

# FENNA KRIENEN

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## EDUCATION

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- 2007–2013     **PhD – Psychology**  
Harvard University  
Advisor: Dr. Randy Buckner
- 2002–2006     **BA – Cognitive Science** (*Highest Honors*)  
University of California, Berkeley  
Advisor: Dr. Mark D’Esposito

## RESEARCH

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- Since 2015     **Postdoctoral fellow** – Dr. Steve McCarroll  
Department of Genetics, Harvard Medical School, Boston, MA  
Stanley Center for Psychiatric Research, Broad Institute of Harvard and MIT
- 2014–2015     **Mind/Brain Initiative fellow** – Dr. Chet Sherwood  
Center for the Advanced Study of Human Paleobiology, The George Washington University
- 2007–2013     **Doctoral fellow** – Dr. Randy Buckner  
Department of Psychology and Center for Brain Science, Harvard University
- 2005–2007     **Research assistant** – Dr. Mark D’Esposito  
Helen Wills Neuroscience Institute, University of California, Berkeley

## GRANTS & FELLOWSHIPS

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- 2015            **NIH F32 Individual Postdoctoral Fellowship (NRSA)**  
Percentile score: 2 (declined due to relocation to take postdoctoral fellowship in Steve McCarroll’s lab)
- 2014–2015     **Mind-Brain Institute Postdoctoral Scholar**  
The George Washington University
- 2013            **Harvard Mind, Brain & Behavior Graduate Student Award**  
Awarded for research proposal
- 2010–2011     **Sackler Scholarship in Psychobiology**  
Awarded for doctoral research proposal
- 2007–2013     **Ashford Fellowship, Harvard University**  
Tuition and stipend for graduate study
- 2007–2010     **Department of Defense Science and Engineering Fellowship**  
Tuition and stipend for graduate study

## HONORS & AWARDS

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- 2016            **Human Brain Mapping Merit Award**  
Trainee Abstract Merit Award, OHBM Meeting, Geneva, Switzerland
- 2014            **Richard J. Herrnstein Prize**  
Dissertation Prize from Harvard Graduate School of Arts and Sciences
- 2013            **Harvard Horizons Scholar**  
Graduate School speakers program: <http://www.gsas.harvard.edu/harvardhorizons>
- 2013            **Human Brain Mapping Travel Award**

- Trainee Abstract Travel Award, OHBM Meeting, Seattle, WA
- 2011 **Harvard University Certificate of Distinction in Teaching**  
Molecular and Cellular Biology 80, Neurobiology of Behavior (Fall term)
- 2009 **Human Brain Mapping Travel Award**  
Trainee Abstract Travel Award, OHBM Meeting, San Francisco, CA
- 2006 **Departmental Citation in Cognitive Science**  
University of California, Berkeley, CA
- 2006 **Robert E. Glushko Prize for Distinguished Undergraduate Research in Cognitive Science**  
University of California, Berkeley, CA

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## PUBLICATIONS

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### Research Articles

- 2018 Saunders, A., Macosko, E., Wysoker, A., Goldman, M., **Krienen, FM**, de Rivera, H., et al. (2018). A single-cell atlas of cell types, states, and other transcriptional patterns from nine regions of the adult mouse brain, *Cell*. 1–27.
- 2018 Anderson KM, **Krienen FM**, Choi EY, Reinen JM, Yeo BTT, Holmes AJ. Gene expression links functionally coupled aspects of cortex and striatum. *Nature Communications*
- 2017 Charvet CJ, Stimpson CD, Kim YD, Raghanti MA, Lewandowski AH, Hof PR, Gómez-Robles A, **Krienen FM**, Sherwood CC. Gradients in cytoarchitectural landscapes of the isocortex: diprotodont marsupials in comparison to eutherian mammals. *The Journal of Comparative Neurology* 525(8), 1811-1826
- 2016 **Krienen FM\***, Yeo BTT, Ge T, Buckner RL, Sherwood CC. Transcriptional profiles of supragranular-enriched genes associate with corticocortical network architecture in the human brain. *Proceedings of the National Academy of Sciences USA* 113(4), E469–E478 [\*corresponding author]
- 2015 Yeo BTT, **Krienen FM**, Eickhoff SB, Yaakub SN, Fox PT, Buckner RL, Asplund CL, Chee MWL. Functional specialization and flexibility in human association cortex. *Cerebral Cortex* 25(10), 3654-3672
- 2014 **Krienen FM**, Yeo BTT, Buckner RL. Reconfigurable state-dependent functional coupling modes cluster around a core functional architecture. *Philosophical Transactions of the Royal Society B*. 369(1653), 20130526
- 2014 Yeo BTT, **Krienen FM**, Chee MWI, Buckner RL. Estimates of segregation and overlap of functional connectivity networks in the human cerebral cortex. *Neuroimage* 88, 212-227
- 2013 Baker JT, Holmes AJ, Masters GA, Yeo BTT, **Krienen FM**, Buckner RL, Ongur D. Disruption of cortical association networks in schizophrenia and psychotic bipolar disorder. *JAMA Psychiatry* (2), 109-118
- 2011 Buckner RL, **Krienen FM**, Castellanos A, Diaz J, Yeo BTT. (2011) The organization of the human cerebellum estimated by intrinsic functional connectivity. *Journal of Neurophysiology* 106(5), 2322-45
- 2011 Yeo BTT<sup>§</sup>, **Krienen FM**<sup>§</sup>, Sepulcre J, Sabuncu MR, Lashkari D, Hollinshead M, Roffman JL, Smoller JW, Zöllei L, Polimeni JR, Fischl B, Liu H, Buckner RL. The organization of the human cerebral cortex estimated by intrinsic functional connectivity. *Journal of Neurophysiology* 106(3), 1125-1165 [§Joint first authors]  
Article recommended by *Faculty of 1000*: <http://f1000.com/13521958>
- 2010 **Krienen FM**, Tu P, Buckner RL. Clan mentality: evidence that medial prefrontal cortex responds to close others. *Journal of Neuroscience* 30(41), 13906-13915
- 2009 **Krienen FM**, Buckner RL. Segregated prefrontal-cerebellar loops revealed by intrinsic functional connectivity. *Cerebral Cortex* 19(10), 2485-2497

- 2009 Buckner RL, Sepulcre J, Talukdar T, **Krienen FM**, Liu H, Hedden T, Andrews-Hanna JR, Sperling RA, Johnson KA. Cortical hubs revealed by intrinsic functional connectivity: mapping, assessment of stability, and relation to Alzheimer's disease. *Journal of Neuroscience* 29(6), 1860-1873

### Reviews

- 2017 **Krienen FM**, Sherwood CC. Gradients of connectivity in the cerebral cortex. *Trends in Cognitive Science* 21(2), 61-63
- 2013 Buckner RL, **Krienen FM**. The evolution of distributed networks in the human brain. *Trends in Cognitive Sciences* 17(12), 648-665
- 2013 Buckner RL, **Krienen FM**, Yeo BTT. Opportunities and limitations of intrinsic functional connectivity MRI. *Nature Neuroscience* 16(7), 832-837

### Book chapters

- 2017 **Krienen FM**, Buckner RL. Human association cortex: expanded, untethered, neotenuous, and plastic. In *Evolution of Nervous Systems*, Second Edition, Volume 4, 169-183, Elsevier, Oxford, Eds: Jon Kaas and Todd Preuss.
- 2017 Charvet CJ, **Krienen FM**. Developmental programs and gene expression patterns yield insights into the evolution of primate cortical circuitry. In *Evolution of Nervous Systems*, Second Edition, Volume 2, 91-97, Elsevier, Oxford, Eds: Jon Kaas and Leah Krubitzer.

### INVITED TALKS (Selected)

- 2019 *Cerebral Cortex: from Progenitors to Functional Circuits* (Symposium) The Cajal Club Symposium, Puerto Varas, Chile
- 2019 *From Polygenicity to Biology: Symposium on Severe Mental Illness* (Symposium), Broad Institute, Cambridge, MA
- 2019 *Brainstorming on Concerted Efforts on Genetic Models and Brain Mapping* (Symposium), 2<sup>nd</sup> Annual Primate Neuroscience Research Symposium, Shenzhen, China
- 2018 *Developmental Origins of Brain Circuit Architecture and Psychiatric Disorders* (Symposium), National Institute of Mental Health, Bethesda, MD
- 2017 *Large-Scale Trends in Cortical Organization* (Workshop), Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 2017 *Novel Insights into Human Brain Evolution from Advanced Genomics* (Symposium), American Society of Human Genetics, Orlando, FL
- 2017 *Integrating Neuroimaging and Transcriptomic Data to Study the Brain in Health and Disease* (Symposium), Organization for Human Brain Mapping, Vancouver, Canada
- 2015 *George Washington Institute for Neuroscience Annual Symposium*, Washington, DC
- 2012 *Neural Computation Workshop: Computational approaches to brain connectivity*, Dartmouth College, NH
- 2010 *New Studies of Neurobehavioral Evolution* (Symposium), Washington, DC

### CONFERENCE ABSTRACTS (Selected)

- 2016 *Organization for Human Brain Mapping*, Geneva, Switzerland (talk)  
Transcriptional profiles of supragranular-enriched genes predict corticocortical network architecture in the human brain
- 2015 *Society for Neuroscience*, Chicago, IL (dynamic poster)

- Transcriptional profiles of supragranular-enriched genes predict corticocortical network architecture in the human brain
- 2013 **Organization for human Brain Mapping**, Seattle, WA (talk)  
Boundaries on functional connectivity boundaries
- 2011 **Society for Neuroscience**, Washington, DC (poster)  
Cognitive and affective responses to unexpected events
- 2010 **Society for Neuroscience**, San Diego, CA (poster)  
Contributions of hippocampal and frontal systems to planning in virtual environments
- 2009 **Howard Hughes Medical Institute Conference on Neurobiology**, Janelia Farm, VA (poster)  
Segregated prefrontal-cerebellar loops revealed by functional connectivity
- 2009 **Society for Neuroscience**, Chicago, IL (poster)  
Clan mentality: medial prefrontal cortex and the representation of self and others
- 2009 **Organization for Human Brain Mapping**, San Francisco, CA (talk)  
Segregated prefrontal-cerebellar loops revealed by functional connectivity
- 2007 **Cognitive Neuroscience Society**, New York, NY (poster)  
Hold your horses! Testing the race model of response inhibition
- 2006 **Bay Area Memory Meeting**, Stanford University, CA (talk)  
Cross-modal differences in response inhibition

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#### EDITORIAL SERVICE

**Associate Editor** *Network Neuroscience*, (Journal) MIT Press

**Ad-Hoc Referee** *The Journal of Neuroscience, Cerebral Cortex, Neuroimage, Frontiers in Neuroanatomy, Archives of General Psychiatry, The Cerebellum, Human Brain Mapping, Proceedings of the National Academy of Sciences USA, Nature Neuroscience, Nature Communications, Current Biology*

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#### TEACHING & MENTORING

- Spring 2013 **Teaching Assistant**  
*The Human Brain Then and Now* (PSY 1303; R.L. Buckner, Harvard University)
- 2009–2013 **Honors Thesis Advisor**  
Mentored Harvard Psychology and Neurobiology honors thesis students, Buckner Lab
- Fall 2011 **Teaching Assistant**  
*Neurobiology of Behavior* (MCB 80; J. Sanes & J. Lichtman, Harvard University)
- Spring 2011 **Reader**  
*Brain Genomics* (PSY 1307; R.L. Buckner, Harvard University)
- 2008, 2010 **Mentor to HHMI EXROP students**  
Supervised projects for interns in Howard Hughes Medical Institute's summer program for women and underrepresented minorities
- 2009–2013 **Dunster House Resident Tutor**  
Pre-concentration sophomore advising, Harvard University
- 2007–2009 **Suffolk County Prison Seminar**  
Developed the curriculum and taught weekly on topics in cognitive science to inmates at medium-security prison

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#### MEDIA COVERAGE (Selected)

- 2017 Ann Gibbons for *Science* [Lab-Grown 'Minibrains' are Revealing What Makes Humans Special](#)
- 2016 Stuart Dambrot for *Medical Xpress* [Express This: Gene-Specific Transcription Linked to Long-Range Connectivity](#)

2014 Courtney Humphries for *Harvard Magazine* [Was the Human Brain Unleashed?](#)  
2013 Carl Zimmer for *New York Times* [In the Human Brain, Size Really Isn't Everything](#)  
2010 Elizabeth Landau for *CNN Health* [How friends matter to your brain](#)