Michael J. Arcaro

Department of Psychology
University of Pennsylvania

marcaro@sas.upenn.edu
https://arcarolab.org

EMPLOYMENT

2020 –	Assistant Professor Department of Psychology University of Pennsylvania
2017 – 2019	Instructor in Neurobiology Advisor: Margaret Livingstone, Ph.D. Livingstone Laboratory, Harvard Medical School
2015 – 2017	Postdoctoral Fellow Advisor: Margaret Livingstone, Ph.D. Livingstone Laboratory, Harvard Medical School
2013 – 2015	Postdoctoral Research Associate Advisor: Sabine Kastner, Ph.D., M.D. Neuroscience of Attention & Perception Laboratory, Princeton University

EDUCATION

2013	Princeton University – Ph.D. in Psychology and Neuroscience
2011	Princeton University – M.A. in Psychology and Neuroscience
2004	Boston University – B.A. in Psychology and Philosophy *(cum laude)*

AWARDS & HONORS

2023	APA's Distinguished Scientific Award for Early Career Contribution to Psychology
2019	David Hubel Outstanding Postdoctoral Fellow
2018	Harvard Faculty Research Award – Mind, Brain, and Behavior program
2017	William Randolph Hearst Fellowship
2016	Mahoney Postdoctoral Fellow
2010	Quantitative and Computational Neuroscience Fellowship / NIH T90

PREPRINT

Ayzenberg V, Song L, **Arcaro MJ**. An intrinsic hierarchical, retinotopic organization of pulvinar connectivity in the human neonate. *bioRxiv*

Sydnor VJ, Bagautdinova J, Larsen B, **Arcaro MJ**, Barch DM, Bassett DS, Alexander-Bloch AF, Cook PA, Covitz S, Franco AR, Gur RE, Gur RC, Mackey AP, Mehta K, Meisler SL, Milham MP, Moore TM, Müller EJ, Roalf DR, Salo T, Schubiner G, Seidlitz J, Shinohara RT, Shine JM, Yeh FC, Cieslak M, Satterthwaite TD. A sensorimotor-association axis of thalamocortical connection development. *bioRxiv*

PEER-REVIEWED PUBLICATIONS

Oishi H, Berezovskii VK, Livingstone MS, Weiner KS, **Arcaro MJ** (*in press*) Inferotermporal face patches are histo-architectonically distinct. *Cell Reports*.

Bourne JA, Cichy RM, Kiorpes L, Morrone MC, **Arcaro MJ**, Nielsen KJ. (*in press*) Development of higher-level vision: a network perspective. *Journal of Neuroscience.*

Arcaro MJ & Livingstone MS (2024). A whole-brain topographic ontology. *Annual Reviews Neuroscience.*

Linsely D, Rodriguez IF, Fei T, **Arcaro MJ**, Sharma S, Livingstone MS, Serre T (2023). Performance-optimized deep neural networks are evolving into worse models of inferotemporal cortex. *Advances in Neural Information Processing Systems.*

Kay K, Bonnen K, Denison RN, **Arcaro MJ**, Barack DL (2023). Tasks and their role in visual neuroscience. *Neuron.*

Scott LS & **Arcaro MJ** (2023). A domain-relevant framework for the development of face processing. *Nature Reviews Psychology*. 2, 183-195.

Ellis CT, Yates TS, **Arcaro MJ**, Turk-Browne NB (2023). Movies reveal the fine-grained organization of infant visual cortex. *eLife.*

Arcaro MJ, Livingstone MS, Kay KN, Weiner KS (2022). The retrocalcarine sulcus is functionally distinct between macaques and humans. *Brain Structure and Function*, 227(4), 1227-1245.

Arcaro MJ and Livingstone MS (2021) On the relationship between maps and domains in inferotemporal cortex. *Nature Reviews Neuroscience.* 22, 573-583.

Ellis CT, Yates TS, Skalaban LJ, Bejjanki VR, **Arcaro MJ**, Turk-Browne NB (2021). Retinotopic organization of visual cortex in human infants. *Neuron.* 109 (16), 2616-2626.

Natu V, **Arcaro MJ**, Barnett MA, Gomez J, Livingstone MS, Grill-Spector K, Weiner KS (2021) Sulcal depth in medial ventral temporal cortex predicts the location of a place-selective region in macaques, children, and adults. *Cerebral Cortex,* 31. 48-61.

Arcaro MJ, Mautz T, Berezovskii V, Livingstone MS (2020) Anatomical correlates of face patches in macaque inferotemporal cortex. *PNAS*. 117 (51), 32667-32678.

Arcaro MJ, Ponce CR, Livingstone MS (2020) The neurons that mistook a hat for a face. *eLife.* 9(e53798), 1-19.

Arcaro MJ, Schade P, Livingstone MS (2019) Body-map proto-organization in newborn macaques. *PNAS*. 116(49) 24861-24871.

Arcaro MJ, Schade PF, Livingstone MS (2019) Universal mechanisms and the development of the face network: what you see is what you get. *Annual Review of Vision Science.* 5. 341-372.

Livingstone MS, **Arcaro MJ**, Schade P (2019) Cortex is cortex: ubiquitous principles drive face-domain development. *Trends in Cognitive Sciences*. 23 (1), 3-4.

Arcaro MJ, Thaler L, Quinlan DJ, Monaco S, Khan S, Valyear KF, Goebel R, Dutton GN, Goodale MA, Kastner S, Culham JC. (2019) Psychophysical and neuroimaging responses to moving stimuli in a patient with the Riddoch phenomenon due to bilateral visual cortex lesions. *Neuropsychologia.* 128. 150-165.

Benson N, Jamison KW, **Arcaro MJ**, Vu A, Glasser MF, Coalson TS, Van Essen D, Yacoub E, Ugurbil K, Winawer J, Kay K. (2018) The HCP 7T Retinotopy Dataset: Description and pRF Analysis. *Journal of Vision.* 18 (13) 1-22.

Arcaro MJ, Pinsk MA, Chen J, Kastner S. (2018) Organizing principles of pulvino-cortical coupling in humans. *Nature Communications*. 9(1), 1-14.

Haufe S, DeGuzman P, Henin S, **Arcaro MJ**, Honey CJ, Hasson U, Parra LC. (2018) Elucidating relations between fMRI, ECoG and EEG through a common natural stimulus. *NeuroImage*. 179, 79-91.

Todd N, Zhang Y, **Arcaro MJ**, Becerra L, Borsook D, Livingstone MS, McDannold N. (2018) Focused ultrasound induced opening of the blood-brain barrier disrupts inter-hemispheric resting state functional connectivity in the rat brain. *NeuroImage*. 178, 414-422.

Arcaro MJ*, Schade PF*, Vincent JL, Ponce CR, Livingstone MS*. (2017) Seeing faces is necessary for face-patch formation. *Nature Neuroscience*. 20(10), 1-9.

Arcaro MJ & Livingstone MS. (2017) A hierarchical, retinotopic proto-organization of the primate visual system at birth. *eLife*. 6(e26196), 1-24.

Arcaro MJ & Livingstone MS. (2017) Retinotopic organization of scene areas in the macaque inferior temporal cortex. *Journal of Neuroscience*. 37(31), 7373-7389.

Livingstone MS*, Vincent JL*, **Arcaro MJ***, Srihasam K, Schade P, Savage T. (2017) Development of the macaque face-patch system. *Nature Communications*. 8, 1-12.

Chen J, Honey CJ, Simony E, **Arcaro MJ**, Norman KA, Hasson U. (2016) Accessing real-life episodic information from minutes versus hours earlier modulates hippocampal and high-order cortical dynamics. *Cerebral Cortex*. 28(8), 3428-3441.

Arcaro MJ, Pinsk MA, Kastner S. (2015) The anatomical and functional organization of the human visual pulvinar. *Journal of Neuroscience*. 35(27), 9848-9871.

Arcaro MJ & Kastner S. (2015) Topographic organization of areas V3 and V4 and its relation to supra-areal organization of the primate visual system. *Visual Neuroscience*. 32(e015), 1-15.

Arcaro MJ, Honey CJ, Mruczek REB, Kastner S, Hasson U. (2015) Widespread correlation patterns of fMRI signal across visual cortex reflect eccentricity organization. *eLife*. 4(e03952), 1-28.

Lombaert H, **Arcaro MJ**, Ayache N. (2015) Brain transfer: spectral analysis of cortical surfaces and functional maps. *IPMI*. 9123, 474-487.

Wang L, Mruczek REB, **Arcaro MJ**, Kastner S. (2015) Probabilistic maps of visual topography in human cortex. *Cerebral Cortex*. 25(10) 3911-3931.

Kelly YT, Webb TW, Meier JD, **Arcaro MJ**, Graziano MSA (2014). Attributing awareness to oneself and to others. *PNAS*. 111(13), 5012-5017.

Wang L, Saalmann YB, Pinsk MA, **Arcaro MJ**, Kastner S (2012). Electrophysiological low-frequency coherence and cross-frequency coupling contributes to BOLD connectivity. *Neuron*. 76(5), 1010-1020.

Arcaro MJ, Pinsk MA, Li X, Kastner S (2011). Visuotopic organization of macaque posterior parietal cortex: An fMRI study. *Journal of Neuroscience*. 31(6), 2064-2078.

Caplovitz GP, **Arcaro M**, Kastner S (2010). Stage 3 and what we see. *Cognitive Neuroscience*. 1(3), 220-222.

Carmel D, **Arcaro MJ**, Katner S, Hasson U (2010). How to create and use binocular rivalry. *Journal of Visualized Experiments (JoVE).* 45(e2030), 1-10.

Arcaro MJ*, McMains S*, Singer B, Kastner S (2009). Retinotopic organization of human ventral visual cortex. *Journal of Neuroscience.* 29(34), 10638-10652.

Pinsk MA, **Arcaro M**, Weiner KS, Kalkus JF, Inati SJ, Gross CG, Kastner S (2009). Neural representations of faces and body parts in the macaque and human cortex: A comparative fMRI study. *Journal of Neurophysiol*ogy. 101, 2581-2600.

BOOK CHAPTERS

Kastner S & **Arcaro MJ**. (2022) The Thalamus in Attention. In Halassa M.M., editor. *The Thalamus.* Cambridge, UK. Cambridge University Press.

PROFESSIONAL ACTIVITIES AND SERVICE

2021 Session moderator for Vision Sciences Society talk session: *Development*
2018 Co-chair for Society for Neuroscience nanosymposium, *Vision: Representation of Faces and Bodies*
2017 Postdoctoral steering committee for Harvard's Mind Brain Behavior program

TEACHING

2022- PSYC 1230 Cognitive Neuroscience - Instructor
2020- PSYC 3233 Seminar in Cognitive Neuroscience: Brain Development - Instructor
2014 NEU 502 From Molecules to Systems to Behavior - Workshop: Functional connectivity
2013 PSY 255 Cognitive Psychology – Precept Instructor
2012 PSY 311 Rationality and Human Reasoning – Precept Instructor
2011 PSY 259 Cognitive Neuroscience - Lab Instructor
2010 NEU 502 From Molecules to Systems to Behavior - Workshop: Retinotopic mapping with fMRI

MENTORING

2023- Xingyu Liu, Postdoctoral Researcher
2022- Vladislav Ayzenberg, Postdoctoral Researcher
2022- Hiroki Oishi, Postdoctoral Researcher (co-advised w/ Kevin Weiner), UC Berkeley
2021- Emily Meyer, Graduate Student, University of Pennsylvania
2021-2023 Lucy Song, Graduate Student, University of Pennsylvania
2020-2021 Wei Song Ong, Postdoctoral Researcher, University of Pennsylvania
2017-2018 Theoroda Mautz, Research project on structure-function relationships in IT, Harvard University
2015-2017 Maddie Snyder, Senior Thesis on functional connectivity in infant monkeys, Harvard University
2010 Oly Khowash, Summer research project on DTI methods development, Princeton University
2009 Jan Kalkus, Summer research project on fMRI surface-based analyses, Princeton University

INVITED TALKS

CalTech, Division of Biology and Biological Engineering, August 2022
JHBI (Japanese meeting for Human Brain Imaging) Talk Series, January 2022
Giessen University, Seminar series: Current topics in Perception and Cognition, November 2021
Carnegie Melon University, AI Seminar Series, December 2020
Nathan Klein Institute, Works in Progress Seminar Series, December 2020
University of California, Berkeley, Cognitive Neuroscience Colloquium, November 2020
Bar Illan University, Cognitive Neuroscience Lab, January 2019

University of Virginia, Department of Psychology Colloquium, March 2018
University of Pittsburgh, Department of Ophthalmology, March 2018
University of Minnesota, CMRR Seminar, January 2017
Massachusetts Institute of Technology, CBMM Special Seminar Series, December 2016

CONFERENCE PRESENTATIONS
https://www.arcarolab.org/conferences.html