adelman & Smith, eds. Elsevier, in press.

Bunge, S. A. Foreward to Special Issue: Multiple Perspectives on Decision Making. *Cognitive Brain Research* 23(1): 1, 2005.

Wagner, A.D., **Bunge**, S.A. & Badre, D. (2004) Cognitive control, semantic memory, and priming: Contributions from prefrontal cortex. In: The Cognitive Neurosciences, 3rd ed.

Bunge, S.A. & Kahn, I. Cognition, neuroimaging. In: The Encyclopedia of Neuroscience, 3rd edition, 2004. Adelman & Smith, eds. Elsevier.

Gabrieli, J.D.E. & **Bunge**, S.A. Mechanisms of memory and amnestic syndromes. In: Diseases of the Nervous System: Clinical Neuroscience and Therapeutic Principles, 3rd Edition, ed. Asbury, McDonald, McArthur, McKhann & Goadsby. Cambridge University Press, 2003.

Prull, M.W., Gabrieli, J.D.E. & **Bunge**, S.A. Age-related Changes in Memory: A Cognitive Neuroscience Perspective. In: The Handbook of Aging and Cognition II, eds. Craik and Salthouse. Mahwah, NJ: Lawrence Erlbaum Associates 2000.

Manuscripts in the pipeline

Under review or in revision

Whitaker, K.,* Steele, J.*, Green, C.T., **Bunge**, S.A., & Ferrer, E. (under review) White Matter Maturation Supports the Development of Reasoning Ability through its Influence on Processing Speed. * = joint first authors. Kirstie Whitaker is a graduate student in my laboratory.

Chen, S.H., Main, A., Zhou, Q., **Bunge**, S.A., Lau, N., & Chu, K. (in revision) Self-Regulation and Academic Achievement in Chinese American Children in Immigrant Families.

Luerssen, A., Gyurak, A., **Bunge**, S.A., & Ayduk, O. (under review) Delay of Gratification and Attention to Emotionality.

Ghetti, S. & **Bunge**, S.A. (in revision) Why does Episodic Memory Improve during Childhood? An Examination of Neural Mechanisms Supporting The Development of Episodic Memory.

Chen, S.H., Liu, H., Zhou, Q., & **Bunge**, S.A. Exceptions to the Rule? Poverty, Self-Regulation, and Academic Achievement in Chinese American Immigrant Children.

Mackey, A.P., Miller Singley, A.T., & **Bunge**, S.A. (under re-review) Intensive reasoning training alters patterns of brain connectivity at rest.

Paz-Alonso, P.M., Ghetti, S., Anderson, M.C., & **Bunge** S.A. (in revision) Strengthening of a fronto-parietal-hippocampal network during childhood supports the emergence of control over memory retrieval.

Ferrer, E., Steele, J., Green, C.T., Whitaker, K.J., & **Bunge**, S.A. (in revision). Longitudinal Analysis of the Development of Fluid Reasoning from Childhood to Adolescence.

In preparation

Gyurak, A., Luerssen, A., **Bunge**, S.A., & Ayduk, O. Temptation focus during delay-of-gratification is associated with anterior insula activation to self-generated errors in children

Green, C.T., McKerracher, A., Whitaker, K.J., Steele, J.S., Ferrer, E., & **Bunge** S.A. Longitudinal Predictors of Mathematical Reasoning during Development.

Recent conference presentations

Mackey, A., Whitaker, K.J., Miller-Singley, A., Wendelken, C., & **Bunge**, S.A. Structural and functional plasticity in a fronto-parietal network with reasoning training. Cognitive Neuroscience Society, 2011.

Green, C.T., Whitaker, K.J., Steele, J.S., Ferrer, E., & **Bunge** S.A. Longitudinal Predictors of

Mathematical Reasoning during Development. Cognitive Neuroscience Society, 2011.

Whitaker, K.J., O'Hare, E.D., Green, C.T., Ferrer, E., & **Bunge**, S.A. Longitudinal Changes in Analogical Reasoning from Age 6 to 19. Cognitive Neuroscience Society, 2011.

Steele, J.S., Whitaker, K.J., Green, C.T., **Bunge**, S.A., Ferrer, E. White Matter Integrity Predicts Fluid Reasoning Ability Through Its Influence on Processing Speed. Cognitive Neuroscience Society, 2011.

Wendelken, C., Baym, C., Gazzaley, A., & **Bunge**, S.A. Neural indices of improved attentional modulation over middle childhood. Cognitive Neuroscience Society, 2011.