PEARL H. CHIU, PhD
2 Riverside Circle
Roanoke VA 24016
chiup at vtc.vt.edu

EDUCATION AND EMPLOYMENT

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

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	**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**

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 ethnoracially 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.

Kahn RE, Chiu PH, Deater-Deckard K, Hochgraf AK, King-Casas B, Kim-Spoon J (2018). The interaction between punishment sensitivity and effortful control for emerging adults' substance use behaviors. ***Substance Use and Misuse***, 53, 1299-1310.

Brown, V#, Zhu, L#, Wang, J#, Frueh, BC, King-Casas, B*, Chiu, PH* (2018). Associability-modulated loss learning is increased in posttraumatic stress disorder. ***eLife***. eLife 2018;7:e30150 doi: 10.7554/eLife.30150.

Commentary in: https://doi.org/10.7554/eLife.30150.002

Wang, JM#, Zhu, L#, Brown, VM#, De La Garza II, R, Newton, T, King-Casas, B*, Chiu, PH* (2019) In cocaine dependence, neural prediction errors during loss avoidance are increased with cocaine deprivation and predict drug use. ***Biological Psychiatry: Cognitive Neuroscience and Neuroimaging***, 4, 291-299.

Commentary in: Stewart, JL (2019). A computational modeling approach supports negative reinforcement theories of addiction. ***Biological Psychiatry: Cognitive Neuroscience and Neuroimaging***, 4, 218-219.

McCurry, KM#, Frueh, BC, Chiu, PH*, King-Casas, B* (2020) Opponent effects of hyperarousal and reexperiencing on affective habituation in posttraumatic stress disorder. ***Biological Psychiatry: Cognitive Neuroscience and Neuroimaging***, 5, 203-212.

Commentary in: Averill CL, Averill LA, Fan S, Abdallah CG (2020) Of forests and trees: Bridging the gap between neurobiology and behavior in posttraumatic stress disorder. ***Biological Psychiatry: Cognitive Neuroscience and Neuroimaging***, 5, 135-137.

Williams, MW, Graham, D, Sciarrino, NA, Estey, M, McCurry, K#, Chiu, PH*, King-Casas, B* (2020) Does validity measure response affect group cognitive processing therapy (CPT) outcomes in veterans with PTSD? ***Military Medicine***.

Chung, D#, Orloff, M#, Lauharatanahirun, N#, Chiu, PH*, King-Casas, B* (2020) Valuation of peers' safe choices is associated with substance-naïveté in adolescents. ***Proceedings of the National Academy of Sciences***, USA. Epub ahead of print: https://doi.org/10.1073/pnas.1919111117

* co-senior/corresponding author; # 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	Chiu (PI)	02/2016 - 12/2020
NIH/NIMH	Neural substrates of reinforcement learning and its training in depression	
Role: PI	Goal: Use neurocomputational methods to study and improve learning in depression	
R01MH106756-S1	Chiu (PI)	09/2017 - 12/2020
NIH/NIMH	Supplement for computational model based analyses of R01MH106756	
Role: PI	Goal: Supplemental funds for computational analytics	
R01MH115221	King-Casas (PI)	02/2018 - 12/2022
NIH/NIMH	Neurobehavioral mechanisms of social dysfunction in Borderline Personality Disorder	
Role: Co-I	Goal: This project uses computational models of social behavior and neuroimaging to evaluate interpersonal dysfunction in Borderline Personality Disorder.	
Merit D2354R	King-Casas (PI)	07/2018 - 06/2022
VA/RR&D	Efficacy and neural mediators of response to TMT for PTSD	
Role: Co-I	Goal: The study investigates neural mechanisms of treatment in PTSD using functional magnetic resonance imaging and probes of affective and social behavior.	
R25 GM066534	Smith (PI)	08/2003 - 06/2023
NIH/NIGMS	The Virginia Tech Postbaccalaureate Research and Education Program	
Role: Program Faculty	The research and education program seeks to recruit and prepare postbaccalaureate scholars for admission into competitive and highly selective biomedical and behavioral sciences doctoral programs at research-intensive universities.	
R25 GM072767	Smith (PI)	01/2007 - 04/2022
NIH/NIGMS	Virginia Tech – Initiative for Maximizing Student Development (VT-IMSD)	
Role: Program Faculty	This training program seeks to develop and train underrepresented minorities in acquiring skills needed to succeed in Ph.D. programs and biomedical and behavioral research.	

Past support

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

3R01MH091872-S1	Chiu (PI)	02/2011 - 03/2012
NIH/NIMH	Diversity supplement to support training for Ms. Nina Lauharatanahirun	
B7760PWilliams (PI)		04/2011 - 03/2013
VA/RR&D	Neuroimaging the impact of treatment on neural substrates of trust in PTSD	
Role: Co-I	Goal: Investigate neural mechanisms of change following CBT in PTSD	
Institute for Society, Culture, and Environment	Kim (PI)	03/2012-03/2013
Virginia Tech	Multi-level predictive modeling of risk decision-making and substance use in adolescence	
Role: Co-I	Goal: Examine multi-level predictors of risky decision-making in adolescents	
Virginia Tech	Chiu (PI)	12/15/2017 - 06/30/2018
Adaptive Brain & Behavior Request for Concepts	Toward mental health through decision neuroscience	
Role: PI	Goal: Seed fund support for intervening on learning disruptions in depression and anxiety.	
R01DA036017	King-Casas and Kim-Spoon (PIs)	07/2013 - 06/2018
NIH/NIDA	Neurobehavioral determinants of adolescent substance use and HIV/STD behaviors	
Role: Co-I	Goal: Characterize the development of reward, risk sensitivity, and cognitive control	
DP7OD018428	Friedlander and Van Wart (PIs)	10/2013 - 09/2018
NIH/OD	Mentorship and development program for biomedical trainees	
Role: Co-I	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	
R21DA042274	Chiu and Chung (PIs)	04/2017 - 05/2020 (NCE)
NIH/NIDA	Neural mechanisms of social influence on risky decisions in cocaine dependence	
Role: PI	Goal: Identify neural substrates of social influence on risky decision making in addiction	

PROFESSIONAL SERVICE

Ad Hoc Reviewer: Archives of General Psychiatry; Autism Research; Biological Psychiatry; Biological Psychiatry: Cognitive Neuroscience and Neuroimaging; 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; PNAS; 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; ZRG1 BDCN J 02, July 2017; ZRG1 BDCN-J 02 M, November 2017; ZMH1 ERB-M 04 S, November 2018; ZMH1 ERB-D (04), February 2019; ZMH1 ERB-S (04) S, March 2019 (Chair); ZMH1 ERB-Q (08), July 2020. 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); Reviewer, Wellcome Trust, UK (2019); Reviewer, Netherlands Organisation for Health Research and Development (2020); Reviewer, Health Research Council of New Zealand (2020).

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, 2017, 2018); Cardio/Cerebrovascular Faculty Search Committee (2011); Computational Neuroscience Faculty Search Committee (2017 - present); Health Behaviors Faculty Search Committee (2017 - present). **Virginia Tech** Center for Autism Research Steering Committee Member (2012 - 2017); Adaptive Brain and Behavior Steering Committee (2016 - 2019); Search Committee, Director of Human Research Protection Program (2018); **College of Science**, Neuroscience Faculty Search Committee (2012 - 2013, 2015 - 2016); Scholarship Reviewer (2015); Promotion & Tenure Committee, elected member-at-large by the COS Faculty Association (2020 - present). **Department of Psychology**, Scholarly Productivity Committee (2012 - 2018); Diversity Committee (2016 - present); Developmental Science Faculty Search Committee (2017 - 2018); Personnel (Promotion & Tenure) Committee (2019 - present). **Carilion Clinic: Carilion Clinic** Research Committee (2012 - 2013); Neurology Department Chair Search Committee (2017).

Editorial: Editorial Board Member, Computational Psychiatry, MIT Press (2015 - present); Editorial Board Member, Scientific Reports (2018 - present); Review Editor in Computational Psychiatry, Frontiers in Psychiatry (2018 - present).

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**. *Undergraduate interns:* (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 Ohrn, 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. *Post-baccalaureate research assistants:* (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. *Undergraduate interns*: (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. *Post-baccalaureate research assistants:* (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 - 2018; (13) Brennan Delattre, 2016 - 2018; (14) Whitney Allen, 2018 - 2020; (15) Katherine Senn, 2020 - .

Graduate student training

3/08 - present **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 (Chair); (7) Andrew Valdespino; (8) Fang Wang; (9) Benjamin DeVore; (10) Andrew Valdespino; (11) Marlene Strege. Translational Biology, Medicine, & Health: (1) Holly Toole; (2) Mark Orloff (Chair); (3) Zhuoya Cui, (4) Natalie Melville. **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; (8) Corinne Carlton.

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)
Natalie Melville (co-mentor; BS, Tulane University; entered TBMH Fall 2019)
Vansh Bansal (co-mentor; BS William and Mary; entered Clinical Psychology Fall 2020)

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 Associate 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); currently Assistant Professor, Ulsan National Institute of Science and Technology, South Korea. Lusha Zhu (PhD, 2011, University of Illinois at Urbana-Champaign); currently Assistant Professor of Psychology and McGovern Institute, Peking University, China. Flora Li (PhD, 2019, Virginia Tech)

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
08/16 - 01/19	**Lecturer**, Fundamentals of Neuroscience (TBMH 5014), Virginia Tech. Overall Teaching rating: 4.6/5.0
12/19 - 2020	**Course Director**, Fundamentals in Brain and Cognitive Science (TBMH 5074), Virginia Tech.
12/19 - 2020	**Block Director**, Brain and Cognitive Science; Translational Biology, Medicine, and Health Gateway Course (TBMH 5004), Virginia Tech.

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).
2/2018	**Virginia Tech.** "Computational psychiatry (parts 1 & 2)." (Course number TBMH 5074, "Fundamentals of Cognitive Brain Science"; Course Director Brooks King-Casas).
4/2019	**Virginia Tech.** Guest Lecture "The social, emotional brain" (Course number HFNE 2774, "Meraki LLC"; Course Director Matt Hulver).

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."
11/2017	**Computational Psychiatry 2017.** "Computational Psychiatry of depression and PTSD."
11/2018	**Computational Psychiatry 2018, Society for Neuroscience Pre-conference, San Diego CA.** "Computational psychiatry of depression and anxiety: a didactic introduction."

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 (including SCID-I; SCID-II; 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); Society for Research in Psychopathology (2017 - present; Chair, Membership Committee, 2017 - present).

SYMPOSIA AND POSTER PRESENTATIONS (selected from past 5 years)

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.

Brown, VM, Zhu, L, Solway, A, Wang, JM, King-Casas, B, Chiu, P (2017) Reinforcement learning uncovers symptom-specific learning disruptions and effects of CBT. In P. Hitchcock (chair) Introducing computational clinical science: New techniques to improve methods, theory, diagnosis, and prediction. Symposium presented at Association for Behavioral and Cognitive Therapy, November 2017.

Brown, VM, Lee, J, King-Casas, B, Chiu, P (2017). Training reinforcement learning. Poster presented at Reinforcement Learning & Decision Making, Ann Arbor, MI.

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, 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, Society of Biological Psychiatry, San Diego, CA.

Chiu, P, Lisinski, J, McKinnon, A, Brown, V, McCurry, K, Eltahir, A, King-Casas, B, LaConte, S (2017). Poster, Real-time fMRI modulation of DMN is enhanced with cognitive behavioral therapy in depression. Organization for Human Brain Mapping, Vancouver, Canada.

Feng, S, Brown, V, Wang, J, Cui, Z, King-Casas, Chiu, P (2017). Association between reward sensitivity and smoking status in individuals with and without major depressive disorder. Poster, Organization for Human Brain Mapping, Vancouver, Canada.

Lauharatanahirun, N Maciejewski, D Kim-Spoon, J, Chiu, P, King-Casas, B (2017). Effects of home environment on neural correlates of risk processing in adolescents. Poster, Organization for Human Brain Mapping, Vancouver, Canada.

Orloff, MA, Chung, D, Gu, X, Gao, Z, Song, G, Tatineni, C Wang, X, Xu, S, King-Casas, B, Chiu, PH (2017) Individuals with disrupted access to internal preferences blindly follow social others during risky decision-making. Poster, Organization for Human Brain Mapping, Vancouver, Canada.

Orloff MA, Chung D, Gu X, Gao Z, Song G, Tatineni C, Wang X, Xu S, King-Casas B, & Chiu PH (2018) Insula, but not dACC, is necessary for risky decision-making under social influence. Poster, Virginia-Nordic Precision Neuroscience Conference II, Oslo, Norway.

Orloff MA, Chung D, Delattre B, Lee J, King-Casas B, Chiu PH (2018) Having agency in acquiring social information increases social influence. Poster, Organization for Human Brain Mapping, Singapore.

Cui Z, Zhu L, Vilares I, Chiu PH & King-Casas B (2018) Behavioral and neural alterations in competitive behavior in major depressive disorder. Poster presented at the Society of Biological Psychiatry 73rd Annual Meeting, New York, NY, USA.

Wang, JM, Cui, Z, Brown, V, Solway, A, Zhu, L, Kim-Spoon, J, Chiu, P, King-Casas, B (2018). Risk learning in adolescents. Poster, Organization for Human Brain Mapping, Singapore.

Cui Z, Zhu L, Vilares I, Chiu PH, King-Casas B (2019) Behavioral and neural alterations in competitive behavior in major depressive disorder. Poster, Organization for Human Brain Mapping, Rome, Italy.

Cui Z, Zhu L, Vilares I, Chiu PH, King-Casas B (2019). Behavioral and neural alterations in competitive behavior in major depressive disorder. Poster, International Convention of Psychological Science, Association for Psychological Science, Paris, France. With talk presented at Institut des Sciences Cognitives Marc Jeannerod, Lyon, France.

Orloff MA, Soldate J, Lisinski J, LaConte S, King-Casas B, Chiu PH. (2019) Toward group classification models for rtfMRI neurofeedback using data from a decision-making task. Poster and talk, Organization for Human Brain Mapping, Rome, Italy.

Orloff MA, Chung D, Delattre B, Lee J, King-Casas B, Chiu PH. (2019) Having agency in acquiring social information increases social influence. Poster, International Convention of Psychological Science, Association for Psychological Science, Paris, France.

Feng S, Christopoulos G, Chiu P, King-Casas B (2019) The effect of oxytocin on reinforcement learning for self and other. Poster, 25nd Annual Meeting of the Organization for Human Brain Mapping, Rome, Italy.

Feng S, Christopoulos G, Chiu P, King-Casas B (2019) The effect of oxytocin on reinforcement learning for self and other. Poster, International Convention of Psychological Science, Association for Psychological Science, Paris, France. With talk presented at Institut des Sciences Cognitives Marc Jeannerod, Lyon, France.