Michael W. Cole

197 University Ave.
Newark, NJ 07102

Phone: **(267) 343-9084**
E-mail: **michael.cole@rutgers.edu**
Web: **www.colelab.org**

Associate Professor of Neuroscience and Psychology
Center for Molecular & Behavioral Neuroscience and Department of Psychology
Rutgers University-Newark

Education

2009 **University of Pittsburgh**
Ph.D. in Neuroscience and affiliated with the Center for the Neural Basis of Cognition and Carnegie Mellon University

2003 **University of California, Berkeley**
B.A. in Cognitive Science (Highest Honors)

Research and Work Experience

2021 – *Present* Affiliate Faculty of the Department of Psychology at Rutgers University-Newark

2019 – *Present* Associate Professor at the Center for Molecular & Behavioral Neuroscience (CMBN), Rutgers University-Newark. Director of the Cole Neurocognition Laboratory

2014 – 2019 Assistant Professor at the Center for Molecular & Behavioral Neuroscience (CMBN), Rutgers University-Newark. Director of the Cole Neurocognition Laboratory

2012 – 2013 Post-doctoral research with Steven Petersen (Neuroscience, Radiology, & Psychology, Washington University in St. Louis)
Investigations of brain network organization and cognitive control

2009 – 2013 Post-doctoral research with Todd Braver & Deanna Barch
(Department of Psychology, Washington University in St. Louis)
Investigations of prefrontal cortex, cognitive control, learning, schizophrenia, & intelligence

2004 – 2009 Ph.D. research with Walter Schneider (Department of Psychology, University of Pittsburgh)
Investigations of prefrontal cortex, cognitive control, & learning/memory

2001 – 2004 Undergraduate and post-baccalaureate research with Mark D'Esposito (Neuroscience and Psychology, UC Berkeley)
Investigations of prefrontal cortex and cognitive control

2003 Undergraduate research with William DeBello (Neuroscience, UC Davis)
Investigations of the genetic basis of learning and memory

2001 – 2003 Software engineering and web development for Apple, Inc.

Honors and Awards

2022 & 2023 Web of Science Highly Cited Researcher in the field of Neuroscience and Behavior
Only 0.1% (or 1 in 1000) of all researchers earn this distinction

2019 Cognitive Neuroscience Society's Young Investigator Award
A highly selective award given to only two individuals (one woman and one man) annually
"Recognizes outstanding contributions by scientists early in their career"

2018 Center for the Neural Basis of Cognition (CNBC) Alumni Lecture (Pittsburgh, PA)

2015 Elected to be member of the Cognitive Neuroscience Society's Symposium Committee

2011 Fellow at the Summer Institute in Cognitive Neuroscience, Santa Barbara, CA

2010	NeuroImage Editor's Choice Award For Cole et al. 2010, "Identifying the brain's most globally connected regions" *Awarded by the editors in acknowledgment of a study's importance and high impact*
2007	National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT) Fellowship
2005-2008	National Science Foundation Graduate Research Fellowship
2003	Highest Honors in Cognitive Science at UC Berkeley

Organizational Leadership and Professional Memberships

2018 – *Present*	Associate Member of the Institute for Brain and Neuroscience Research (New Jersey Institute of Technology)
2016 – *Present*	Founder and organizer (along with Drew Headley) of the Integrative Neuroscience Discussion Group (INDG) at the Center for Molecular & Behavioral Neuroscience. This is a group that seeks to develop unified understandings between human and non-human (animal and computational models) neuroscience and psychology.
2015 – *Present*	Member and co-organizer of Newark Brain Connectivity meetings. These meetings bring together scientists interested in brain connectivity research from Newark, NJ and the surrounding region (such as neuroscientists and psychologists from Rutgers University and New Jersey Institute of Technology).
2004 – *Present*	Society for Neuroscience Cognitive Neuroscience Society
2010 – *Present*	Psychonomic Society
2006 – *Present*	Organization for Human Brain Mapping
2004 – 2009	Center for the Neural Basis of Cognition, Carnegie Mellon & University of Pittsburgh Center for Neuroscience, University of Pittsburgh Learning Research and Development Center
2006 – 2007	President of the Department of Neuroscience Graduate Student Organization, University of Pittsburgh
2002 – 2003	President of the Cognitive Science Student Association, UC Berkeley

Research Grants and Fellowships

Principal Investigator: "Brain network mechanisms of task-general cognition", National Science Foundation – Cognitive Neuroscience, Division of Behavioral & Cognitive Sciences (BCS), 2219323 — 2022-2025
Total cost: $625,000

Converging evidence has demonstrated that general human intelligence is primarily implemented by activity and connectivity in subnetworks of the brain termed cognitive control networks (CCNs). However, there is a critical need to determine how CCN activity and connectivity together generate intelligent goal-directed behavior. This project will use brain imaging and brain stimulation to determine how CCNs implement intelligent behavior across a wide variety of tasks.

Co-Investigator: "Recovery of reward function in nicotine use disorder using a combination of robotics, electrophysiology, and TMS", National Institutes of Health – National Institute on Drug Abuse (UG3/UH3 DA054787). PI: Travis Baker — 2022-2027

2022-2027

Consultant: "Novel electric-field modelling approach to quantify changes in resting state functional connectivity following theta burst stimulation", National Institutes of Health – National Institute of Mental Health (1U01MH130447). PI: Nicholas Balderston

Co-Principal Investigator: "MRI: Acquisition of a High-Performance Computing Cluster for Research and Teaching at Rutgers University-Newark", National Science Foundation – Office of Advanced Cyberinfrastructure (OAC) 2117429, PI: Michele Pavanello, Total cost: $559,288 — 2021-2024

Participating faculty: "Graduate Research Training Initiative for Student Enhancement (G-RISE) (T32) at Rutgers University-Newark", National Institutes of Health, PI: Barry Komisaruk, Total cost: $2,353,390 — 2021-2026

Co-Principal Investigator: "Major Research Instrumentation: Acquisition of a 3T SIEMENS PRISMA at RUBIC: The Evolution to a Regional Center", National Science Foundation – Division of Behavioral & Cognitive Sciences (BCS) 1919873, PI: Stephen Hanson, Total cost: $1,484,000. Status: Completed. — 2019-2021

Co-Principal Investigator: "Negative Affect Mechanisms Underlying Opioid Use in Lab and Daily Life", Rutgers University-Newark Initiative for Multidisciplinary Research Teams Award, PI: Mauricio Delgado. Status: Completed. — 2019-2021

Co-Principal Investigator: "Major Research Instrumentation: Acquisition of a GPU cluster to support interdisciplinary research in human learning, machine learning, and data science", National Science Foundation – Division of Behavioral & Cognitive Sciences (BCS) 1828528, PI: Patrick Shafto, Total cost: $99,999. Status: Completed. — 2018-2021

Co-Principal Investigator: "Imaging the effects of psychosocial stress on cognitive performance", National Science Foundation – Division of Behavioral & Cognitive Sciences (BCS) 1756065, PI: Elizabeth Tricomi, Total cost: $408,699. Status: Completed. — 2018-2021

Co-Investigator: "Prescription opiate, drug-cue processing network, and neural connectivity", National Institutes of Health – National Institute on Drug Abuse (I/START R03 DA044496), PI: Suchismita Ray, Total direct cost: $161,644. Status: Completed. — 2017-2018

Principal Investigator: "Brain Network Mechanisms of Aging-Related Cognitive Decline", National Institutes of Health – National Institute on Aging (R01 AG055556), Total direct cost: $250,000/year. Status: Completed. — 2017-2023

> The goal of this research is to identify network mechanisms that can account for the alterations in both intrinsic brain connectivity and cognitive task activations that occur with aging-related decline of cognitive control abilities among healthy older adults.

Principal Investigator: "Brain Network Mechanisms of Instructed Learning", National Institutes of Health – National Institute of Mental Health (R01 MH109520), Total direct cost: $250,000/year. Status: Completed. — 2016-2022

> The goal of this research is to utilize the tools of network neuroscience to improve understanding of how instructed learning is implemented in the human brain, from initial learning to expertise.

Co-Principal Investigator: "Integrated Framework for Studying Proactive Control in Rapid Instructed Task Learning", United States – Israel Binational Science Foundation (BSF 2015186), Total cost: $200,000. Status: Completed. — 2016-2021

Collaborator: "Neuropsychiatric Classification via Connectivity and Machine Learning", National Institutes of Health (NIH) – National Institute of Mental Health (R03 MH105765), PI: Alan Anticevic, Total cost: $74,000/year. Status: Completed. — 2014-2016

Principal Investigator: "Network Mechanisms of Flexible Cognitive Control", National Institutes of Health – National Institute of Mental Health (K99-R00 MH096801), Total direct cost: $157,000/year. Status: Completed. — 2012-2017

> This project investigates the hypothesis that flexible cognition and behavior is supported by flexible hubs – frontoparietal brain regions with extensive global brain connectivity that flexibly updates according to task demands.

Principal Investigator (fellowship): "Beyond Localization of Memory Functions: Learning Statistical Methods for Estimating Directed Connectivity among Cortical Regions Using Multiple Neuroimaging Technologies", National Science Foundation (IGERT Fellowship), Funded amount: $30,000. Status: Completed. 2007

The goal of this research is to learn methodological techniques for estimating directed functional (effective) connectivity and empirically test the efficacy of those techniques using functional MRI and magnetoencephalography.

Principal Investigator (fellowship): "Dissociating the Network Components Underlying Cognitive Control", National Science Foundation (Graduate Research Fellowship), Funded amount: $90,000. Status: Completed. 2005-2008

The goal of this project is to utilize experimental manipulations of cognitive control processes with functional MRI to identify the shared and specialized roles of cognitive control network brain regions.

Preprint Scientific Publications

1. Peterson KL, Sanchez-Romero R, Mill RD, **Cole MW** (Preprint). "Regularized partial correlation provides reliable functional connectivity estimates while correcting for widespread confounding". *bioRxiv*. doi:10.1101/2023.06.27.546751
2. Mill RD, **Cole MW** (Preprint). "Neural representation dynamics reveal computational principles of cognitive task learning". *bioRxiv*. doi:10.1101/2023.06.27.546751
3. Cocuzza CV, Sanchez-Romero R, Ito T, Mill RD, Keane BP, **Cole MW** (Preprint). "Distributed network flows generate localized category selectivity in human visual cortex". *bioRxiv*. doi:10.1101/2022.02.19.481103
4. Blujus J, **Cole MW**, Festa EK, Buka SL, Salloway SP, Heindel WC, Oh H (Preprint). Functional Redundancy of the Posterior Hippocampi, but not Anterior Hippocampi or Left Frontal Cortex, is Disrupted in Pathological Brain Aging. *bioRxiv*.

Peer-reviewed Scientific Publications

Citation statistics:
h-index (as of 2024-04-23): 49
Citations (as of 2024-04-23): 14853

Full publication lists:
Google Scholar profile: https://scholar.google.com/citations?user=8FK99kkAAAAJ&hl=en
Lab website publication list: https://www.colelab.org/#publications

List of publications:
1. Spencer C, Mill RD, Bhanji JP, Delgado M, **Cole MW**, Tricomi E (In Press). "Acute Psychosocial Stress Modulates Neural and Behavioral Substrates of Cognitive Control". *Human Brain Mapping*.
2. Podvalny E, Sanchez-Romero R, **Cole MW** (In Press). "Functionality of arousal-regulating brain circuitry predicts human cognitive abilities". *Cerebral Cortex*.
3. **Cole MW** (2024). "Cognitive flexibility as the shifting of brain network flows by flexible neural representations". *Current Opinion in Behavioral Sciences*. 57:101384. doi:10.1016/j.cobeha.2024.101384
4. Rosenberg-Lee M, Varma S, **Cole MW**, Abreu-Mendoza RA (2023). "Competing numerical magnitude codes in decimal comparison: Whole number and rational number distance both impact performance". *Cognition*. doi:10.1016/j.cognition.2023.105608
5. Sanchez-Romero R, Ito T, Mill RD, Hanson SJ, **Cole MW** (2023). "Causally informed activity flow models provide mechanistic insight into network-generated cognitive activations". *NeuroImage*. 278:120300. doi:10.1016/j.neuroimage.2023.120300
6. Keane BP, Krekelberg B, Mill RD, Silverstein SM, Thompson JL, Serody MR, Barch DM, **Cole MW** (2023). "Dorsal attention network activity during perceptual organization is distinct in schizophrenia and

predictive of cognitive disorganization". *European Journal of Neuroscience , 57(3), 458–478*. doi:10.1111/ejn.15889

7. Hwang K, Shine JM, **Cole MW**, Sorenson E. (2022). "Thalamocortical contributions to cognitive task activity". *eLife*. doi:10.7554/eLife.81282
8. Singh MF, **Cole MW**, Braver TS, Ching S. (2022). "Control-theoretic integration of stimulation and electrophysiology for cognitive enhancement". *Frontiers in Neuroimaging*. 1:982288. doi.org:10.3389/fnimg.2022.982288
9. Ito T, Klinger T, Schultz DH, Murray JD, **Cole MW**, Rigotti M (2022). "Compositional generalization through abstract representations in human and artificial neural networks". *NeurIPS 2022*. doi:10.48550/arXiv.2209.07431
10. Mill RD, Hamilton JL, Winfield EC, Lalta N, Chen RH, **Cole MW** (2022). "Network modeling of dynamic brain interactions predicts emergence of neural information that supports human cognitive behavior". *PLOS Biology*. doi:10.1101/2021.01.26.428276
11. Ito T, Yang GB, Laurent P, Schultz DH, **Cole MW** (2022). "Constructing neural network models from brain data reveals representational transformation linked to adaptive behavior". *Nature Communications*. 13, 673. doi:10.1038/s41467-022-28323-7
12. Cocuzza C, Sanchez-Romero R, **Cole MW** (2022). "Protocol for activity flow mapping of neurocognitive computations using the Brain Activity Flow Toolbox". *STAR Protocols*. doi.org/10.1016/j.xpro.2021.101094
13. McCormick EM*, Arnemann KL*, Ito T, Hanson SJ, **Cole MW** (2022). "Latent functional connectivity underlying multiple brain states". *Network Neuroscience*; 6 (2): 570–590 doi:10.1162/netn_a_00234 [* = equal contribution]
14. Schultz DH, Ito T, **Cole MW** (2022). "Global connectivity fingerprints predict the domain generality of multiple-demand regions". *Cerebral Cortex*, 32, 4464–4479 doi:10.1093/cercor/bhab495
15. Singh MF, **Cole MW**, Braver TS, Ching S (2022). "Developing control-theoretic objectives for large-scale brain dynamics and cognitive enhancement". *Annual Reviews in Control*.
16. Singh MF, Wang A, **Cole MW**, Ching S, Braver TS (2022). "Enhancing Task fMRI Preprocessing via Individualized Model-Based Filtering of Intrinsic Activity Dynamics". *NeuroImage.*
17. Hearne LJ, Mill RD, Keane BP, Repovs G, Anticevic A, **Cole MW** (2021). "Activity flow underlying abnormalities in brain activations and cognition in schizophrenia". *Science Advances*. 7(9) doi:10.1126/sciadv.abf2513
18. Mill RD, Winfield EC, **Cole MW**, Ray S (2021). "Structural MRI and functional connectivity features predict current clinical status and persistence behavior in prescription opioid users". *NeuroImage: Clinical*. 30. doi:10.1016/j.nicl.2021.102663
19. Keane BP, Barch DM, Mill R, Silverstein SM, Krekelberg B, **Cole MW** (2021). "Brain network mechanisms of visual shape completion". *NeuroImage*. 236. doi:10.1101/2020.08.03.233403
20. **Cole MW**, Ito T, Cocuzza C, Sanchez-Romero R (2021). "The functional relevance of task-state functional connectivity". *Journal of Neuroscience*. 41(12):2684-2702. doi:10.1523/JNEUROSCI.1713-20.2021
21. Sanchez-Romero R, **Cole MW** (2021). "Combining multiple functional connectivity methods to improve casual inferences". *Journal of Cognitive Neuroscience*. 33(2):180–194. doi:10.1162/jocn_a_01580
22. Spronk M, Keane BP, Ito T, Kulkarni K, Ji JL, Anticevic A, **Cole MW** (2021). "A whole-brain and cross-diagnostic perspective on functional brain network dysfunction". *Cerebral Cortex*. 31(1):547-561. doi:10.1093/cercor/bhaa242
23. Singh MF, Braver TS, **Cole MW**, Ching S (2020). "Estimation and validation of individualized dynamic brain models with resting state fMRI". *NeuroImage*. 221. doi:10.1016/j.neuroimage.2020.117046
24. Mill RD, Gordon BA, Balota DA, **Cole MW** (2020). "Predicting dysfunctional age-related task activations from resting-state network lterations". *NeuroImage*. doi:10.1016/j.neuroimage.2020.117167
25. Ito T, Hearne LJ, **Cole MW** (2020). "A cortical hierarchy of localized and distributed processes revealed via dissociation of task activations, connectivity changes, and intrinsic timescales". *NeuroImage*. 221. doi:10.1016/j.neuroimage.2020.117141
26. Ito T, Brincat SL, Siegel M, Mill RD, He BJ, Miller EK, Rotstein HG, **Cole MW** (2020). "Task-Evoked Activity Quenches Neural Correlations and Variability in Large-Scale Brain Systems". *PLOS Computational Biology*. 16(8): e1007983. doi:10.1371/journal.pcbi.1007983

27. Cocuzza CV, Ito T, Schultz D, Bassett DS, **Cole MW** (2020). "Flexible coordinator and switcher hubs for adaptive task control". *Journal of Neuroscience*. 40(36):6949–6968. doi:10.1523/JNEUROSCI.2559-19.2020
28. Lamichhane B, Westbrook A, **Cole MW**, Braver T (2020). "Exploring brain-behavior relationships in the N-back task". *NeuroImage*. 212:1-11. doi:10.1016/j.neuroimage.2020.116683
29. Ito T, Hearne L, Mill R, Cocuzza C, **Cole MW** (2020). "Discovering the Computational Relevance of Brain Network Organization". *Trends in Cognitive Sciences.* 24, 25–38. doi.org/10.1016/j.tics.2019.10.005
30. Kar K, Ito T, **Cole MW**, and Krekelberg B (2020). "Transcranial Alternating Current Stimulation Attenuates BOLD Adaptation and Increases Functional Connectivity". *Journal of Neurophysiology*. 123: 428–438. doi:10.1152/jn.00376.2019
31. Reid AT, Headley DB, Mill RD, Sanchez-Romero R, Uddin LQ, Marinazzo D, Lurie DJ, Valdés-Sosa PA, Hanson SJ, Biswal BB, Calhoun V, Poldrack RA, **Cole MW** (2019). "Advancing functional connectivity research from association to causation". *Nature Neuroscience*. https://doi.org/10.1038/S41593-019-0510-4
32. Yang GR, **Cole MW**, Rajan K (2019) "How to study the neural mechanisms of multiple tasks". *Current Opinion in Behavioral Sciences*. 29:134–143. https://doi.org/10.1016/j.cobeha.2019.07.001
33. Bolt T, Nomi JS, Bainter S, **Cole MW**, Uddin LQ (2019). "The Situation or the Person? Individual and Task-Evoked Differences in BOLD Activity". *Human Brain Mapping*. 40, 2943– 2954 https://doi.org/10.1002/hbm.24570
34. **Cole MW**, Ito T, Schultz D, Mill R, Chen R, Cocuzza C (2019). "Task activations produce spurious but systematic inflation of task functional connectivity estimates". *NeuroImage*. 189, 1–18. https://doi.org/10.1016/j.neuroimage.2018.12.054
35. Ji JL*, Spronk M*, Kulkarni K, Repovš G, Anticevic A**, **Cole MW**** (2019) "Mapping the human brain's cortical-subcortical functional network organization". *NeuroImage*. 185, 35–57. https://doi.org/10.1016/j.neuroimage.2018.10.006 [*=equal contribution; **=senior authors]
36. Schultz, DH, Ito, T, Solomyak, LI, Chen, RH, Mill, RD, Anticevic, A, & **Cole, MW** (2019). "Global connectivity of the fronto-parietal cognitive control network is related to depression symptoms in the general population". *Network Neuroscience*, 3(1), 107–123. https://doi.org/10.1162/netn_a_00056
37. Chen RH, Ito T, Kulkarni KR, **Cole MW** (2018). "The human brain traverses a common activation-pattern state space across task and rest". *Brain Connectivity*, 8(7), 429–443. https://doi.org/10.1089/brain.2018.0586
38. Dixon ML, De La Vega A, Mills C, Andrews-Hanna J, Spreng RN, **Cole MW**, Christoff K (2018) "Heterogeneity within the frontoparietal control network and its relationship to the default and dorsal attention networks". *Proceedings of the National Academy of Sciences*. 115(7):E1598-E1607. PMCID: PMC5816169 https://doi.org/10.1073/pnas.1715766115
39. **Cole MW**, Patrick LM, Meiran N, Braver TS (2018) "A role for proactive control in rapid instructed task learning.". *Acta psychologica*. 184:20–30. PMCID: PMC5742075 http://doi.org/10.1016/j.actpsy.2017.06.004
40. Ito T, Kulkarni KR, Schultz DH, Mill RD, Chen RH, Solomyak LI, **Cole MW** (2017) "Cognitive task information is transferred between brain regions via resting-state network topology". *Nature Communications*. 8:1027. PMCID: PMC5715061 http://doi.org/10.1038/s41467-017-01000-w
41. Li Q, Yang G, Li Z, Qi Y, **Cole MW**, Liu X (2017) "Conflict detection and resolution rely on a combination of common and distinct cognitive control networks.". *Neuroscience and Biobehavioral Reviews*. 83:123–131. PMID: 29017916 http://doi.org/10.1016/j.neubiorev.2017.09.032
42. **Cole MW**, Braver TS, Meiran N (2017) "The task novelty paradox: Flexible control of inflexible neural pathways during rapid instructed task learning.". *Neuroscience and Biobehavioral Reviews*. 81:4–15. PMCID: PMC5705534 http://doi.org/10.1016/j.neubiorev.2017.02.009
43. Mill RD, Ito T, **Cole MW** (2017) "From connectome to cognition: The search for mechanism in human functional brain networks.". *NeuroImage*. 160:124–139. PMCID: PMC5529276 http://doi.org/10.1016/j.neuroimage.2017.01.060

44. Mill RD, Bagic A, Bostan A, Schneider W, **Cole MW** (2017) “Empirical validation of directed functional connectivity”. *NeuroImage*. 146:275–287. PMID: 27856312 http://dx.doi.org/10.1016/j.neuroimage.2016.11.037
45. **Cole MW**, Ito T, Bassett DS, Schultz DH (2016) “Activity flow over resting-state networks shapes cognitive task activations”. *Nature Neuroscience*. 19(12):1718–26. PMID: 27723746 http://dx.doi.org/10.1038/nn.4406
46. Schultz DH, **Cole MW** (2016) “Integrated Brain Network Architecture Supports Cognitive Task Performance”. *Neuron*. 92:278–279. http://doi.org/10.1016/j.neuron.2016.10.004
47. Schultz DH, **Cole MW** (2016) “Higher intelligence is associated with less task-related brain network reconfiguration”. *Journal of Neuroscience*. 36(33):8551– 8561. http://doi.org/10.1523/JNEUROSCI.0358-16.2016
48. **Cole MW**, Yang GJ, Murray JD, Repovs G, Anticevic A (2016) “Functional connectivity change as shared signal dynamics”. *Journal of Neuroscience Methods*. 259:22–39. PMCID: PMC4715953 http://doi.org/10.1016/j.jneumeth.2015.11.011
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50. Etzel JA, **Cole MW**, Zacks JM, Kay KN, Braver TS (2016) “Reward Motivation Enhances Task Coding in Frontoparietal Cortex.”. *Cerebral Cortex*. 26:1647–1659. PMCID: PMC4785950 http://doi.org/10.1093/cercor/bhu327
51. Mattar MG, **Cole MW**, Thompson-Schill SL, Bassett DS (2015) “A Functional Cartography of Cognitive Systems.”. *PLoS Computational Biology*. 11:e1004533. PMCID: PMC4668064 http://doi.org/10.1371/journal.pcbi.1004533
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53. Anticevic A, Hu X, Xiao Y, Hu J, Li F, Bi F, **Cole MW**, Savic A, Yang GJ, Repovs G, Murray JD, Wang X-J, Huang X, Lui S, Krystal JH, Gong Q (2015) “Early-course unmedicated schizophrenia patients exhibit elevated prefrontal connectivity associated with longitudinal change.”. *Journal of Neuroscience*. 35:267–286. PMCID: PMC4287147 http://doi.org/10.1523/JNEUROSCI.2310-14.2015
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56. **Cole MW**, Bassett DS, Power JD, Braver TS, Petersen SE (2014) “Intrinsic and task-evoked network architectures of the human brain.”. *Neuron*. 83:238–251. PMCID: PMC4082806 http://doi.org/10.1016/j.neuron.2014.05.014
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60. Anticevic A, Tang Y, Cho YT, Repovs G, **Cole MW**, Savic A, Wang F, Krystal JH, Xu K (2014) “Amygdala connectivity differs among chronic, early course, and individuals at risk for developing

schizophrenia.”. *Schizophr Bull*. 40:1105–1116. PMCID: PMC4133672 http://doi.org/10.1093/schbul/sbt165

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63. Anticevic A, **Cole MW**, Repovs G, Savic A, Driesen NR, Yang G, Cho YT, Murray JD, Glahn DC, Wang X-J, Krystal JH (2013) “Connectivity, pharmacology, and computation: toward a mechanistic understanding of neural system dysfunction in schizophrenia.”. *Front Psychiatry*. 4:169. PMCID: PMC3871997 http://doi.org/10.3389/fpsyt.2013.00169
64. Anticevic A, Brumbaugh MS, Winkler AM, Lombardo LE, Barrett J, Corlett PR, Kober H, Gruber J, Repovs G, **Cole MW**, Krystal JH, Pearlson GD, Glahn DC (2013) “Global prefrontal and fronto-amygdala dysconnectivity in bipolar I disorder with psychosis history.”. *Biol Psychiatry*. 73:565–573. PMCID: PMC3549314 http://doi.org/10.1016/j.biopsych.2012.07.031
65. **Cole MW**, Laurent P, Stocco A (2013) “Rapid instructed task learning: a new window into the human brain's unique capacity for flexible cognitive control.”. *Cogn Affect Behav Neurosci*. 13:1–22. PMCID: PMC3557598 http://doi.org/10.3758/s13415-012-0125-7
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67. **Cole MW**, Yarkoni T, Repovs G, Anticevic A, Braver TS (2012) “Global connectivity of prefrontal cortex predicts cognitive control and intelligence.”. *Journal of Neuroscience*. 32:8988–8999. PMCID: PMC3392686 http://doi.org/10.1523/JNEUROSCI.0536-12.2012
68. Meiran N, **Cole MW**, Braver TS (2012) “When planning results in loss of control: intention-based reflexivity and working-memory.”. *Front Hum Neurosci*. 6:104. PMCID: PMC3347625 http://doi.org/10.3389/fnhum.2012.00104
69. **Cole MW**, Etzel JA, Zacks JM, Schneider W, Braver TS (2011) “Rapid transfer of abstract rules to novel contexts in human lateral prefrontal cortex.”. *Front Hum Neurosci*. 5:142. PMCID: PMC3221399 http://doi.org/10.3389/fnhum.2011.00142
70. **Cole MW**, Anticevic A, Repovs G, Barch D (2011) “Variable global dysconnectivity and individual differences in schizophrenia.”. *Biol Psychiatry*. 70:43–50. PMCID: PMC3204885 http://doi.org/10.1016/j.biopsych.2011.02.010
71. **Cole MW**, Bagic A, Kass R, Schneider W (2010) “Prefrontal dynamics underlying rapid instructed task learning reverse with practice.”. *Journal of Neuroscience*. 30:14245–14254. PMCID: PMC3128837 http://doi.org/10.1523/JNEUROSCI.1662-10.2010
72. **Cole MW**, Yeung N, Freiwald WA, Botvinick M (2010) “Conflict over cingulate cortex: Between-species differences in cingulate may support enhanced cognitive flexibility in humans.”. *Brain Behav Evol*. 75:239–240. PMID: 20693782 http://doi.org/10.1159/000313860
73. Braver TS, **Cole MW**, Yarkoni T (2010) “Vive les differences! Individual variation in neural mechanisms of executive control.”. *Curr Opin Neurobiol*. 20:242–250. PMCID: PMC2904672 http://doi.org/10.1016/j.conb.2010.03.002
74. **Cole MW**, Pathak S, Schneider W (2010) “Identifying the brain's most globally connected regions.”. *NeuroImage*. 49:3132–3148. PMID: 19909818 http://doi.org/10.1016/j.neuroimage.2009.11.001
75. **Cole MW**, Yeung N, Freiwald WA, Botvinick M (2009) “Cingulate cortex: diverging data from humans and monkeys.”. *Trends Neurosci*. 32:566–574. PMID: 19781794 http://doi.org/10.1016/j.tins.2009.07.001
76. **Cole MW**, Schneider W (2007) “The cognitive control network: Integrated cortical regions with dissociable functions.”. *NeuroImage*. 37:343–360. PMID: 17553704 http://doi.org/10.1016/j.neuroimage.2007.03.071

77. Schumacher EH, **Cole MW**, D'Esposito M (2007) “Selection and maintenance of stimulus-response rules during preparation and performance of a spatial choice-reaction task.”. *Brain Research*. 1136:77–87. PMCID: PMC1892617 http://doi.org/10.1016/j.brainres.2006.11.081
78. Hester R, D'Esposito M, **Cole MW**, Garavan H (2007) “Neural mechanisms for response selection: comparing selection of responses and items from working memory.”. *NeuroImage*. 34:446–454. PMID: 17071112 http://doi.org/10.1016/j.neuroimage.2006.08.001
79. Curtis CE, **Cole MW**, Rao VY, D'Esposito M (2005) “Canceling planned action: an FMRI study of countermanding saccades.”. *Cereb Cortex*. 15:1281–1289. PMID: 15616130 http://doi.org/10.1093/cercor/bhi011

Book Chapters and Conference Proceedings Publications

1. **Cole MW** (In Press). "The explanatory power of activity flow models of brain function". Chapter in forthcoming book *Computational and Network Modeling of Neuroimaging Data*.
2. Singh MF, Wang C, **Cole MW**, Ching S (2022). "Efficient state and parameter estimation for high-dimensional nonlinear system identification with application to MEG brain network modeling". *Proceedings from the American Control Conference*.
3. **Cole M.W.** (2017). “Control and Connectivity: Dynamic Networks in the Human Brain”. Book chapter in: Egner T. *Wiley Handbook of Cognitive Control*. John Wiley & Sons, Ltd.
4. Meiran N., **Cole M.W.**, and Braver T.S. (2013). “When Planning Results in Loss of Control: Intention-Based Reflexivity and Proactive Control”. Book chapter in: Seebass, G., Schmitz, M., & Gollwitzer, P. M. *Acting intentionally and its limits: Individuals, groups, institutions*. Berlin: De Gruyter.
5. Etzel, J.A., **Cole M.W.**, Braver T.S. (2012). “Looking Outside the Searchlight”. In G. Langs, I. Rish, M. Grosse-Wentrup, & B. Murphy (Eds.), Machine Learning and Interpretation in Neuroimaging. *Lecture Notes in Computer Science*. (vol. 7263, pp. 26–33). Springer Berlin / Heidelberg. doi:10.1007/978-3-642-34713-9_4
6. Schneider W., Pathak S., Phillips J.S., **Cole M.W.** (2009). “High Definition Fiber Tracking Exposes Circuit Diagram for Brain Showing Triarchic Representation, Domain General Control, and Metacognitive Subsystems”. *AAAI Fall Symposium: Biologically Inspired Cognitive Architectures*
7. Schneider W., **Cole M.W.**, Pathak S. (2008). “Reverse Engineering the Brain with a Circuit Diagram Based on a Segmented Connectome and System Dynamics”. *AAAI Fall Symposium: Biologically Inspired Cognitive Architectures*

Invited Talks and Symposia

1. Brain Network Flows And The Generation of Cognitive Abstractions. Center for Cognitive and Behavioral Brain Imaging seminar series, The Ohio State University, Columbus, Ohio. (February 2024)
2. The nature of brain activity during rest and task. Resting State Brain Connectivity Conference, Dallas, TX. (September 2023)
3. The cognitive and aging-related clinical relevance of brain network organization. Growing Up In Aging Neuroscience, Providence, RI. (May 2022)
4. The cognitive and clinical relevance of brain network organization. Department of Psychiatry, Columbia University, New York, NY. (August 2021)
5. The cognitive and clinical relevance of brain network organization. Center for Neuromodulation in Depression and Stress, University of Pennsylvania, Philadelphia, PA. (July 2021)
6. Brain network organization as the computational architecture of cognition. Invited talk presented at the Montreal Neurological Institute-Hospital (MNI), Montreal, Quebec, Canada. (November 2019)
7. Brain network organization as the computational architecture of cognition: Implications for mental health. Invited talk presented at the Rutgers-Princeton Center for Computational Cognitive Neuro-Psychiatry, Piscataway, NJ. (November 2019)
8. Brain network organization as the computational architecture of cognition: Implications for emotion regulation and mental health. Invited virtual talk presented at the Sapiens Labs' Inter and Intra Person Variability Symposium. (November 2019)

9. Brain network organization as the computational architecture of cognition: Implications for emotion regulation and mental health. Invited talk presented at the Social & Affective Neuroscience Society conference, Miami, FL. (May 2019)
10. Brain network organization as the computational architecture of cognition. Invited talk presented at the Cognitive Neuroscience Society conference, San Francisco, CA. (March 2019)
11. Brain network organization as the computational architecture of cognition. Invited talk presented at Georgia Institute of Technology, Atlanta, GA. (March 2019)
12. The Cognitive and Computational Relevance of Functional Brain Networks. Invited talk presented at New York University (NYU) School of Medicine, New York, NY. (April 2018)
13. The Cognitive and Computational Relevance of Functional Brain Networks. Invited CNBC Alumni Talk presented at the Center for the Neural Basis of Cognition (CNBC), University of Pittsburgh and Carnegie Mellon University, Pittsburgh, PA. (April 2018)
14. Neural and cognitive bases of rational and critical thinking. Invited talk presented at Columbia University, New York, NY. (November 2017)
15. The Cognitive Relevance of Functional Brain Networks. Invited talk presented at Carnegie Mellon University, Pittsburgh, PA. (March 2017)
16. Stable and Dynamic Functional Brain Network Architectures Underlying Flexible Cognition. Invited talk presented at Vanderbilt University, Nashville, TN. (February 2017)
17. Functional Brain Network Mechanisms Underlying Flexible Cognitive Control. Invited talk presented at the Control Processes Conference in San Diego, CA. (November 2016)
18. Stable and Dynamic Functional Brain Network Architectures Underlying Flexible Cognition. Invited talk presented at the Cognitive Neuroscience Seminar Series at Taub Institute, Columbia Medical School, New York, NY. (October 2016)
19. Brain network mechanisms of rapid instructed task learning. Invited talk presented at the Attention & Performance Conference, Turnhout, Belgium. (June 2016)
20. Brain Network Mechanisms of Flexible Cognitive Control. Invited talk presented at Humbolt University, Berlin, Germany. (May 2016)
21. Brain Network Mechanisms of Flexible Cognitive Control. Invited talk presented at the Dresden Symposium on Volition and Cognitive Control, Dresden, Germany. (July 2015)
22. Brain network mechanisms of flexible cognitive control in health and disease. Talk presented at Weil Cornell, New York, NY. (April 2015)
23. Flexible Learning: Understanding Cognitive Control and Intelligence in the Brain. Talk presented at Rutgers Research Day, Newark, NJ. (April 2015)
24. Human brain network dynamics and goal-directed cognition. Talk presented at Newark NeuroTalks, Newark, NJ. (March 2015)
25. Functional connectivity differences in brain networks: contributions of shared and unshared variance. Invited talk presented at the Asilomar conference, Pacific Grove, CA. (November 2014)
26. Multi-task functional connectivity and flexible hubs. Invited talk presented at the International Conference on Cognitive Neuroscience (ICON), Brisbane, Australia. (August 2014)
27. Intrinsic and dynamic brain network architectures underlying adaptive behavior in humans. Invited talk presented at the Princeton Neuroscience Institute, Princeton, NJ. (June 2014)
28. Intrinsic and task-evoked network architectures of the human brain. Invited talk presented at the Nathan S. Kline Institute (NKI), Orangeburg, NY. (May 2014)
29. Flexible Thinking: Understanding Cognitive Control and Intelligence in the Brain. Invited talk presented at the Learning and the Brain conference, New York, NY. (May 2014)
30. Intrinsic and Dynamic Network Architectures of the Human Brain. Invited talk presented at the Psychology Department, UC Berkeley, Berkeley, CA. (November 2013)
31. Brain Network Mechanisms of Flexible Cognitive Control in Health and Disease. Invited talk presented at the Department of Psychiatry, Yale, New Haven, CT. (April 2013)
32. Brain Network Mechanisms of Flexible Cognitive Control. Invited talk presented at the McGovern Institute for Brain Research, MIT, Cambridge, MA. (January 2013)

33. A role for the brain network mechanisms of flexible cognitive control in human intelligence. Invited talk presented at the International Society for Intelligence Research, San Antonio, TX. (December 2012)
34. Global Brain Connectivity and Other Graph Theoretical Approaches: Methods and Findings. Invited talk/workshop presented at the MRI Users' Meeting Group, The Ohio State University, Columbus, OH. (November 2012)
35. Brain Network Mechanisms of Flexible Cognitive Control. Invited talk presented at the Center for Molecular and Behavioral Neuroscience, Rutgers, Newark, NJ. (November 2012)
36. Investigating Global Brain Connectivity: Methods, Software, and Findings. Talk presented at the Neuroimaging Informatics and Analysis Center seminar series, Washington University, St. Louis, MO. (March 2011)
37. Multiple Network Mechanisms Underlying Flexibility in Prefrontal Cortex. Talk presented at the Brain, Behavior, and Cognition seminar series, Washington University, St. Louis, MO. (March 2010)
38. Network Mechanisms Underlying Flexibility in Prefrontal Cortex. Invited talk presented as part of the Center for Mind and Brain seminar series, UC Davis, Davis, CA. (January 2010)
39. Source Localization with MEG: An MNE Software Overview. Talk presented for the University of Pittsburgh MEG center, Pittsburgh, PA. (May 2008)
40. Connectomics of the Human Cognitive Control Network. Invited talk presented for Beatriz Luna's lab, Pittsburgh, PA. (January 2008)
41. Using Functional MRI to Inform Neural Models of Decision Making. Talk presented at the annual CNBC retreat, Pittsburgh, PA. (October 2006)
42. Specialization and integration within a cortical cognitive control network. Talk presented at the CNBC 'Brain Bag', Pittsburgh, PA. (October 2006)
43. Innate functional connectivity from resting state linear correlations. Invited talk presented at the Clinical Cognitive Neuroscience Lab's Methods Monday forum, Pittsburgh, PA. (March 2006)
44. Dissociations in Cognitive Control: The Specialized Roles of Lateral and Medial Prefrontal Cortex. Talk presented at the Cognitive Psychology 'Brown Bag', Pittsburgh, PA. (November 2005)
45. Results and statistics in fMRI. Talk presented at the 2005 CNBC fMRI Workshop, Pittsburgh, PA. (October 2005)

Conference Presentations

1. Mill RD, Cole MW (November 2023). Neural representation dynamics reveal computational principles of cognitive task learning Poster at the Society for Neuroscience Annual Meeting, Washington, DC.

2. Peterson KL, Sanchez-Romero R, Mill RD, Cole MW (November 2023). Regularized partial correlation provides reliable functional connectivity estimates while correcting for widespread confounding Poster at the Society for Neuroscience Annual Meeting, Washington, DC.

3. Sanchez-Romero R, Chen R, Lalta N, Ito T, Mill RD, Cole MW (November 2023). Rapid learning to automaticity reveals learned content stored within patterns of resting-state functional connectivity changes Poster at the Society for Neuroscience Annual Meeting, Washington, DC.

4. Tzalavras A, Cocuzza C, Peterson KL, Chakravarthula LCN, Cole MW (November 2023). Brain network processes underlying the generation of hundreds of visual category responses in the human brain. Poster at the Society for Neuroscience Annual Meeting, Washington, DC.

5. Mill RD, Flinker A, Cole MW (June 2022). Invasive human neural recording links resting-state connectivity to generation of task activity. Poster at the Organization for Human Brain Mapping (OHBM) conference, Glasgow, Scotland, UK.

6. Cocuzza CV, Mill RD, Cole MW (June 2022). The functional relevance of flexible hub connectivity in cognitive control networks. Poster at the Organization for Human Brain Mapping (OHBM) conference, Glasgow, Scotland, UK.

7. Singh MF, Wang C, Cole MW, Ching S (2022). "Efficient state and parameter estimation for high-dimensional nonlinear system identification with application to MEG brain network modeling". Proceedings from the American Control Conference. arXiv:2104.02827

8. Keane, B.P., Krekelberg, B., Mill, R.D., Silverstein, S.M., Thompson, J., Serody, M., Barch, D.M., & Cole, M. W. (May 2022). Compensatory brain network mechanisms of visual shape completion across the schizo-bipolar spectrum. Poster at Vision Sciences Society, St. Petersburg Beach, FL.

9. Keane, B.P., Krekelberg, B., Mill, R.D., Silverstein, S.M., Thompson, J., Serody, M., Barch, D.M., & Cole, M. W. (April 2022). Dorsal attention network dysfunction during visual perception in schizophrenia. Poster at Society for Biological Psychiatry, New Orleans, LA.

10. Keane, B.P., Krekelberg, B., Mill, R.D., Silverstein, S.M., Thompson, J., Serody, M., Barch, D.M., & Cole, M. W. (April 2022). Brain network mechanisms of visual perceptual organization in schizophrenia and bipolar disorder. Poster at Cognitive Neuroscience Society, San Francisco, CA.

11. Cocuzza C.V., Mill R.D., Cole M.W. (November 2021). The functional relevance of flexible hub connectivity in cognitive control networks. Poster and group discussion H.04.c. on Network Activity at the Society for Neuroscience meeting, virtually.

12. Keane, B.P., Krekelberg, B., Mill, R.D., Silverstein, S.M., Thompson, J., Serody, M., Barch, D.M., & Cole, M. W. (November 2021). Brain network mechanisms of visual shape completion. Poster at Society for Neuroscience, virtually.

13. Ito T, Klinger T, Schultz DH, Cole MW, Rigotti M (February 2021). The role of compositional abstraction in human and artificial neural networks. Poster at Computational and Systems Neuroscience (Cosyne) conference, virtually.

14. Keane BP, Mill R, Krekelberg B, Barch D, Silverstein S, Cole MW (March 2021). Brain Network Mechanisms of Visual Shape Completion. Poster at the Cognitive Neuroscience Society (CNS) conference, virtually.

15. Hearne L, Mill R, Keane B, Cole MW (May 2020). Activity Flow Predictions Reveal the Role of Schizophrenia Network Abnormalities in Cognitive Activation and Behavioral Dysfunctions. Poster at the Biological Psychiatry conference.

16. Schultz DH, Ito T, Cole MW (June 2020). Cognitive control networks coordinate domain general task information throughout the brain. Poster #672 at the Organization for Human Brain Mapping (OHBM) conference, virtually.

17. Sanchez-Romero R & Cole MW (June 2020). Directed activity flow: Directed connectivity improves causal interpretation of predictive models. Poster #1753 at the Organization for Human Brain Mapping (OHBM) conference, virtually.

18. Hearne LJ, Mill RD, Keane BP, Cole MW (June 2020). Activity flow reveals the role of schizophrenia network dysfunction in cognition. Poster #87 at the Organization for Human Brain Mapping (OHBM) conference, virtually.

19. Mill RD, Hamilton J, Winfield EC, Lalta N, Chen RH, Spronk M, Cole MW (June 2020). Causal modeling of task information flow with high spatiotemporal precision in source EEG networks. Poster #1704 at the Organization for Human Brain Mapping (OHBM) conference, virtually.

20. Ito T, Hearne LJ, Cole MW (June 2020). Cognitive information differentiates between connectivity and activity across the cortical hierarchy. Poster #1397 and Oral Presentation at the Organization for Human Brain Mapping (OHBM) conference, virtually.

For a full list of conference presentations, see: https://www.colelab.org/#presentations

Service to Peer-reviewed Scientific Journals

Member of editorial boards

Associate Editor for journal *Network Neuroscience* (2016-Present)
Member of the Advisory Board for *Brain Structure and Function* (2015-Present)
Member of the Editorial Board at *Brain Research* (2022-Present)
Review editor at *Frontiers in Human Neuroscience* (2014-Present)
Ad hoc review editor at *eLife* (2022)

Ad Hoc Reviewer for Journals

Acta Psychologica
Biological Psychiatry (3x)
BioSystems (2x)
Brain
Brain and Language
Brain Communications
Brain Connectivity (2x)
Brain Research (5x)
Brain Sciences
Brain Structure and Function (8x)
Cell
Cerebral Cortex (29x)
Cognition (7x)
Cognitive, Affective & Behav. Neuroscience (2x)
Communications Biology
Current Directions in Psychological Science
Current Opinion in Behavioral Sciences (2x)
eLife (4x)
European Journal of Neuroscience
Frontiers in Human Neuroscience (3x)
Human Brain Mapping (15x)
International Journal of High School Research
Journal of Cognition (2x)
Journal of Cognitive Neuroscience (12x)
Journal of Experimental Psychology: General (3x)
Journal of Experimental Psychology: HPP
Journal of Neuroscience (28x)
Journal of Neuroscience Methods
Journal of Neurophysiology
Memory & Cognition
Molecular Psychiatry (2x)
Nature Communications (8x)
Nature Neuroscience (10x)
Nature Reviews Neuroscience (2x)
Network Neuroscience (5x)
NeuroImage (55x)
NeuroImage: Clinical (2x)
Neuron (13x)
Neuropsychologia (5x)
Neuroscience & Biobehavioral Reviews (3x)
Personality Neuroscience
Perspectives on Psychological Science
Philosophical Transactions B
PLOS Biology (2x)
PLOS Computational Biology (6x)
PNAS (10x)
Psychological Medicine (2x)
Psychonomic Bulletin & Review
Quarterly Journal of Experimental Psychology (2x)
Royal Society Open Science
Schizophrenia Bulletin
Science Advances
Scientific Reports
The American Journal of Psychiatry
Trends in Cognitive Sciences (4x)

Service to Grant-issuing Institutions

Grant Review Ad Hoc Panel Member

The US National Institutes of Health (NIH), Bidirectional Influences Between Adolescent Social Media Use and Mental Health special emphasis panel, 2023
The US National Institutes of Health (NIH), ad hoc member of Cognition & Perception (CP) study section, 2020

The US National Institutes of Health (NIH), Biobehavioral Processes of Cognition and Stress special emphasis panel, 2020
The US National Science Foundation (NSF), Integrative Strategies for Understanding Neural and Cognitive Systems (NCS) panel, 2018
The US National Institutes of Health (NIH), ad hoc member of Cognition & Perception (CP) study section, 2018 (2x)
The US National Science Foundation (NSF), special BRAIN Initiative panel, 2017
The Busch Biomedical Grant Program, 2016

Ad Hoc Reviewer for Individual Grants

The Wellcome Trust, 2017
The Netherlands Organization for Scientific Research, 2015
The United Kingdom Medical Research Council, 2015

Other service

External reviewer for tenure and promotion decisions at: University of Pittsburgh (2020), Tel-Aviv University (2022), University of Illinois (2024)

Mentoring

Faculty:

Brian Keane (mentor on NIH K01)	2016-2020
Ravi Mill (research associate faculty)	2019-

Postdoctoral fellows:

Douglas Schultz (*moved on to assistant professor at University of Nebraska)*	2014-2018
Ravi Mill (*moved on to research associate faculty in the lab*)	Spring 2015-Fall 2019
Marjolein Spronk (*moved on to become a data scientist at Rancho BioSciences*)	2015-2017
Katelyn Arnemann (*moved on to become a data scientist at Data Cubed Health*)	Summer 2018-Fall 2019
Luke Hearne	Summer 2018-
Ruben Sanchez-Romero	Fall 2018-
Ethan McCormick (*moved on to postdoc at Radboud University Medical Center, then assistant professor at University of Leiden*)	Spring 2020-Spring 2021
Matthew Singh (*moved on to tenure-track assistant professor at the University of Illinois*)	Spring 2021-Spring 2024
Ella Podvalny (*moved on to postdoc at the Icahn School of Medicine at Mount Sinai*)	Summer 2021-Summer 2023

PhD students:

Richard Chen	Fall 2014-Spring 2021
Pinelopi Kyriazi	Fall 2014 (rotation)
Takuya Ito (*moved on to postdoc at Yale University)*	Fall 2015-Fall 2020
Carrisa Cocuzza (*moved on to postdoc at Yale University*)	Fall 2016-Fall 2022
Katherine Wolfert	Fall 2017 (rotation)
Ian Kim	Fall 2018 (rotation)
Micah Ketola (*terminal master's degree; moved on to be a software engineer at Prudential)*	Fall 2020-Fall 2022
Kirsten Petersen	Spring 2021-
Lakshman Chakravarthy	Fall 2022-

Alexandros Tzalavras	Fall 2022-
Arun Aryal	Fall 2023-

Full-time research assistants at Rutgers University-Newark:

Levi Solomyak (*moved on to PhD in computational neuroscience at The Hebrew University of Jerusalem)*	2014-2016
Takuya Ito (*moved on to PhD in the lab*)	2014-2015
Kaustubh Kulkarni (*moved on to MD-PhD at Icahn School of Medicine at Mount Sinai*)	Fall 2015-Summer 2017
Julia Hamilton (*moved on to MD at Washington University*)	2017- 2019
Emily Winfield (*moved on to a data science position in industry (at Aquant)*)	Spring 2018-Spring 2021
Nicole Lalta (*moved on to PhD in neuroscience at Rutgers University)*	Summer 2020-Summer 2022

Undergraduate research assistants at Rutgers University-Newark:
Sara Horton (Summer 2015, Summer 2016), Brayan Zambrano (2016; received NSF LSAMP fellowship), Miguel Vivar Lazo (2016-2017; McNair Scholar award, NSF LSAMP fellowship, Aresty Fellowship), Ryan Welch (2015-2017; high school student), Nicole Lalta (2017-2020; NSF LSAMP fellowship), Yanira Sanchez (2018; NSF LSAMP fellowship), Catalina Guzman (2018-2019; NSF LSAMP fellowship), Aisha Assaf (2017-2019), Diana Rodas (2018-2020; NSF LSAMP fellowship), Kirsten Petersen (2018-2020), Jada White (2021; NSF LSAMP fellowship), Willio Jeanvilma (2021; NSF LSAMP fellowship), Avi Shah (2020-2021), Akshay Warrier (2021-2022), Aditya Rao (2021-2022), Edwin Lotero (2021-2022; NSF LSAMP fellowship), Adeola Ajiboro (2022-2023; NSF LSAMP fellowship), Gifty Jones (2023-; NSF LSAMP fellowship), Temitope Ayetan (2023), Shraeyah Rajeshwaran (2023-2024), Alisson López-Donado (2023-2024), Cindy Hussein (2023-2024; NSF LSAMP fellowship; McNair Scholar award), Alicia Zhu (Spring 2023-; high school student)

Member of Ph.D. thesis committee for:
Dana Mastrovito (2016-2018), Kainan Sally Wang (2017-2019), Hillary Levinson (2018-2020), Shira Lupkin (2021-2024)

Outside member of Ph.D. thesis committee for:
Azeezat Azeez (NJIT, 2018-2019), Luke Hearne (The University of Queensland, 2017), Alisha Janssen (The Ohio State University, 2014-2016), Lam Lok Hang (The Hong Kong Polytechnic University, 2022)

Visiting scholars mentored:
Guochun Yang, Senne Braem, Mia Tharp, Hannah Bohle

Research assistants at Washington University (2009-2013):
Lauren Patrick, Nicholas Fazzio, Jordan Livingston, Takuya Ito, Lauren Ness, Maria Chushak, Cameron Smith

Research assistants at the University of Pittsburgh (2004-2009):
Eliezer Kanal, Sudhir Pathak, Amber Kunkel, Anderson Tesfazion

Teaching Experience

Fall 2023	Lead instructor for *Foundations in Neuroscience III*, a graduate-level course at Rutgers University-Newark providing an introduction to cognitive neuroscience
	Co-instructor for graduate-level course *Critical Thinking in Neuroscience*
	Co-instructor in the undergraduate-level course *Neuroscience Careers Seminars*

Fall 2022	Co-instructor in the undergraduate-level course *Neuroscience Careers Seminars*
Spring 2022	Course developer and instructor for *Network & Complexity Neuroscience*, a graduate-level course at Rutgers University-Newark
Fall 2021	Co-instructor for *Foundations in Neuroscience III*, a graduate-level course at Rutgers University-Newark providing an introduction to cognitive neuroscience
Spring 2020	Lead instructor for *Foundations in Neuroscience III*, a graduate-level course at Rutgers University-Newark providing an introduction to cognitive neuroscience
Fall 2018	Co-instructor for *Introduction to Neuroscience*, an undergraduate-level course at Rutgers University-Newark providing an introduction to neuroscience
Spring 2018	Co-instructor for *Foundations in Neuroscience III*, a graduate-level course at Rutgers University-Newark providing an introduction to cognitive neuroscience
Spring 2016	Course developer and instructor for *Network & Complexity Neuroscience*, a graduate-level course at Rutgers University-Newark
Fall 2015	Course developer and lead instructor for *Foundations in Neuroscience III*, a graduate-level course at Rutgers University-Newark providing an introduction to cognitive neuroscience
Spring 2015	Co-instructor for *Critical Thinking in Neuroscience*, Rutgers University-Newark
Spring 2012	Co-instructor (with Todd Braver) for *Functional Neuroimaging*, Washington University in St. Louis
2011	Guest lecturer for *Cognitive Neuroscience* (Instructor: Todd Braver), Washington University in St. Louis
2010	Guest lecturer for *Cognitive Neuroscience* (Instructor: Todd Braver), Washington University in St. Louis
Fall 2006	Teaching assistant for *Introduction to Neuroscience* (Instructor: David Wood), University of Pittsburgh
Spring 2006	Guest lecturer for *Laboratory on fMRI Data Acquisition and Analysis* (Instructor: Walter Schneider), University of Pittsburgh
Spring 2003	Teaching assistant for *The Neural Basis of Language and Thought* (Instructors: Jerome Feldman and George Lakoff), UC Berkeley