

PEARL H. CHIU, PhD

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 Roanoke VA 24016
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EDUCATION AND EMPLOYMENT

- 1998 **Harvard University, Cambridge, MA**
 AB Field: Psychology and Biology, Track in Cognitive Neuroscience
- 1998 - 2000 **Harvard University, Cambridge, MA**
 Lab Coordinator Interpersonal Perception and Communication Lab (PI: Nalini Ambady, PhD)
- 2004 **Harvard University, Cambridge, MA**
 AM Field: Psychology
- 2005 - 2006 **Baylor College of Medicine, Menninger Department of Psychiatry & Behavioral Sciences and Human Neuroimaging Laboratory, Houston, TX**
 Intern Field: Clinical Psychology, Adult Neuroscience Track (APA Accredited Internship)
- 2006 **Harvard University, Cambridge, MA.**
 PhD Field: Psychology (Clinical Science)
- 2006 - 2007 **Baylor College of Medicine, Department of Neuroscience**
 Post-doc Fellow Human Neuroimaging Lab (PI: Read Montague, PhD)
- 2007 - 12/2010 **Baylor College of Medicine, Department of Neuroscience and Menninger Department of Psychiatry and Behavioral Sciences (Adjunct 2011 - 2013); Michael E. Debakey Veterans Affairs Medical Center (Research Scientist)**
 Assistant Professor
- 01/2011 - 06/2016 **Virginia Tech Carilion Research Institute & School of Medicine, Roanoke VA; Virginia Tech Department of Psychology, Blacksburg VA**
 Assistant Professor
- 2011 - present **Salem Veterans Affairs Medical Center, Salem VA**
 Research Scientist
- 07/2016 - present **Virginia Tech Carilion Research Institute & School of Medicine, Roanoke VA; Virginia Tech Department of Psychology, Blacksburg VA (with tenure)**
 Associate Professor

AWARDS AND HONORS

- 1998 **John Harvard Certificate of Merit.** University recognition of academic merit.
- 1998 **Certificate in Mind, Brain, Behavior.** University recognition of interdisciplinary research.
- 2000 - 2001 **Stimson Prize for Research,** Harvard University.
- 2001 **Bok Certificate of Distinction in Teaching,** Harvard University. 4.9/5.0 teaching rating.
- 2001 **Vincent Prize.** For Innovative Ideas for the Awareness & Treatment of Depression.
- 2001 - 2002 **Sackler Fellowship in Psychobiology.** Distinction for interdisciplinary research.
- 2003 - 2004 **Harvard University Graduate Society Dissertation Merit Fellowship.**
- 2004 **Student Poster Award,** Society for Psychophysiological Research.
- 2004 - 2005 **Dissertation Completion Merit Fellowship,** Harvard University.
- 2006 - 2007 **American Psychological Association Diversity in Neuroscience Postdoctoral Fellowship**
- 2010 **Biobehavioral Research Award for Innovative New Scientists (BRAINS),** National Institute of Mental Health.
- 2012 **Virginia Tech Scholar of the Week,** April 9.
- 2015 **National Public Radio, Source of the Week**

PROFESSIONAL SERVICE

Ad Hoc Reviewer: Archives of General Psychiatry; Autism Research; Biological Psychiatry; Biological Psychology; Computational Psychiatry; Cognitive, Affective, and Behavioral Neuroscience; Emotion; Experimental Biology & Medicine; Health Psychology; Human Brain Mapping; Journal of Cognitive Neuroscience; Journal of Psychiatric Research; Nature Neuroscience; Neural Computation; NeuroImage; Neuron; Neuropsychologia; Neuroscience; Psychiatry Research: Neuroimaging; PLOS Computational Biology; Psychophysiology; Science; Scientific Reports; Conference Proceedings for Organization for Human Brain Mapping; Conference Proceedings for the Multi-disciplinary Conference on Reinforcement Learning and Decision Making.

Service: **National:** National Institute of Mental Health Special Emphasis Review Panels ZMH1 ERB - (L04), March 2011; ZMH1 ERB - (S04), March 2012; ZMH1 ERB - (L04), March 2013; ZMH1 ERB-S (02), December 2013; ZMH1 ERB-D (01), September 2015; ZMH1 ERB-S (01), November 2015; ZMH1 ERB-M (05), June 2016; ZMH1 ERB-M (01) S, November 2016; ZMH1 ERB-L (02), February 2017. National Institute on Drug Abuse Special Emphasis Review Panel ZDA1 MXL-F(08), July 2013. Department of Veterans Affairs MHBB 1 - Mental Health and Behavioral Science B Merit Review Panel, January 2017.

International: Reviewer, Swiss National Science Foundation (2014)

Baylor College of Medicine: Department of Neuroscience, Computational/Cognitive Faculty Search Committee (2006 - 2008); Group to define student competencies in quantitative skills (2007 - 2008); Seminar Series Committee (2008); Ad Hoc Committee on Graduate Admissions (2009); Executive Committee, Neuroscience Graduate Program (2010); Member, Translational Biology & Molecular Medicine Graduate Program (2010).

Virginia Tech: **Virginia Tech Carilion Research Institute** Distinguished Visiting Scholar Seminar Series Committee (2011 - 2012); Cardio/Cerebrovascular Faculty Search Committee (2011). **Virginia Tech** Center for Autism Research Steering Committee Member (2012 - present); Adaptive Brain and Behavior Steering Committee (2016 - present); **College of Science**, Neuroscience Faculty Search Committee (2012 - 2013, 2015 - 2016), Scholarship Reviewer (2015); **Department of Psychology**, Scholarly Productivity Committee (2012 - present); Diversity Committee (2016 - present). **Carilion Clinic:** **Carilion Clinic** Research Committee (2012 - 2013).

PEER-REVIEWED PAPERS

Chiu, P, Ambady, N, & Deldin, P (2004). CNV to emotional in- and out-group stimuli differentiates high- and low- prejudiced individuals. *Journal of Cognitive Neuroscience*, 16, 1030-1039.

Deldin, P & Chiu, P (2005). Cognitive restructuring and EEG in major depression. *Biological Psychology*, 70, 141-151.

Chiu, PH & Deldin, P (2007). Neural evidence for enhanced error detection in major depressive disorder. *American Journal of Psychiatry*, 164, 608-616.

Commentary in: Oquendo, MA & Parsey, RV (2007). What have we learned about the neurobiology of major depression? *American Journal of Psychiatry*, 164, 540-542.

Chiu*, PH, Kayali*, MA, Kishida, KT, Tomlin, D, Klinger, LG, Klinger, MR, Montague, PR (2008). Self responses along cingulate cortex reveal quantitative neural phenotype for high functioning autism. *Neuron*, 57, 463-473.

Commentary in: Frith, CD & Frith U (2008). The self and its reputation in autism. *Neuron*, 57, 331-332.

Chiu*, PH, Lohrenz*, TM, Montague, PR (2008). Smokers' brains compute but ignore a fictive error signal in a sequential investment task. *Nature Neuroscience*, 11, 514-520.

- Chiu, PH, Holmes, AJ, Pizzagalli, DA (2008). Dissociable recruitment of rostral anterior cingulate and inferior frontal cortex in emotional response inhibition. *NeuroImage*, 42, 988-997.
- Lindsey, L[#], King-Casas, B, Brovko, J, Chiu, PH (2009). Toward functional neurobehavioral assessment of mood and anxiety. *Conference Proceedings of the IEEE Engineering in Medicine and Biology Society*, 2009, 5393-5396.
- Herman, S, Archambeau, OG[#], Deliramich, AN[#], Kim, BSK, Chiu, PH, Frueh, BC (2011). Depressive symptoms and mental health treatment in an ethnographically diverse college student sample. *Journal of American College Health*, 59, 715-720.
- Tso, IF[#], Chiu, PH, King-Casas, BR, Deldin P (2011). Alterations in affective processing of attack images following September 11, 2001. *Journal of Traumatic Stress*, 24, 538-545.
- D'Andrea, W[#], Chiu, PH, Casas, BR, & Deldin, P (2012). Linguistic predictors of post-traumatic disorder symptoms following 11 September 2001. *Applied Cognitive Psychology*, 26, 316-323.
- King-Casas^{*}, B & Chiu^{*}, PH (2012). Understanding social function in psychiatric illness through multi-player economic games. *Biological Psychiatry*, 72, 119-125.
- White, SW, Mazefsky, CA, Dichter, GS, Chiu, PH, Richey, JA, Ollendick, TH (2014). Social-cognitive, physiological, and neural mechanisms underlying emotion regulation impairments: Understanding anxiety in autism spectrum disorder. *International Journal of Developmental Neuroscience*, 39, 22 - 36.
- Zhu, L[#], Jenkins, AC, Set, E, Scabini, D, Knight, RT, Chiu, PH, King-Casas^{*}, B, Hsu^{*}, M (2014). Damage to dorsolateral prefrontal cortex affects tradeoffs between honesty and self-interest. *Nature Neuroscience*, 17, 1319 - 1321.
- Williams, W, Graham, D, McCurry, K[#], Sanders, A, Eiseman, J, Chiu^{*}, PH, King-Casas^{*}, B (2014). Group psychotherapy's impact on trust in veterans with PTSD: A pilot study. *Bulletin of the Menninger Clinic*, 78, 335 - 348.
- Marsden, KE^{**}, Ma^{*}, WJ, Deci, EL, Ryan, RM, Chiu, PH (2015). Diminished neural responses predict enhanced intrinsic motivation and sensitivity to external incentive. *Cognitive, Affective, & Behavioral Neuroscience*, 15, 276 - 286.
- Chung, D[#], Christopoulos, G^{**}, King-Casas, B^{*}, Ball, S, Chiu, PH (2015). Social signals of safety and risk confer utility and have asymmetric effects on observers' choices. *Nature Neuroscience*, 18, 912 - 916.
- Commentary in: Smith, DV & Delgado, MR (2015) Social nudges: utility conferred from others. *Nature Neuroscience*, 18, 791 - 792.
- Kim-Spoon, J, Kahn, R[#], Deater-Deckard, K, Chiu, PH, Steinberg, L, King-Casas, B (2016). Risky decision making in a laboratory driving task is associated with health risk behaviors during late adolescence but not adulthood. *International Journal of Behavioral Development*. 40, 58 - 63.
- Kim-Spoon, J, Deater-Deckard, K, Holmes, C, Lee, J, Chiu, P, King-Casas, B (2016). Behavioral and neural inhibitory control moderates the effects of reward sensitivity on adolescent substance use. *Neuropsychologia*. 91, 318-326.
- Kim-Spoon, J, Kahn, RE, Lauharatanahirun, N, Deater-Deckard, K, Bickel, WK, Chiu, PH, King-Casas, B (2017). Executive functioning and substance use in adolescence: Neurobiological and behavioral perspectives. *Neuropsychologia*, 100, 79-92.
- Chung, D, Kadlec, K, Aimone, J, McCurry, K, King-Casas, B, Chiu, PH (2017). Valuation in major depression is intact and stable in a non-learning environment. *Scientific Reports*, 7, doi:10.1038/srep44374.

* equal contribution

trainee co-author

CHAPTERS AND COMMENTARY

- Deldin, P, Shestyuk, A, & Chiu, P (2003). ERP indices of memory biases in depression. In M. Lenzenweger and J. Hooley (Eds.), *Principles of Experimental Psychopathology* (pp. 195-210). Washington, D.C.: APA.

- Ambady, N, Chiao, J, Chiu, P, & Deldin, P (2005). Race and emotion: insights from a social neuroscience perspective. In JT Cacioppo, PS Visser, CL Pickett (Eds.), *Social Neuroscience: People Thinking About People*. (pp. 209-228). Cambridge MA: MIT Press.
- Montague, PR & Chiu, PH (2007). For goodness' sake. [News and Views] *Nature Neuroscience*, 10, 137-138.
- Montague, PR & Chiu, PH (2009). Brain reward and fMRI. In Charney, D. and Nestler, E. (Eds.), *Neurobiology of Mental Illness* (pp. 846-866). New York NY: Oxford University Press.

RESEARCH FUNDING

Ongoing support

R01MH106756 NIH/NIMH Role: PI	Chiu (PI) Neural substrates of reinforcement learning and its training in depression Goal: Use neurocomputational methods to study and improve learning in depression	02/2016 - 12/2020
R21DA042274 NIH/NIDA Role: PI	Chiu and Chung (PIs) Neural mechanisms of social influence on risky decisions in cocaine dependence Goal: Identify neural substrates of social influence on risky decision making in addiction	04/2017 - 05/2019
R01DA036017 NIH/NIDA Role: Co-I	King-Casas and Kim-Spoon (PIs) Neurobehavioral determinants of adolescent substance use and HIV/STD behaviors Goal: Characterize the development of neural substrates of reward, risk sensitivity, cognitive control	07/2013 - 06/2018
DP7OD018428 NIH/OD Role: Co-I	Friedlander and Van Wart (PIs) Mentorship and development program for biomedical trainees Goal: Expand the training experiences of the nation's biomedical graduate students and postdoctoral fellows to prepare them for a diverse array of research-related roles	10/2013 - 09/2018

Past support

T32-MH18882 NIH/NIMH	Chiu (Postdoctoral Fellow) American Psychological Association Program in Neuroscience Postdoctoral Fellowship	06/2006 - 07/2007
R21DA026086 NIH/NIDA	Chiu and LaConte (PIs) Localized and distributed real-time fMRI approaches to facilitate self-control in substance abusers	09/2008 - 06/2010
D7030R VA/RR&D Role: Co-I	King-Casas (PI) Neurobehavioral assessment of interpersonal functioning in PTSD Goal: Investigate neural correlates of interpersonal difficulties in veterans with PTSD	10/2009 - 09/2013
R33DA026086 NIH/NIDA Role: PI	Chiu and LaConte (PIs) Localized and distributed real-time fMRI approaches to facilitate self-control in substance abusers Goal: Develop an optimal neurofeedback signal to improve self-control in smokers	07/2010 - 06/2014
R01MH091872 NIH/NIMH Role: PI	Chiu (PI) Neuroimaging major depression and nicotine dependence on axes of valuation Goal: Use neuroimaging to map depression and substance dependence as disorders of motivation	06/2010 - 01/2016
R01MH087692 NIH/NIMH Role: PI	Chiu (PI) Neurobehavioral metrics for the assessment and treatment of depression Goal: Identify quantitative neural predictors of domain-specific response to cognitive behavioral therapy in depression	07/2010 - 01/2016

3R01MH091872-S1 NIH/NIMH	Chiu (PI) Diversity supplement to support training for Ms. Nina Lauharatanahirun	02/2011 - 03/2012
B7760P VA/RR&D Role: Co-I	Williams (PI) Neuroimaging the impact of treatment on neural substrates of trust in PTSD Goal: Investigate neural mechanisms of change following CBT in PTSD	04/2011 - 03/2013
Institute for Society, Culture, and Environment Virginia Tech	Kim (PI) Multi-level predictive modeling of risk decision-making and substance use in adolescence	03/2012-03/2013
Role: Co-I	Goal: Pilot study to examine multi-level predictors of risky decision-making in adolescents	

TEACHING AND ADVISING

Undergraduate and postbaccalaureate training

9/00 - 6/03	Research Supervisor , Department of Psychology, Harvard University. Supervised undergraduate research assistants and students conducting honors thesis research.
9/00 - 6/05	Academic Advisor , Department of Psychology, Harvard University.
9/00 - 6/05	Senior Common Room Member (non-resident advisor), Cabot House, Harvard University.
2007 - present Research Mentor	Department of Neuroscience, Baylor College of Medicine. <i>Undergraduate interns:</i> (1) Magdalena Wistuba, 2007 - 2010, Rice University; (2) Sam Soundar, 2008 - 2010, Rice University; (3) Christina Brovko, Summer 2008, UC Riverside; (4) Andrew Thompson, 2008 - 2009, Rice University; (5) Betsy Ohn, Spring 2009, Rice University; (6) Noemie Levy, Spring 2009, Rice University; (7) Karen Mardsen, Spring 2009 - present; (8) Allen Liao, Summer 2009, Rice University; (9) Chanel Matney, Summer 2009, UT Dallas, Summer Medical and Research Training (SMART) Program; (10) Jamie Sammis, 2009 - 2010, Rice University; (11) Spencer Boucher, Fall 2009 - 2011, Rice University; (12) Stephanie Regan, Summer 2010, Harvard University; (13) Grace Chang, Summer 2010, Rice University. <i>Post-baccalaureate research assistants:</i> (1) LaRaun Lindsey, 2007 - 2013 Postbaccalaureate Research Education Program (PREP); (2) Julie Brovko, 2007 - 2009; (3) April Sanders, 2008 - 2009; (4) James Sharp, 2009 - 2010; (5) Jessica Eiseman, 2009 - 2011; (6) Alex Acevedo-Rodriguez, 2009 - 2010, secondary mentor, (PREP); (7) Nina Lauharatanahirun, 2010 - 2011; (8) Cristina Tortarolo, Fall 2010; (9) Luz Martinez, 2010 - 2011 (PREP); (10) Katherine Gardner, 2010 - 2012. Virginia Tech Carilion Research Institute & School of Medicine and Virginia Tech Department of Psychology. <i>Undergraduate interns:</i> (1) Phillip Kotlaba, Winter 2011, Virginia Tech; (2) Diandra Gordon, Summer 2011, McNair Scholars Program, US Dept of Education TRIO program; (3) Winston Kennedy, Summer 2011, McNair Scholars Program, US Dept of Education TRIO program; (4) Kathleen McLachlan, 2011, Virginia Tech; (5) Lydia Nguyen, Summer 2013 - present, Virginia Tech; (6) Jennifer Nguyen, 2013, Virginia Tech; (7) Kelly Kadlec, 2015 - present. <i>Post-baccalaureate research assistants:</i> (1) Katie McCurry, 2010 - 2012; (2) Jennifer Lent, 2011 - 2012; (3) Brittany Hamilton, 2011 - 2013; (4) Kathleen McLachlan, 2011 - 2013; (5) Cari Rosoff, 2012 - 2015; (6) Andre Plate, 2012 - 2014; (7) Allison McKinnon, 2013 - 2016 (8) Riley Palmer, 2014 - 2016; (9) Jennifer Nguyen, 2014, Virginia Tech; (10) Rachel Wallace, 2014 - 2015; (11) Lauren Reckling, 2015 - 2016; (12) Chris Anzalone, 2016 - present; (13) Brennan Delattre, 2016 - present.

Graduate student training

- 3/08 - 2013 **Masters'/Prelim/Doctoral Committees**
Prelim/Doctoral Dissertation Committee, Baylor College of Medicine, Dept of Neuroscience: (1) Erika Perez, advisor Mariella De Biasi; (2) Danny Jenson, advisor John Dani; (3) Josepheen De Asis Cruz, advisor Read Montague, PhD received 2013; (4) Alycia Yarnall, advisor John Dani, Masters' received 2011; (5) Yong Cui, advisors John Dani and Tom Kosten, PhD received 2012. **Virginia Tech**, Dept of Psychology: (1) Vanessa Brown (Chair); (2) John Wang (Chair); (3) Nina Lauharatanahirun; (4) Merage Ghane; (5) Marika Coffman; (6) Katie McCurry; (7) Andrew Valdespino; (8) Fang Wang; (9) Benjamin DeVore; (10) Andrew Valdespino. **Translational Biology, Medicine, & Health**: (1) Holly Toole; (2) Mark Orloff (Chair); (3) Zhuoya Cui. **Masters' Thesis Committee, Virginia Tech**: (1) Nina Lauharatanahirun; (2) John Wang (Chair); (3) Vanessa Brown (Chair); (4) Katie McCurry (Co-Chair); (5) Marika Coffman; (6) Shengchuang Feng (Co-Chair); (7) Michael Lewis.
- 9/11 - present **Graduate student direct advisees, Virginia Tech**
 John Wang (BA, University of Michigan; entered Biological Psychology Fall 2011)
 Nina Lauharatanahirun (co-mentor; BA, Cal State Northridge; entered BP Fall 2011)
 Vanessa Brown (BA, St Olaf College; entered Clinical Psychology Fall 2012)
 Katie McCurry (co-mentor; BA, Rice University; entered Clinical Psychology Fall 2012)
 Shengchuang Feng (co-mentor; entered BP Fall 2014)
 Zhuoya Cui (co-mentor; entered Translational Biology, Medicine, and Health, Fall 2014)
 Mark Orloff (BA, Virginia Tech; entered TBMH Fall 2015)
- 2/12 - present **Medical students, Virginia Tech Carilion School of Medicine**
 Primary mentor to: (1) Sohan Nagrani, 2011 - 2015 (BA, Virginia Tech); (2) Mercedes Robinson, 2015 - present (BA, Davidson College).
 4th year research evaluator (Manek Aulakh, Sean Fletcher, James Joyner, Samuel Key)
 2nd year research evaluator (Ehsan Dowlati, Steve Punzell, Alisha Tuteja, Omer Abdul Hamid, David Sabbagh, Varun Razdan, Shane Lince)

Postdoctoral trainees

- 11/08 - 04/11 Co-Mentor to George Christopoulos (PhD, 2008, Cambridge University); now Assistant Professor at Nanyang Business School, Nanyang Technical University, Singapore.
- 09/09 - 09/2011 Dharol Tankersley (PhD, 2008, Duke University); now senior business analysis at Enerpact LLC.
- 09/10 - 2013 Secondary mentor to Jeff Engelmann (PhD, 2010, University of Minnesota) on R25CA057730 (PI, Shine Chang, MD Anderson); now instructor at University of Texas MD Anderson Cancer Center.
- 12/10 - 2013 Secondary mentor to Cameron Craddock (PhD, 2009, Georgia Institute of Technology) on NARSAD Young Investigator Award (PI Craddock; “Neuro-feedback for default mode network regulation in major depression”); now Director of Imaging, Child Mind Institute, New York and Research Scientist, Nathan Kline Insitute, New York.
- 10/11 - present Dongil Chung (PhD, 2011, Korea Advanced Institute for Science and Technology)
 Lusha Zhu (PhD, 2011, University of Illinois at Urbana-Champaign); currently Assistant Professor of Psychology and McGovern Institute, Peking University, China.

Courses

- 2/01 - 6/01 **Teaching Fellow**, Laboratory in Psychophysiology (Psy 1856r), Harvard University.
 Overall Teaching rating: 4.9/5.0
- 9/03 - 2/04 **Co-Head Teaching Fellow**, Abnormal Psychology (Psy 18), Harvard University.

Overall Teaching rating: 4.3/5.0

08/13 - 12/13 **Course Director**, Advanced Topics in Decision Neuroscience (Psyc 6954), Virginia Tech. Overall Teaching rating: 5.2/6.0

Course Lectures

- 11/2008 **University of Texas Graduate School of Biomedical Sciences.** “Neural signals of decision-making in economic games: Applications to autism and addiction.” (Course number GS02 0043, “Introduction to fMRI”; Course Coordinator Michael Beauchamp).
- 4/2009 **Baylor College of Medicine.** “Neuroimaging healthy and debilitating emotion.” (Course number 350-444, “Brain Imaging from Cell to System”; Course Coordinator Peter Saggau).
- 5/2009 **Baylor College of Medicine.** “Neuroimaging endophenotypes for major depressive disorder.” (Course number 350-422, “Neurobiology of Disease”; Course Coordinator Michael Friedlander).
- 3/2010 **Baylor College of Medicine.** “Neurobehavioral metrics for assessing individual differences and understanding the influence of others.” (Course number 350-434, “Higher Brain Function”; Course Coordinator Mariella De Biasi).
- 5/2010 **Baylor College of Medicine.** “Neuroimaging endophenotypes for major depressive disorder.” (Course number 350-422, “Neurobiology of Disease”; Course Coordinator Michael Friedlander).
- 4/2013 **Virginia Tech.** “Translational neuroimaging: Perspectives from a clinical scientist.” (Course number PSYC 4364, “Introduction to Clinical Psychology”; Course Director Lee Cooper).
- 4/2014 **Virginia Tech.** “Neural substrates of reinforcement learning: Toward understanding & treating substance dependence.” (Course number NEUR 4984, “Neuroeconomics”; Course Director Sheryl Ball).
- 8/2014 **Virginia Tech.** “Depression: An introductory overview.” (Course number TBMH 5004, “Translational Biology, Medicine and Health: Gateway Course”; Course Director Michael Friedlander).
- 3/2015 **Virginia Tech.** “Neurobehavioral substrates of decision-making in depression.” (Course number TBMH 5014, “Fundamentals of Neuroscience”; Course Directors Michael Fox and Brooks King-Casas).
- 4/2015 **Virginia Tech.** Career discussion panelist (Course number PSYC 5374, “Health Psychology”; Course Director Richard Winett).
- 4/2016 **Virginia Tech.** “Cognitive neuroscience of healthy and debilitating emotion (parts 1 & 2).” (Course number TBMH 5014, “Fundamentals of Neuroscience”; Course Directors Michael Fox and Brooks King-Casas).
- 2/2017 **Virginia Tech.** “Computational approaches to psychiatric illness (parts 1 & 2).” (Course number TBMH 5014, “Fundamentals of Neuroscience”; Course Directors Michael Fox and Brooks King-Casas).
- 2/2017 **Virginia Tech.** Career discussion panelist (Course number PSYC 5374, “Health Psychology”; Course Director Richard Winett).

INVITED TALKS

- 2007 **Baylor College of Medicine, Department of Neuroscience**, invited colloquium.
- 2008, 2009 **Baylor College of Medicine**, Imaging in Psychiatry, Residents’ Seminar Series.
- 2008 **Rice University**, Cognitive Research Seminar.

- 2008 **US Department of Defense and Humana Military Healthcare Services.** With Michael Friedlander and Read Montague. Washington, DC.
- 2008 **US Department of Defense and TriCare South Sub-Regional Meeting.** With Michael Friedlander. Nashville, TN.
- 2009 **Rush and Helen Record Forum.** “Translational fMRI: Applications for depression and addiction”
- 2009 **31st Annual International IEEE Engineering in Medicine and Biology Society Conference.** “Toward functional neurobehavioral assessment of mood and anxiety”
- 2010 **University of Southern California, Psychology Colloquium.**
- 2010 **Annual meeting of the Association for Behavioral & Cognitive Therapies, Symposium, Neuroeconomics and Psychopathology: Implications for treatment.** “Making ‘what might happen’ matter: Measuring and modulating control signals in smokers”
- 2011 **Virginia Tech Research Center-Arlington “Meet the Scientists”**
- 2011 **Salem VA Medical Center**
- 2011 **Nanyang Technological University, Culture Science Institute, Singapore**
- 2/2012 **University of Pennsylvania, Center for Cognitive Science Colloquium.** “Decision neuroscience from scan to practice: preliminary data from substance dependence”
- 6/2012 **University of Hawaii at Hilo.** "Translational decision neuroscience from function to practice: A brief overview"
- 8/2012 **Virginia Tech Center for Autism Research Conference.** "Toward neurobehavioral metrics of social function: Examples from autism"
- 9/2012 **Virginia Tech, Dept of Psychology, Clinical Research Forum.** "Translational neuroimaging: preliminary data & perspectives"
- 10/2012 **Blue Ridge Association of Clinical Psychologists.** "Neurobehavioral metrics for the assessment & treatment of depression"
- 3/2013 **Brain School, Brain Awareness Week, Virginia Tech Carilion Research Institute.** "When brains do (or feel!) things we'd rather they didn't"
- 9/2013 **Virginia Conversations, Virginia Public Radio (WVTF)**
- 10/2013 **Virginia Tech Carilion Research Institute European–U.S. Workshop on the Neuroscience of Cognition, Computation, and Decisions, Lugano, Switzerland.** "Neural markers of decision-making in psychiatric illness"
- 10/2013 **Computational Psychiatry 2013, Miami FL.** "Neurobehavioral metrics of decision-making under risk in health and substance dependence."
- 01/2014 **St. Albans Psychiatric Conference, Roanoke VA.** "Translational neuroimaging in psychiatry: An overview and examples from depression."
- 10/2014 **Virginia Tech Presidential Installation** of Timothy Sands, 16th President of Virginia Tech. Panel discussion: Harnessing Brain Power.
- 11/2014 **International Conference on Neuroeconomics and Neuromanagement, Hangzhou, China.** Keynote address: “Neural substrates of decision-making and its change: Examples from psychiatric illness.”
- 3/2015 **Brain School, Brain Awareness Week, Virginia Tech Carilion Research Institute.** "Building blocks of the social brain"
- 5/2015 **National Advisory Mental Health Council, National Institute of Mental Health.** “Toward a computational psychiatry,” Invited panel member, Biobehavioral Research Awards for Innovative New Scientists (BRAINS) Awardee Panel.
- 10/2015 **Society for Research in Psychopathology, New Orleans, LA.** “Understanding social functioning across psychopathologies through valuation and decision-making.”
- 5/2016 **Society of Biological Psychiatry, Atlanta, GA.** “Reinforcement learning parameters of behavioral treatment response in depression.”
- 6/2016 **Women’s Health Virginia, Annual Conference on Women’s Health.** “Depression and its neuroscience.”

CLINICAL TRAINING

- 11/01 - 05/02
Practicum **The Cambridge Hospital, Cambridge, MA.** Co-led out-patient anxiety reduction and psychopharmacology education groups. Participated in treatment formulation.
Supervisors: Kate Dare-Winters, LicSW; Simon LeJeune, MD
- 09/00 - 06/05
Research Assistant **Diagnostic Assessment, Harvard University, Cambridge, MA.** 350+ hours assessing controls and individuals with schizophrenia or major depression (e.g., Structured Clinical Interview for DSM-IV; Positive and Negative Syndrome Scale; McArthur Maudsley Delusion Assessment Scale; Calgary Depression Scale for Schizophrenia; battery of self-report measures). Supervisor: Patricia Deldin, PhD
- 09/03 - 02/04
Practicum **Psychological Assessment, Harvard University, Cambridge, MA.** Acquired skills in administering, interpreting, and report-writing of standardized tests in the areas of intellectual and personality assessment (e.g., Wechsler Adult Intelligence Scale, Wechsler Memory Scale, Minnesota Multiphasic Personality Inventory).
Supervisor: Ellsworth Fersch, PhD
- 10/03 - 08/04
Practicum **Obsessive Compulsive Disorder Institute, McLean Hospital, Belmont, MA.** Provided one-on-one exposure and response prevention coaching to individuals with treatment-resistant obsessive-compulsive disorder. Co-led Contract Setting treatment groups; observed Cognitive-Behavioral Therapy and Body Dysmorphic Disorder groups.
Supervisor: Deborah Osgood-Hynes, PsyD
- 09/04 - 06/05
Practicum **Behavioral Health Partial Program, McLean Hospital, Belmont, MA.** Provided individual short-term therapy, group therapy, and specialized assessment to individuals with a range of severe psychiatric disorders transitioning from in-patient to out-patient facilities. Led and co-led a variety of treatment groups including: Self-Assessment, Medication Education, Depression & Anxiety Management, and Cognitive-Behavioral Therapy for Bipolar Disorder.
Supervisors: Edmund Neuhaus, PhD; Mary Ellen Crowley, PhD; Nora Ilniczky, PhD
- 07/05 - 07/06
Clinical Psychology Internship (APA Accredited) **Baylor College of Medicine, Menninger Department of Psychiatry, Human Neuroimaging Laboratory, Houston, TX. Adult Clinical Neuroscience Track.** Acquired training in fMRI study design, data analysis, and interpretation. Provided individual therapy and specialized cognitive, diagnostic, and personality assessment (e.g., SCID-I; Diagnostic Interview for Personality Disorders-IV; Kauffman Brief Intelligence Test-II; battery of self-report cognitive, personality, symptom measures) to individuals participating in research or seeking treatment at the BCM Psychiatry Clinic and Student Counseling Center.
Supervisors: Read Montague, PhD; Lois Friedman, PhD; Laura Lomax, PhD

MEMBERSHIPS

Society for Psychophysiological Research (2001 - 2008); Cognitive Neuroscience Society (2002 - present); American Psychological Society (2005 - present); Society for Neuroscience (2006 - present); Society for Neuroeconomics (2006 - 2009); Human Brain Mapping (2007 - present); Society of Biological Psychiatry (2017 - present).

SYMPOSIA AND POSTER PRESENTATIONS (SELECTED FROM > 70)

- Gray, H, Ambady, N, Chiu, P, David, D, & Deldin, P (2002). Effects of gender priming on processing of mathematical and verbal stimuli: An ERP investigation. Poster, Society for Personality and Social Psychology, Savannah, GA.
- Ambady, N, Chiu, P, & Deldin, P (2002). High and low prejudiced individuals differ in the CNV to emotional in- and out- group faces. Symposium, Society for Personality and Social Psychology, Savannah, GA.

- Chiu, P & Deldin, P (2002). Cognitive restructuring of EEG asymmetries in depression. Poster, Society for Research in Psychopathology, Montreal, Quebec, Canada.
- Chiu, P & Deldin, P (2004). Motivated response monitoring in schizophrenia and depression. *Psychophysiology*, 41, S72. Poster, Society for Psychophysiological Research, Santa Fe, NM. *Student poster award
- Chiu, P, Lohrenz, T, & Montague, PR (2006). Neural signals of sated and unsated smokers in a sequential investment game. Poster, NIDA Mini-Convention: Frontiers in Addiction Research, Atlanta, GA
- Chiu, P & Deldin, P (2006). Emotion-modulated response-monitoring in schizophrenia. Poster, Society for Psychophysiological Research, Vancouver BC, Canada.
- Chiu, P, Lohrenz, T, & Montague, R (2007). Neural responses of sated and unsated smokers on a sequential investment game. *JOCN*, Supplement, 271. Poster, Cognitive Neuroscience Society, New York, NY.
- Chiu, P, Kayali, A, Kishida, K, Tomlin, D, Klinger, L, Klinger, M, Montague, R (2007). Active interpersonal exchange evokes quantitative neural phenotype in autism. Poster, Society for Neuroscience, San Diego, CA.
- Lohrenz, T, Chiu, P, Montague, R (2007). Smokers compute but ignore a fictive error signal in a sequential investment task. Poster, Society for Neuroscience, San Diego, CA.
- Chiu, P, Kayali, A, Kishida, K, Tomlin, D, Klinger, L, Klinger, M, Montague, R (2008). Self responses along cingulate cortex reveal quantitative neural phenotype for high functioning autism. Poster, Cognitive Neuroscience Society, San Francisco, CA.
- Lindsey, L, Brovko, J, Chiu, P (2008). Quantitative characterization of neurobehavioral responses to affective stimuli. Poster, Society for Neuroscience, Washington DC.
- LaConte, S, King-Casas, B, Lisinski, J, Lindsey, L, Eagleman, DM, Cinciripini, PM, Versace, F, Chiu, PH (2009). Modulating real-time fMRI neurofeedback interfaces via craving and control in chronic smokers. Poster, Organization for Human Brain Mapping, San Francisco, CA.
- Chiu, P, King-Casas, B, Cinciripini, P, Versace, F, Eagleman, D, Lisinski, J, Lindsey, L, LaConte, S (2009) Real-time fMRI modulation of craving and control brain states in chronic smokers, Poster, Society for Neuroscience, Chicago, IL.
- Tankersley, D, Christopoulous, G, King-Casas, B, Chiu, P (2010) Punishment sensitivity predicts BOLD response to prediction errors in reward and avoidance learning, Poster, Organization for Human Brain Mapping, Barcelona, Spain.
- Chiu, P, Lisinski, J, King-Casas, B, Sharp, J, Eagleman, D, Versace, F, Cinciripini, P, LaConte, S (2010) Modulating “crave” and “don’t crave” brain states with real-time fMRI neurofeedback in smokers, Poster, Organization for Human Brain Mapping, Barcelona, Spain.
- McCurry, K, Brown, G, De La Garza, R, Newton, T, Chiu, P, King-Casas, B (2010) Neural correlates of aggression in cocaine dependent individuals. Poster, Society for Neuroscience, San Diego, CA.
- Lindsey, L, McCurry, K, Patel, H, LaConte, S, De La Garza, R, Newton, T, King-Casas, B, Chiu, P (2010) Neural substrates of drug use, craving, and executive control in cocaine users. Poster, Society for Neuroscience, San Diego, CA.
- Tankersley, D, McCurry, K, Christopoulos, G, Newton, T, De La Garza, R, King-Casas, B, Chiu, P (2010) Reward and punishment learning associated with differential response to positive and negative prediction errors in stimulant-dependent subjects. Poster, Society for Neuroscience, San Diego, CA.
- Eiseman, J, Graham, D, Frueh BC, Kosten, T, Chiu, P, King-Casas B (2010) Neural substrates of interpersonal function in post-traumatic stress disorder. Poster, Society for Neuroscience, San Diego, CA.
- Lindsey, L, Eiseman, J, Graham, D, Frueh, BC, Kosten, T, King-Casas, B, Chiu, P (2010) Neuroimaging affective phenotypes in depression and post-traumatic stress disorder. Poster, Society for Neuroscience, San Diego, CA.
- Boucher, S, Tankersley, D, Chiu, P (2010) Affective phenotypes exhibit distinct neural response magnitude and duration to emotional sounds. Poster, Society for Neuroscience, San Diego, CA.
- Gordon, D, McCurry, K, King-Casas, B, Chiu, P (2011) People’s addiction to people: Quantifying trust in interpersonal relationships. Poster, McNair Scholars Summer Research Program Conference, Virginia Tech, Blacksburg, VA.
- Kennedy, W, Lauharatanahirun, N, McCurry, K, Chiu, P, King-Casas, B (2011) The effects of risk preference on risk pooling. Poster, Presented at the McNair Scholars Summer Research Program Conference at Virginia Tech, Blacksburg, VA.

- McCurry, K, Eiseman, J, Gardner, K, Chiu, P, Williams, W, King-Casas, B (2011) Impact of group psychotherapy on neural correlates of trust in veterans with PTSD. Poster, Society for Neuroscience, Washington, DC.
- McCurry, K, Lauharatanahirun, N, De La Garza, R, Newton, T, Chiu, P, King-Casas, B (2011) Neurobehavioral effects of cocaine use in a social dominance task. Poster, Organization for Human Brain Mapping, Quebec City, Canada.
- Teng, EJ, Newsome, MR, Hiatt, EL, Lindsey, L, Chiu, PH (2011) Neural correlates of threat words in PTSD with comorbid panic: A functional MRI case study. Poster, International Society for Traumatic Stress Studies, Baltimore, MD.
- Williams, W, Eiseman, J, McCurry, K, Chiu, P, King-Casas, B (2011) The effectiveness of group psychotherapy in improving trust in veterans with PTSD. Poster, International Society for Traumatic Stress Studies, Baltimore, MD.
- Chung, D, Christopoulos, G, McCurry, K, Newton, T, De La Garza, R, Chiu, P (2012) Neurobehavioral substrates of peer influence on risk preferences of cocaine addicts. Poster, Organization for Human Brain Mapping, Beijing, China.
- Craddock, RC, Lisinski, J, Chiu, P, Mayberg, H, LaConte, S (2012) Real-time tracking and biofeedback of the default mode network. Oral presentation, Organization for Human Brain Mapping, Beijing, China.
- Wang, J, Zhu, L, Tankersley, D, Christopoulos, G, King-Casas, B, Chiu, P (2012) The interaction of feedback and context on learning preferences. Poster, Organization for Human Brain Mapping, Beijing, China.
- Aimone, J, McCurry, K, McNamara, R, Frueh, B, Chiu, P, King-Casas, B (2012) Neural substrates of interpersonal dysfunction in PTSD: Trust without reward. Poster, Society for Neuroscience, New Orleans, LA.
- Chung, D, Christopoulos, G, McCurry, K, Newton, T, De La Garza, R, Chiu, P (2012) Social influence on risky decision-making affects both risk preference and risk perception. Poster, Society for Neuroscience, New Orleans, LA.
- Marsden, K, Ma, W, Deci, E, Ryan, R, Chiu, P (2012) Neural predictors of intrinsic motivation and the impact of external incentive. Poster, Society for Neuroscience, New Orleans, LA.
- McCurry, K, Lindsey, L, McNamara, R, LaConte, S, Frueh, B, King-Casas, B, Chiu, P (2012) Brain state classification of PTSD and comorbid conditions using neural responses to emotional images. Poster, Society for Neuroscience, New Orleans, LA.
- Wang, J, Zhu, L, Tankersley, D, De LaGarza, R, Newton, T, McCurry, K, King-Casas, B, Chiu, P (2012) Neural substrates of learning and valuation in cocaine dependent individuals. Poster, Society for Neuroscience, New Orleans, LA.
- Zhu, L, Chiu, P, King-Casas, B (2012) Neural computations underlying actions in social hierarchy. Poster, Society for Neuroscience, New Orleans, LA.
- Brown, V, Wang, J, Zhu, L, McNamara, R, Rosoff, C, McCurry, K, King-Casas, B, Chiu, P (2013) The neural substrates of reward and punishment learning in major depression. Poster, Organization for Human Brain Mapping, Seattle, WA.
- Chiu, P, Lisinski, J, Plate, A, King-Casas, B, Eagleman, D, Cinciripini, P, LaConte, S (2013) Modulating 'crave' and 'don't crave' brain states using real-time fMRI neurofeedback. Poster, Organization for Human Brain Mapping, Seattle, WA.
- Chung, D, Xu S, Gu, X, Gao, Z, Wang, X, Chiu, P (2013) Causal roles of dorsal anterior cingulate and insula on peer-influenced decision making under risk. Poster, Organization for Human Brain Mapping, Seattle, WA.
- Zhu, L, Rosoff, C, McNamara, R, McCurry, K, Chiu, P, King-Casas, B (2013) Aggression in social contests in veterans with post-traumatic stress disorder. Poster, Organization for Human Brain Mapping, Seattle, WA.
- Aimone, J, Williams, McCurry, K, Frueh, B, Graham, D, Chiu, P, King-Casas, B (2013) Cognitive processing therapy remediates neural social prediction error signaling in PTSD. Poster, Society for Neuroscience, New Orleans, LA.

- Chung, D, Christopoulos, G, Newton, T, De La Garza, R, King-Casas, B, Chiu, P (2013) Cocaine addicts show increased susceptibility to social influence during risky decision making. Poster, Society for Neuroscience, New Orleans, LA.
- Jenkins, A, Zhu, L, Set, E, Scabini, D, Knight, R, Chiu, P, King-Casas, B, Hsu, M (2013) Dissociable neural mechanisms underlying honesty and altruism. Poster, Society for Neuroscience, New Orleans, LA.
- Lauharatanahirun, N, Kim-Spoon, J, Walters, J, Farley, J, Deater-Deckard, K, Bickel, W, Chiu, P, King-Casas, B (2013) The interaction of reward sensitivity and executive function predicts substance use and neural signature of risk processing in adolescents. Poster, Society for Neuroscience, New Orleans, LA.
- Zhu, L, Rosoff, C, McCurry, K, Frueh, B, Chiu, P, King-Casas, B (2013) Aggression in social contests in veterans with post-traumatic stress disorder. Poster, Society for Neuroscience, New Orleans, LA.
- Zhu, L, Set, E, Hsu, M, Ball, S, Chiu, P, King-Casas, B. (2013) The value of honesty: Neural evidence for lie-averse preferences. Poster, Society for Neuroscience, New Orleans, LA.
- Brown, V, Wang, J, Zhu, L, King-Casas, B, Chiu, P (2014) Disrupted reinforcement learning in posttraumatic stress disorder. Poster, Organization for Human Brain Mapping, Hamburg, Germany.
- Chung, D, Aimone, J, Nguyen, L, McKinnon, A, Plate, A, King-Casas, B, Chiu, P (2014) Neural substrates of trust and diminishing motivations of generosity. Poster, Organization for Human Brain Mapping, Hamburg, Germany.
- Lauharatanahirun, N, Kim-Spoon, J, Chiu, P, King-Casas, B (2014). Neural correlates of risk processing and expectation of uncertainty in adolescents. Poster, Organization for Human Brain Mapping, Hamburg, Germany.
- McCurry, K, Lisinski, J, LaConte, S, Chiu, P, King-Casas, B (2014) Development of a group affective brain model for use in real-time fMRI. Poster, Organization for Human Brain Mapping, Hamburg, Germany.
- Wang, J, Zhu, L, De La Garza, R, Newton, T, McCurry, K, King-Casas, B, Chiu, P (2014) Cocaine use modulates neural substrates of loss aversion in a probabilistic learning task. Poster, Organization for Human Brain Mapping, Hamburg, Germany.
- Brown, V, Wang, J, Zhu, L, Rosoff, C, King-Casas, B, Chiu, P (2014) Reinforcement learning predictors of response to CBT in depression. Poster, Association for Behavioral and Cognitive Therapies, Philadelphia, PA.
- Nagrani, S, Chung, D, Chiu, P (2014) A study of risky decision-making in major depressive disorder. Poster, Society for Judgment and Decision Making, Long Beach, CA.
- Lauharatanahirun, N, Ball, S, Aimone, J, Chiu, P, Kim-Spoon, J, King-Casas, B (2015) Neuroeconomic predictors of health risk behaviors in adolescents. Poster, Organization for Human Brain Mapping, Honolulu, HI.
- Chung, D, De La Garza, R, Newton, T, McCurry, K, King-Casas, B, Chiu, P (2015) Neurobehavioral evidence for cognitive enhancement in cocaine dependent individuals. Poster, Organization for Human Brain Mapping, Honolulu, HI.
- Kim-Spoon, J, Chiu, P, Deater-Deckard, K, Farley, J, Lauharatanahirun, N, Bickel, W, King-Casas, B (2015) A neurobehavioral study of the interaction between risk sensitivity and cognitive control predicting adolescent risk taking. Poster, Society for Research on Child Development, Philadelphia, PA.
- Kim-Spoon, J, Kahn, R, Faris, K, Deater-Deckard, K, Chiu, P, King-Casas, B (2015). The association between laboratory risky decision-making and real-life health risk behaviors among adolescents and adults. Poster, Society for Research on Child Development, Philadelphia, PA.
- Kahn, R, Kim-Spoon, J, Deater-Deckard, K, Chiu, P, King-Casas, B (2015). An examination of the interaction between risk sensitivity and inhibitory control related to young adults' substance use. Poster, Society for Research on Child Development, Philadelphia, PA.
- Zhu, L, Chiu, P, King-Casas, B (2015). Neural computations underlying actions in social hierarchy. Talk, 5th Annual Interdisciplinary Symposium on Decision Neuroscience, Cambridge, MA.
- Zhu, L, Wang, J, Ball, S, Hsu, M, Chiu, P, King-Casas, B (2015). The value of honesty: Neural evidence for lie-averse preferences. Poster, 5th Annual Interdisciplinary Symposium on Decision Neuroscience, Cambridge, MA.

- Chung, D, Christopoulos, G, King-Casas, B, Ball, S, Chiu, P (2015). Others' choices increase subjective value and explain asymmetric alignment with safety and risk. Poster, 5th Annual Interdisciplinary Symposium on Decision Neuroscience, Cambridge, MA.
- Feng, S, Brown, VM, Wang, JM, King-Casas, B, & Chiu, P (2015). Disrupted reinforcement learning in smoking and depression. Poster presented at the annual Virginia Tech Carilion Research Institute Retreat, Roanoke, VA.
- Brown, VM, Zhu, L, Wang, JM, Frueh, BC, King-Casas, B, Chiu, PH (2016). Heightened neurobehavioral substrates of associability-based learning in posttraumatic stress disorder. Poster, Society of Biological Psychiatry, Atlanta, GA.
- Brown, VM, Zhu, L, Wang, JM, Solway, A, King-Casas, B, Chiu, P (2016). Neurobehavioral effects of cognitive-behavioral therapy on depression-related disruptions in reinforcement learning. Talk presented at FENS Brain Conference on New Insights into Psychiatric Disorders through Computational, Biological and Developmental Approaches, Copenhagen, Denmark.
- McCurry, K, Frueh, BC, Chiu, P, King-Casas, B (2016). Opponent effects of hyperarousal and re-experiencing on habituation to emotional information in PTSD. Poster, Association for Behavioral and Cognitive Therapies, New York, NY.
- McCurry, K, Lisinski, J, LaConte, S, Chiu, P, King-Casas, B (2016). Development of a neural model of affective states for use in real-time neurofeedback. Poster, Neurocognitive Therapies/Translational Research Special Interest Group at the annual meeting of the Association for Behavioral and Cognitive Therapies, New York, NY.
- Brown, VM, Wang, JM, Zhu, L, King-Casas, B, Chiu, P (2016). Clinical, behavioral, and neural correlates of reinforcement learning in depression. Poster, Association for Behavioral and Cognitive Therapies, New York, NY.
- Brown, VM, King-Casas, B, Chiu, P (2016). From reinforcement learning to behavioral treatment of depression. Talk presented at Society of Biological Psychiatry, Atlanta, GA.
- McCurry, K, Brown, VM, King-Casas, B, Chiu, P (2017) Neuroimaging biomarkers of treatment response in major depressive disorder: An Activation Likelihood Estimation (ALE) meta-analysis. Poster presented at Society of Biological Psychiatry, San Diego, CA.
- Brown, VM, Lee, JI, King-Casas, B, Chiu, P (2017) Towards targeted training of reinforcement learning alterations in depression. Poster presented at Society of Biological Psychiatry, San Diego, CA.