

Courtney L. Gallen, Ph.D.

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ACADEMIC APPOINTMENTS

2021- **Assistant Professional Researcher**
Department of Neurology
University of California, San Francisco

EDUCATION AND TRAINING

2016-2021 **Postdoctoral Scholar**
Neuroscape, University of California, San Francisco
Advisor: Adam Gazzaley
Neural predictors of cognitive control intervention outcomes

2011-2016 **Ph.D.** - Neuroscience
University of California, Berkeley
Advisor: Mark D'Esposito
Committee: M. D'Esposito, W. Jagust, M. Silver, W. Satariano
Thesis: *Functional brain network organization supporting executive control processing*
GPA: 4.0/4.0

2005-2009 **B.S.** - Major in Biology (Neuroscience concentration), Minor in Psychology
The Pennsylvania State University
Advisor: Sheri A. Berenbaum
Honors Thesis: *Hormonal influences on gender-related behavior: Finger ratios as biomarkers in children*
GPA: 4.0/4.0

ADDITIONAL RESEARCH EXPERIENCE

2009-2011 Post-baccalaureate Fellow
Neuroimaging Research Branch, National Institute on Drug Abuse – Intramural Research Program, NIH, Baltimore MD
Advisor: Elliot A. Stein

2006 Research Assistant, Sheets Lab
The Pennsylvania State University, University Park PA
Advisor: Erin Sheets

HONORS AND AWARDS

2021 Weill Institute Women in Neurosciences COVID-19 Research Support Award
2020 Honorable Mention, UCSF Dean's Award for Excellence in Mentoring
2019 Kavli Summer Institute in Cognitive Neuroscience Fellow
2018-2020 NSF Social, Behavioral, and Economic Sciences (SBE) Postdoctoral Fellowship
2015 Graduate Division Conference Travel Grant, UC Berkeley
2013 Graduate Assembly Travel Award, UC Berkeley
2012-2015 National Defense Science and Engineering Graduate Fellowship
2012 NSF Graduate Research Fellowship (declined)

2011	Spencer T. Olin Fellowship, Washington University in St. Louis (declined)
2011	Honorable Mention, NSF Graduate Research Fellowship
2009-2011	Post-baccalaureate Intramural Research Training Award, NIDA-IRP, NIH
2009	Summa Cum Laude, The Pennsylvania State University
2009	Honorable Mention, Information Literacy Award, The Pennsylvania State University
2005-2009	Dean's List, The Pennsylvania State University
2008, 2009	The Evan Pugh Scholar Award, The Pennsylvania State University
2007	The President Sparks Award, The Pennsylvania State University
2006	The President's Freshman Award, The Pennsylvania State University
2006	The WISER Program, NASA Pennsylvania Space Grant Consortium

GRANTS AND FELLOWSHIPS

2021-2022	UCSF Research Allocation Program (RAP) Pilot Award, awarded by the Helen Diller Family Comprehensive Cancer Center – A Pilot Study of Assessing and Improving Cognition and Real-World Behavior in Pediatric Cancer Survivors Role: Co-Investigator Award: \$50,000 (1 year)
2021-2022	Schwab Center for Dyslexia and Cognitive Diversity Innovation Fund – Improving reading and executive function abilities in youth through mindful attention training Role: PI Award: \$120,000 (1 year)
2018-2020	NSF Social, Behavioral, and Economic Sciences (SBE) Postdoctoral Fellowship – Brain network biomarkers of plasticity in aging Role: PI Award: \$138,000 (2 years)
2012-2015	National Defense Science and Engineering Graduate Fellowship Role: PI Award: \$93,000 (3 years)

PUBLICATIONS

Gallen CL*, Anguera JA*, Gerdes MR, Copeland B, Simon AJ, Cañadas E, Marco EJ (under review) Enhancing neural markers of attention in children with ADHD using a digital therapeutic. *equally contributing authors

Ziegler DA, Anguera JA, **Gallen CL**, Hsu WY, Wais PE, Gazzaley A (under review) Leveraging Technology to Personalize Cognitive Enhancement in Aging.

Anguera JA, Schachtner J, Simon AJ, Volponi J, Javed S, **Gallen CL**, Gazzaley A (2021) Long-term maintenance of multitasking abilities following video game training in older adults. *Neurobiology of Aging*, 103:22-30.

Ziegler DA, Simon AJ, **Gallen CL**, Skinner S, Janowich JR, Volponi JJ, Rolle C, Mishra J, Kornfield J, Anguera JA, Gazzaley A. (2019) Closed-loop Digital Meditation Improves Sustained Attention in Young Adults. *Nature Human Behaviour*, 3:746-757.

Baniqued PL*, **Gallen CL***, Kranz MB, Kramer AF, D'Esposito M. (2019) Brain network predictors of cognitive training-related gains in young adults. *Neuropsychologia*, 131:205-215. *equally contributing authors

Simon AJ, Schachtner JN, **Gallen CL** (2019) Disentangling expectation from selective attention during perceptual decision-making. *Journal of Neurophysiology*, 121:1977-1980.

Gallen CL, D'Esposito M. (2019) Brain Modularity: A Biomarker of Intervention-Related Plasticity. *Trends in Cognitive Sciences*, 23:293-304.

Baniqued PL, **Gallen CL**, Voss MW, Burzynska AZ, Wong CN, Cooke GE, Duffy K, Fanning J, Ehlers

D, Awick E, Aguiñaga S, McAuley E, Kramer AF, D'Esposito M. (2017) Brain network modularity predicts exercise-related executive function gains in older adults. *Frontiers in Aging Neuroscience*, 9:426.

Mann KJ*, **Gallen CL***, Clandinin TR. (2017) Whole-brain calcium imaging reveals an intrinsic functional network in *Drosophila*. *Current Biology*, 27:2389-2396. *equally contributing authors

Gallen CL, Baniqued PL, Chapman SB, D'Esposito M. (2016) Modular brain network organization predicts response to cognitive training in older adults. *PLOS ONE*, 11:e0169015.

Gallen CL, Turner GR, Adnan A, D'Esposito M. (2016) Reconfiguration of intrinsic brain network architecture to support executive control in normal aging. *Neurobiology of Aging*, 44:42-52.

Schweitzer JB, Riggins T, Liang X, **Gallen CL**, Kurupp PK, Ross TJ, Black MM, Nair P, Salmeron BJ. (2015) Prenatal drug exposure to illicit drugs alters working memory-related brain activity and underlying network properties in adolescence. *Neurotoxicology and Teratology*, 48:69-77.

Cohen JR, **Gallen CL**, Jacobs EG, Lee TG, D'Esposito M. (2014) Quantifying the Reconfiguration of Intrinsic Networks During Working Memory. *PLOS ONE*, 9:e106636.

Lee MR, **Gallen CL**, Ross TJ, Kurup PK, Salmeron BJ, Hodgkinson CA, Goldman D, Stein EA, Enoch MA. (2013) A preliminary study suggests that nicotine and prefrontal dopamine affect cortico-striatal areas in smokers with performance feedback. *Genes, Brain and Behavior*, 12:554-563.

Jhou TC, Xu S, Lee M, **Gallen C**, Ikemoto S. (2012). Mapping of reinforcing and analgesic effects of the mu opioid agonist Endomorphin-1 in the ventral midbrain of the rat. *Psychopharmacology*, 224:303-312.

Lee MR, **Gallen CL**, Zhang X, Stein EA, Barr CS. (2011) Functional polymorphism of the mu-opioid receptor (OPRM1) influences reinforcement learning in humans. *PLOS ONE*, 6:1-6.

IN PREPARATION

Gallen CL*, Schaerlaeken S*, Anguera JA, Gazzaley A (in preparation) Relationships between attentional control, academic abilities, and real-world behavior in youth. *equally contributing authors

Gallen CL*, Schachtner JS*, Anguera-Singla R, Anguera JA, Gazzaley A (in preparation) Individual differences in the effects of game features on attention in adults. *equally contributing authors

Simon AJ, **Gallen CL**, Anguera JA, Ziegler DA, Mishra J, Marco EJ, Gazzaley A (in preparation) Defining attention span: How long can you sustain an "in the zone" attentional state?

Gallen CL, Simon AJ, Volponi JJ, Anguera JA, Zanto TP, Gazzaley A (in preparation) EEG-based signatures of individual differences in functional brain network modularity.

Gallen CL, Zanto TP, Gazzaley A (in preparation) Brain network properties predict TMS-induced changes in cognitive control performance.

Tambini A, **Gallen CL**, Gorgolewski KJ, Sheltraw D, Inglis B, Poline JB, D'Esposito M. (in preparation) Not all motion is created equally: Impact of temporal smoothness of head displacement on functional connectivity.

Gallen CL, Hwang K, Chen AJW, Jacobs EG, Lee TG, D'Esposito M. (in preparation) Influence of selective attention on brain network reconfiguration during working memory.

INVITED TALKS

Feb 2019 **UC San Francisco**, Digital Health Core Seminar: *Digital technology for improving cognition in children and adolescents*

INVITED GUEST LECTURES

- Mar 2021 **University of San Francisco**, Psychology Research Seminar on Cognitive Neurotherapeutics (advanced undergraduate-level course): *Using biomarkers to guide personalized cognitive interventions*
- Sept 2019 **University of San Francisco**, Psychology Research Seminar on Cognitive Neurotherapeutics (advanced undergraduate-level course): *Personalizing Cognitive Interventions*
- July 2019 **UC San Francisco**, Neuroscape Summer Intern Workshop: *Functional MRI Analysis*
- 2014, 2015 **UC Berkeley**, fMRI Methods (graduate-level course): *Applying graph theory to brain networks*

TEACHING AND OTHER SERVICE EXPERIENCES

- 2014 Graduate Student Reader (Instructor: Natalia Caporale)
Biological Psychology (Undergraduate)
University of California, Berkeley
- 2014 Volunteer, Women in Science and Engineering (WiSE) Software Carpentry
Lawrence Berkeley National Laboratory, Berkeley CA
- 2014 Graduate Student Instructor (Instructor: Natalia Caporale)
Brain, Mind, and Behavior (Undergraduate)
University of California, Berkeley
- 2012 Graduate Student Instructor (Instructor: David Presti)
Drugs and the Brain (Undergraduate)
University of California, Berkeley
- 2012 Volunteer, Mind and Brain Night, Oakland CA
- 2011-2016 Volunteer, Bay Area Scientists in Schools, Berkeley CA
- 2011 Volunteer, SACNAS Community Day, San Jose CA
- 2009-2011 Committee Member, Post-baccalaureate Committee, NIDA-IRP, NIH
- 2009 Teaching Assistant, Cell and Molecular Biology (Undergraduate)
The Pennsylvania State University
- 2008 Teaching Assistant, Function and Development of Organisms (Undergraduate)
The Pennsylvania State University
- 2007-2008 Peer tutor, Chemical Principles I and II, Organic Chemistry I
Student Support Services Program, The Pennsylvania State University

MENTORING

- Mentor or Co-Mentor for Post-baccalaureate Research Associates: 6 UCSF
- Mentor for Undergraduate Research: 3 UC Berkeley
- Mentor for Rotation Graduate Students: 2 UC Berkeley
- Mentor for Summer Interns: 6 UCSF

AD-HOC REVIEWING

Brain Structure and Function | Cerebral Cortex | Communications Biology | Frontiers in Neuroscience | Human Brain Mapping | Journal of Cognitive Neuroscience | Network Neuroscience | Neurobiology of Aging | Neurobiology of Learning and Memory | Psychophysiology | Scientific Reports

PROFESSIONAL MEMBERSHIPS

2012, 2019 Cognitive Neuroscience Society
 2010- Society for Neuroscience
 2010-2011 Organization for Human Brain Mapping

CONFERENCE ABSTRACTS

Schachtner JN, **Gallen CL**, Anguera-Singla R, Anguera JA, and Gazzaley A. (2021) The Influence of ADHD Symptoms and Gamification on Attention-based Performance. (poster presentation and data blitz) Cognitive Neuroscience Society 28th Annual Meeting.

Simon AJ, Anguera JA, **Gallen CL**, Ziegler DA, Gazzaley A (2020) Relationships between age-related changes in attention span and anticipatory neural activity. Cognitive Neuroscience Society 27th Annual Meeting.

Gallen CL, Zanto TP, Gazzaley A (2018) Brain network predictors of TMS-induced changes in cognitive control performance. 48th Annual Society for Neuroscience Meeting, San Diego CA.

Mann KJ, **Gallen CL**, Clandinin TR. (2016) Examination of large-scale functional brain networks in *Drosophila*. 46th Annual Society for Neuroscience Meeting, San Diego CA.

Baniqued PL, **Gallen CL**, Voss MW, Wong CN, Cooke GE, Burzynsk AZ, Duffy K, Fanning J, Ehlers D, Awick E, McAuley E, Kramer AF, D'Esposito M. (2016) Brain network predictors of training-related gains in older adults after exercise intervention. 46th Annual Society for Neuroscience Meeting, San Diego CA.

Eichenbaum A, Yousef SM, **Gallen CL**, Pool ES, Chen AJW, Silver MA, D'Esposito M. (2016) Effects of Attention State Regulation Training on Resting-State Functional Connectivity. 46th Annual Society for Neuroscience Meeting, San Diego CA.

Tambini A, **Gallen CL**, Hwang K, Sheltraw D, Inglis B, D'Esposito M, Poline JB (2016) Evaluating nuisance correction approaches on motion-related artifacts in resting state using SimPACE. (poster presentation). Organization for Human Brain Mapping Annual Meeting, Geneva Switzerland.

Gallen CL, Hwang K, Chen AJW, Jacobs EG, Lee TG, D'Esposito M. (2015) Influence of selective attention on brain network reconfiguration during working memory. (poster presentation) 45th Annual Society for Neuroscience Meeting, Chicago IL.

Baniqued PL, **Gallen CL**, Kranz MB, Kramer AF, D'Esposito M. (2015) Brain network predictors of cognitive training-related gains in young adults. (poster presentation) 45th Annual Society for Neuroscience Meeting, Chicago IL.

Gallen CL, Tambini A, Arnemann K, Hwang K, Sheltraw D, D'Esposito M, Poline JB. (2015) Common processing practices in resting-state functional connectivity analyses. (poster presentation) Organization for Human Brain Mapping Annual Meeting, Honolulu HI.

Pool ES, Chen AJW, **Gallen CL**, Yousef SM, Silver MA, D'Esposito M. (2015) What's the Difference Between Rest vs. Rest? Defining Baseline Brain States Important for Goal-Directed Cognition. (poster presentation) Cognitive Neuroscience Society 22nd Annual Meeting, San Francisco CA.

Gallen CL, Turner GR, Adnan A, D'Esposito M. (2014) Task-based reorganization of brain networks in healthy aging. (poster presentation) 44th Annual Society for Neuroscience Meeting, Washington DC.

Gallen CL, Turner GR, Gratton C, Novakovic-Agopian T, Chen AJW, D'Esposito M. (2013) Changes in functional brain network organization after executive control training in older adults. (poster presentation) 43rd Annual Society for Neuroscience Meeting, San Diego CA.

Gratton C, **Gallen CL**, D'Esposito M. (2013) Focal lesions lead to functional plasticity in the roles of individual brain regions within large-scale networks. (poster presentation) 43rd Annual Society for Neuroscience Meeting, San Diego CA.

Gallen CL, Gratton C, Nomura EM, Turner GR, D'Esposito M. (2012) Changes in the modular organization of the brain in healthy aging. (poster presentation) 42nd Annual Society for Neuroscience Meeting, New Orleans LA.

Lee MR, Wu W, Salmeron BJ, **Gallen C**, Yang Y. (2012) The effect of the COMT Val158Met genotype and early life stress on brain structure in healthy volunteers. 67th Annual Society of Biological Psychiatry Meeting, Philadelphia PA.

Gallen CL, Nomura EM, Gratton C, D'Esposito M. (2011) Changes in local and global brain organization in healthy aging. (poster presentation) Cognitive Neuroscience Society 19th Annual Meeting, Chicago IL.

Salmeron BJ, Lee MR, **Gallen CL**, Kurup PK, Ross TJ, Hodgkinson CA, Goldman D, Enoch MA, Gu H, Stein EA. (2011) Effects of BDNF Val66Met and childhood trauma on brain volume, resting state functional connectivity and alexithymia in healthy volunteers. (poster presentation) American College of Neuropsychopharmacology (ACNP) 50th Annual Meeting, Waikaloa Beach HI.

Gallen CL, Zhang X, Geng X, Kurup PK, Ross TJ, Hodgkinson CA, Goldman D, Enoch MA, Stein E, Lee MR. (2011) The effects of BDNF Val66Met and childhood trauma on brain morphometry in healthy volunteers. (poster presentation) Organization for Human Brain Mapping Meeting, Quebec City Canada.

Gallen CL, Zhang X, Geng X, Kurup PK, Ross TJ, Hodgkinson CA, Goldman D, Enoch MA, Stein E, Lee MR. (2011) The effects of BDNF Val66Met and childhood trauma on brain morphometry in healthy volunteers. (poster presentation) NIH Spring Research Festival, Bethesda MD.

Gallen CL, Schroeder MP, Ross TJ, Enoch MA, Hodgkinson C, Goldman D, Stein E, Lee MR. (2010) Nicotine and COMT Val158Met genotype regulate activation to performance feedback in a cortico-striatal network. (poster presentation) NIDA IRP Scientific Retreat, Baltimore MD.

Gallen C, Schroeder MP, Ross TJ, Enoch MA, Hodgkinson C, Goldman D, Stein E, Lee MR. (2010) Nicotine and COMT Val158Met genotype regulate activation to rewarding stimuli in a cortico-striatal network. 40th Annual Society for Neuroscience Meeting, San Diego CA.

Gallen C, Schroeder MP, Ross TJ, Enoch MA, Hodgkinson C, Goldman D, Stein E, Lee MR. (2010) Nicotine and COMT Val158Met genotype regulate activation to rewarding stimuli in a cortico-striatal network. (poster presentation) Early Career Investigators Poster Session, NIDA Mini-Convention: Frontiers in Addiction Research, Satellite Meeting of the Society for Neuroscience Annual Meeting, San Diego CA.

Gallen C, Schroeder M, Ross T, Kurup P, Stein E, Lee M. (2010) Loss aversion in smokers is indexed by inverse responses to monetary gains and losses. (poster presentation) Organization for Human Brain Mapping Meeting, Barcelona Spain.

Gallen C, Schroeder M, Ross T, Kurup P, Stein E, Lee M. (2010) Loss aversion in smokers is indexed by inverse responses to monetary gains and losses. (poster presentation) NIH Spring Research Festival, Bethesda MD.

Gallen CL, Berenbaum SA. (2009) Hormonal influences on gender-related behavior: Finger ratios as biomarkers in children. (poster presentation) 2009 Undergraduate Research Exhibition, The Pennsylvania State University, University Park PA.

Gallen CL, Berenbaum SA. (2009) Hormonal influences on gender-related behavior: Finger ratios as

biomarkers in children. (poster presentation) Psi Chi Undergraduate Research Exhibition, The Pennsylvania State University, University Park PA.