Jude F. Mitchell

October 17, 2022

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Research interests:

- Visual attention and eye movements in active vision
- Oculo-motor feedback circuits in visual cortex
- Neural mechanisms of foveal vision and trans-saccadic integration
- Visually-guided reaching and 3D pursuit

Academic appointments

2015 - Assistant Professor, Dept. of Brain and Cognitive Sciences, University of Rochester

2010 - Staff Scientist, Systems Neuroscience, The Salk Institute, La Jolla, CA

2007 - Senior Research Associate, Systems Neuroscience, The Salk Institute, La Jolla, CA

2002 – Postdoctoral Research Fellow, Systems Neuroscience, The Salk Institute, La Jolla, CA

Education

Ph.D. Cognitive Science, University of California at San Diego, 2002
Dissertation: *Unity of Action: Coordination of Movement Plans Between Oculomotor Areas*
Committee members: David Zipser, Jeff Elman, Rich Krauzlis, Bill Kristan, Marty Sereno

B.S. Electrical Engineering, Harvard University, Cambridge, MA 1994

Research grants

2020-25: NIH, R01 EY030998 “Neural basis of trans-saccadic perception”
PI: Mitchell. Total costs over five years ($1,901,780).

2020-23: NIH U01 NS116377 “Neural circuit computations for visual motion during natural primate behaviors.” PIs: Alex Huk, Cory Miller. Co-I: Mitchell
Total costs to UR over three years ($161,060)

2020-23: NIH, R01 NS118457 “Spatial exploration and navigation in the primate hippocampus” PI: Miller(UCSD), Kechen Zhang (Johns Hopkins) Co-I: Mitchell.
Total costs to UR over five years ($357,324).

Completed grants

2019-21: NIH, R21-EY029849, "Computational maps in extrastriate cortex."
Co-PIs: Ian Nauhaus, Alex Huk, Robbe Gorris (UT Austin)
$282,310 direct costs, over two years

2015-18: NIH, U01-NS094330, "Neural ensembles underlying natural tracking."
Co-PIs: Nicholas Priebe, Alex Huk, Ila Fiete (UT Austin)
$2,984,747 direct costs, over three years ($253,000 sub-award to U of R)

2014-16: NIH, R21-MH104756, "Optogenetic tools to distinguish neuronal class in behaving non-human primates."
Co-PI: Cory Miller (UCSD)
$275,000 direct costs, over two years (2nd year at University of Rochester)

2014-17: NHMRC (Australia), APP1083152, "Neural circuits for active vision in the primate cerebral cortex."
Co-PI: Marcello Rosa (Monash University)
$612,902 direct costs, over three years (supported a visiting scientist at U of R)

Awards and small grants

2022 University of Rochester Research Award, "Marker-free tracking of group foraging: a window to the primate social brain".
PIs: Dora Biro, Jude Mitchell, Kuan Wang ($75,000)

2022 University of Rochester Research Award, "Neural mechanisms generating affective touch"
PIs: Manuel Gomez-Ramirez, Jude Mitchell, Kuan Wang ($50,000)

2019 Schmitt Program on Integrative Neuroscience (SPIN) Award,
"Optogenetic identification and manipulation of cortico-cortical feedback in a non-human primate, the common marmoset""
Co-PI: Kuan Wang
Total costs over one year ($47,846)

2019 University of Rochester Research Award, "Neural basis of foveal vision"
Co-PI: Michele Rucci
Total costs over one year ($58,238)

2017 Schmitt Program on Integrative Neuroscience (SPIN) Award,
"Investigating convergent strategies for population coding."
Co-PI: Krishnan Padmanabha ($50,000).

2014 – Australian Research Council (ARC) Award *(declined for U of R job offer)*,
"Cellular mechanisms of perception and selective attention in cortical circuits."
$800,000 direct costs, over four years.

2012 – Kavli Institute Innovative Research Award,
"Developing marmosets as a model for visual neuroscience."
Co-PIs: Cory Miller (UCSD), John Reynolds (The Salk Institute)
$30,000 direct costs, single year

Workshop grants

2022 – NSF, Center for Visual Science Symposia, "Active Vision."
Co-PI: Michele Rucci and Martina Poletti (U of R)
$50,000

2016 – NSF, Center for Visual Science Symposia, "The Future of Attention."
Co-PI: Ben Hayden (U of R)
$10,000

2016 – NIH, R13EY026284, Center for Visual Science Symposia, "The Future of Attention."
Co-PI: Ben Hayden (U of R)
$25,000

Scholarship/Fellowship/Awards

2010-12: Swartz Foundation Research Fellowship, The Salk Institute, La Jolla, CA
"Normalization circuits and spiking models of attention."

2003-5: NIH Training Fellowship in Cognitive Neuroscience, UCSD
"Neuronal mechanisms of spatial attention in the macaque."

1996-99: NSF Graduate Student Fellowship, UCSD
"Neuronal models of saccade planning and working memory."

Academic Service

2022: Co-Organizer Center for Visual Science (CVS) Annual Retreat
March 15, Memorial Art Gallery, Rochester

2022: Co-Organizer of Bi-Annual Center for Visual Science (CVS) Symposium
"Active Vision", June 10-13, University of Rochester

2019: Organizer, Marmoset Social Satellite Event,
Society for Neuroscience Meeting (Chicago)

2016-18: Boynton Colloquium Organizer,
Center for Visual Science (CVS), University of Rochester

2015-20: Institutional Animal Care and Use Committee (IACUC),
University of Rochester Medical Center

2016-18: Neuroscience Search Committee,
Dept. of Brain and Cognitive Science (BCS), University of Rochester

2015-17: Organizing Committee, Marmoset Social Satellite Event,
Society for Neuroscience Meeting

2015-16: Co-Organizer of Bi-Annual Center for Visual Science (CVS) Symposium
"The Future of Attention", June 3-6, University of Rochester

2016-19: Executive Committee (rotating member),
Center for Visual Science (CVS), University of Rochester

2016-18: Graduate Admissions Committee,
Dept. of Brain and Cognitive Science (BCS), University of Rochester

2015: Organizer of "Comparative Neural Circuitry Meeting"
(Co-organizers: Cory Miller, David Leopold) Sept.16-18, Jackson Hole, WY

Invited Teaching

2017, Summer: Workshop on visual spatial attention and marmoset vision at
Vision: A Platform for Linking Circuits, Behavior, and Perception,
Cold Springs Harbor Laboratory summer course

2011, Summer: Workshop on neural mechanisms of spatial attention at
Telluride Neuromorphic Engineering Workshop
Telluride, Colorado

Teaching

2018-22, Spring: BCS/NSC 203: *Laboratory in Neurobiology*, Head Instructor
Co-instructors with David Kornack and Adam Snyder
University of Rochester (+50 undergraduate students)

2015-21, Fall: NSC 301: *Senior Seminar in Neuroscience*
University of Rochester (+20 undergraduate students)

2016-17, Spring: BCS/NSC 203: *Laboratory in Neurobiology*, Co-taught with Kathy Nordeen (Lead Instructor), David Kornack, and Renee Miller
University of Rochester (+60 undergraduate students)

2015,17, Fall: BCS 504: *Sensory Systems, Co-Instructor*
Co-taught with Greg DeAngelis (Lead Instructor)
University of Rochester (+5 graduate students)

2017-present: Weekly literature reviews in *Visual Neuroscience*,
University of Rochester (2-4 graduate and 3-5 undergraduate students)

2002, Spring: *Neural Networks and Models of Cognition*, Head Instructor
Cognitive Science Department, University of California at San Diego

2000, Spring: *Introduction to Probability and Statistics*, Head Instructor
Cognitive Science Department, University of California at San Diego

Advising

Post-Doctoral:
- 2016-2021: Jacob Yates (BCS, University of Rochester)
  Now faculty in Vision Science, UC Berkeley
- 2016-2020: Shaun Cloherty (Visitor, University of Rochester)
  Now faculty at Melbourne Inst. Technology
- 2014-2016: Samuel Nummela (UCSD)
- 2011-2015: Anirvan Nandy (Salk Institute)
  Now faculty at Yale University

Graduate Students:

Current:
- 2020-present: Amy Bucklaew (NGP, University of Rochester)
- 2018-present: Luke Shaw (NGP, University of Rochester)
- 2021-present Oviya Mohan (BCS, University of Rochester)
- 2022-present Rithwik Cherian (BCS, University of Rochester)

Graduated:
- 2015-2021: Shanna Coop (BCS, University of Rochester)
  Now postdoc at Stanford U. with Tirin Moore
- 2015-2020: Sunwoo Kwon (BCS, University of Rochester)
  Now postdoc at UC Berkeley with Dennis Levi
- 2010-2013: Emily Anderson (UCSD/Salk Institute)

Undergraduate Students/Honors Thesis:

Graduated:
- 2022 Halle Hangen (BCS, University of Rochester)
- 2022 Lauren Sigda (BCS, University of Rochester)
- 2022 Iqra Hassan (BCS, University of Rochester)
- 2021: Leah Sikand (NSC, University of Rochester)
- 2021: Nicole Kuznetsov (BCS, University of Rochester)
- 2021: Lucy Song (BCS, University of Rochester)
- 2020: Gabriel Sarch (BME, University of Rochester)
- 2020: Christina Moretz (BCS, University of Rochester)
- 2020: Hannah Stone (NSC, University of Rochester)
- 2018: Marcelina Martynek (BCS, University of Rochester)
- 2015: Garrett Bunce (BCS/NSC, University of Rochester)

Enrolled:
- 2021-23: Helena Xiong (NSC, University of Rochester)
- 2022-24: Julianna Saxena (BCS, University of Rochester)
- 2020-24: Qiyuan Feng (BCS, University of Rochester)

Undergraduate Summer Interns:
- 2022: Helena Xiong (NSC, University of Rochester)
- 2021: Lauren Sigda (BCS, University of Rochester)
- 2021: Halle Hangen (BCS, University of Rochester)

2020: Lucy Song (BCS, University of Rochester)
2019: Gabriel Sarch (BME, University of Rochester)
2017: Zoe Sterns (McNair Scholar, University of Oklahoma)

Graduate thesis committees:

2022: Uday Chockanathan (NGP, U. of Rochester)
2022: Emily Warner (NGP, U. of Rochester)
2021: Ankani Chattoraj (BCS, U. of Rochester)
Active: Allison Murphy (NGP, U. of Rochester)
Active: Silei Zhu (NGP, U. of Rochester)
Active: Hayden Scott (BCS, U. of Rochester)
Active: Zhen Chen (BCS, U. of Rochester)
Active: Shizhao Liu (BCS, U. of Rochester)
Active: John Gonzalez-Amoretti (NGP, U. of Rochester)
Active: Yue Zhang (BCS, U. of Rochester)
Active: Zhao Zhetuo (BCS, U. of Rochester)
Active: Zhexin (Brian) Xu (BCS, U. of Rochester)
Active: Jingyi Yang (NGP, U. of Rochester)
Active: Yuanhao (Howard) Li (BCS, U. of Rochester)

Master's thesis committees:

2020-21: Linghao Xu (BCS, U. of Rochester)

Ad-hoc Refereeing

Grant agencies: *NIH NEI* (2022), *ZRG1 IFCN- Visual Neuroscience, March 28, 2022*

NIH SREA (2017: 1), *Wisconsin National Primate Center Project Review* (2017:1), *Canada Foundation for Innovation* (2017:1)

Journals:

Science (2016:1), *Nature* (2013:1), *Neuron* (2016:1), *Nature Communications* (2017:1, 2019:1, 2021:1, 2022:1), *Current Biology* (2019:1, 2020:2), *Elife* (2015:1), *PLOS Biology* (2014:1, 2019:1), *IScience* (2019:1, 2022:1), *Molecular Psychiatry* (2015:1), *Journal of Neuroscience* (2015-17:3, 2019:2, 2020:2), *Journal of Neurophysiology* (2015-17:3,2020:1), *Cerebral Cortex* (2015-17:4), *NeuroImage* (2015:1,2019:1, 2021:1), *Scientific Reports* (2017:1), *Developmental Neurobiology* (2016:1), *PLOS One* (2015:1), *Behavioral Brain Research* (2015:1), *Journal of Comparative Neurology* (2019:1), *Frontiers in Neural Circuits* (2017:1), *Vision Research* (2020:1, 2021:1), *European Journal of Neuroscience* (2020:2).

Consulting

2017-19: Janssen, Inc., Tamara Berdyyeva San Diego, CA
Establishment of a marmoset breeding colony.

2011: Brain Corporation, Inc., Eugene Izhikevich San Diego, CA
Development of biologically realistic models of vision.

Research Articles in preparation (* equal contribution)

1. Yates JL, Butts D, Rucci M, **Mitchell JF**. 'Spatiotemporal receptive fields of foveal V1 neurons'

2. Yates JL, Butts D, Rucci M, **Mitchell JF**. 'Visual information among V1 neurons is modulated across the saccade to fixation cycle.'

3. Coop SH, Bucklaew A, Sarch G, **Mitchell JF**. 'Laminar distinctions in pre-saccadic attention within marmoset area MT.'

4. Coop SH, Yates JL, **Mitchell JF**. 'Foveal remapping in marmoset area MT'.

5. Sarch, G*, Coop SH, Bucklaew A, **Mitchell JF**. 'Current source density (CSD) analysis from areas V1 and MT in marmoset visual cortex.'

6. Sigda L, Hasan I, Kuznetzov N, **Mitchell JF**. 'Post-saccadic following responses increase with spatial-temporal frequency bandwidth of motion stimuli.'

7. Hangen H, Coop SH, **Mitchell JF**. 'Receptive field structure of MT neurons varies by laminar position and eccentricity.'

Research Articles submitted/under review (* equal contribution)

1. Yates JL, Coop SH, Sarch GH, Wu R, Butts DA, Rucci M, **Mitchell JF** (2022). 'Beyond fixation: detailed characterization of neural selectivity in free-viewing primates.' Under final revision at *Nature Communications.* Available on bioRxiv: https://www.biorxiv.org/content/10.1101/2021.11.06.467566v1

2. Parker PL, Martins DM, Leonard ES, Casey NM, Sharp SL, Abe ET, Smear MC, Yates JL, **Mitchell JF,** Niell CM. 'A dynamic sequence of visual processing initiated by gaze shifts.' Under peer review at *Nature Neuroscience*. Available on bioRxiv: https://www.biorxiv.org/content/10.1101/2022.08.23.504847v1

3. Shaw LH, Wang KH, **Mitchell JF**. 'Fast prediction in marmoset reach-to-grasp movements for dynamic prey.' Under peer review at *Current Biology*. https://www.biorxiv.org/content/10.1101/2022.10.08.511417v2

4. Coop SH, Yates JL, **Mitchell JF**. 'Pre-saccadic neural enhancements in marmoset area MT mimic covert attention.' Submitted to *Journal of Neuroscience*. https://www.biorxiv.org/content/10.1101/2022.10.11.511827v1

5. Coop SH, Bunce GW, Abrham YT, Bucklaew A, **Mitchell JF**. 'Post-saccadic following in the marmoset monkey as a read-out of pre-saccadic attention.' Submitted to *J. Neurophysiology.* https://biorxiv.org/cgi/content/short/2022.10.10.511640v1

Peer-reviewed Research Articles (* equal contribution)

1. Wang W, Yuan RK, **Mitchell JF**, Zitting KM, Hilaire MA, Wyatt JK, Scheer FA, Wright KP, Brown EN, Ronda JM, Klerman EB, Duffy JF, Dijk DJ, Czeisler CA (2022). 'Using Kleitman's forced desynchrony protocol to assess the intrinsic period of circadian oscillators and estimate contributions of the circadian pacemaker and the sleep-wake homestat to physiology and behavior in clinical research.' *Nature Protocols,* (in press). https:/doi.org/10.1038/s41596-022-00746-y

2. Kwon S, Fahrenthold BK, Cavanaugh MR, Huxlin KR*, **Mitchell JF*** (2022). 'Perceptual restoration fails to recover unconscious processing of smooth movements after occipital stroke.' *Elife, 11 e67573.*

3. Cloherty SL*, Yates JL*, DeAngelis GC, **Mitchell JF** (2020). 'Motion perception in the common marmoset.' *Cerebral Cortex, Dec 11. pii: bhz267. doi: 10.1093/cercor/bhz267.*

4. Kwon S, Rolfs M, **Mitchell JF** (2019). 'Pre-saccadic motion integration drives a predictive postsaccadic following response.' *Journal of Vision, 19(11), 12-12.*

5. Nummela SU, Coop S, Cloherty SL, Boisvert CJ, Leblanc M, **Mitchell JF** (2017). 'Psychophysical measurement of marmoset acuity and myopia.' *Developmental Neurobiology,* 77(3), 300-13.

6. Divincenti, J., Miller, AD, Knoedl, DJ, **Mitchell, JF** (2016). 'Uterine Rupture in a Common Marmoset (Callithrix jacchus).' *Comparative Medicine,* 66(3), 254-258

7. Nandy A**, Mitchell JF**, and Reynolds JH (2016). **'**Neurons in macaque Area V4 are tuned for complex spatio-temporal patterns.' *Neuron,* 91(4), 920-930.

8. MacDougall M, Nummela S, Coop S, Disney A, **Mitchell J**, and Miller T (2016). 'Viral expression and optogenetic manipulation of neural circuits in marmosets'. *J. Neurophysiology,* 116(3), 1286-94.

9. **Mitchell, JF**, Priebe, NJ, & Miller, CT (2015). Motion dependence of smooth pursuit eye movements in the marmoset. *Journal of neurophysiology*, *113*(10), 3954-3960.

10. Chow, CP*****, **Mitchell, JF***, and Miller, CT (2015). Vocal turn-taking in a non-human primate is learned during ontogeny. *Proceedings of the Royal Society of London B: Biological Sciences*, *282*(1807), 20150069.

11. **Mitchell JF**, Boisvert CR, Reuter JD, Reynolds JH, Leblanc M (2014). 'Correction of refractive errors in rhesus macaques (Macaca mulatta) involved in visual research.' *Comparative Med.* 64(4):300-8.

12. **Mitchell JF**, Reynolds JH, and Miller CT (2014). 'Active vision in marmosets: a model system for visual neuroscience.' *J Neuroscience,* 34(4): 1184-93.

13. Anderson EB, **Mitchell JF** and Reynolds JH (2013). 'Attention-dependent reductions in burstiness and action potential height in macaque area V4'. *Nature Neuroscience,* 16(8):1125-31.

14. Nandy AS, Sharpee T, Reynolds JH, and **Mitchell JF** (2013). 'The fine structure of shape tuning in area V4'. *Neuron* 78(6):1102-15.

15. Sundberg KA, **Mitchell JF**, Gawne TJ and Reynolds JH (2012). 'Attention influences single unit and local field potential response latencies in visual cortical area V4'. *J Neuroscience,* 32:16040-50.

16. Anderson EB, **Mitchell JF**, and Reynolds JH (2011). 'Attentional modulation of firing rate varies with burstiness across putative pyramidal neurons in macaque visual area V4'. *J. Neuroscience,* 31:10983-92.

17. Ciaramitaro VM, **Mitchell JF**, Stoner GR, Reynolds JH, and Boynton GM (2010). 'Object-based attention to one of two superimposed surfaces alters responses in human early visual cortex'. *J. Neurophysiology,* 105: 1258-65.

18. **Mitchell JF**, Sundberg KA, and Reynolds JH (2009). 'Spatial attention decorrelates intrinsic activity fluctuations in macaque area V4'. *Neuron,* 63:879-888.

19. Sundberg KA, **Mitchell JF**, and Reynolds JH (2009). 'Spatial attention modulates center-surround interactions in macaque visual area V4'. *Neuron,* 61:1-12.

20. Khoe W, **Mitchell JF**, Reynolds JH and Hillyard, SA (2008). 'ERP evidence that surface-based attention biases interocular competition during rivalry'. *Journal of Vision,* 8(3):18.1-11.

21. **Mitchell JF**, Sundberg KA, and Reynolds JH (2007). 'Differential attention-dependent response modulation across cell classes in macaque visual area V4'. *Neuron,* 55: 131-141.

22. Khoe W, **Mitchell JF**, Reynolds JH and Hillyard, SA (2005) 'Exogenous attentional selection of transparent superimposed surfaces modulates early event-related potentials'. *Vision Research,* 45(24):3004-14

23. **Mitchell JF**, Stoner GR and Reynolds JH (2004) 'Object-based attention in binocular rivalry'. *Nature,* Vol 429:410-413.

24. **Mitchell JF**, Stoner GR, Fallah M, and Reynolds JH (2003) 'Attentional selection of superimposed surfaces cannot be explained by modulation of the gain of color channels.' *Vision Research,* 43(12):1323-8.

25. **Mitchell JF**, Zipser D (2003) 'Sequential memory-guided saccades and target selection: A neural model of the frontal eye fields.' *Vision Research,* 43:2669-95.

26. **Mitchell JF**, Zipser D (2001) 'A model of visual-spatial memory across saccades.' *Vision Research,* 41:1575-92.

27. Czeisler CA, Duffy JF, Shanahan TL, Brown EN, **Mitchell JF**, Rimmer DW, Ronda JM, Silva EJ, Allan JS, Emens JS, Dijk DJ, Kronauer RE (1999) 'Age-independent stability, precision, and near-24-hour period of the human circadian pacemaker.' *Science,* 284:1-5.

28. Vassilev PM, **Mitchel JF**, Vassilev M, Kanazirska M, Brown EM (1997) 'Assessment of frequency-dependent alterations in the level of extracellular Ca^{2+} in the synaptic cleft.' *Biophysical Journal,* 72:2103-6.

Peer-reviewed Review Articles

1. **Mitchell JF**, Yates JL (invited, in preparation). 'Promises and limitations of marmosets for vision research.' *Annual Review of Vision Science, 2023*.

2. Miller CT, Friewald W, Leopold DA, **Mitchell JF**, Silva AC, Wang XJ (2016). 'Marmosets: A Neuroscientific Model of Human Social Behavior.' *Neuron,* 90, 219-33.

3. **Mitchell, JF**, Leopold, DA (2015). 'The marmoset monkey as a model for visual neuroscience.' *Neuroscience Research, 93,* 20-46.

4. Belmonte, J.C.I., Callaway, E.M., Churchland, P., Caddick, S.J., Feng, G., Homanics, G.E., Lee, K.F., Leopold, D.A., Miller, C.T., **Mitchell, J.F.** and Mitalipov, S. (2015). 'Brains, genes, and primates.' *Neuron*, *86*(3), pp.617-631.

5. Stoner GR, **Mitchell JF**, Fallah M and Reynolds JH (2005). 'Interacting competitive selection in attention and binocular rivalry.' *Progress in Brain Research,* 14:227-34.

Invited Book Chapters

1. **Mitchell, JF**, Leopold, DA (2018). '*The marmoset monkey as a model for visual neuroscience.*' In The Common Marmoset in Captivity and Biomedical Research, edited by Robert P. Marini, Elsevier, Inc.

2. Leopold DA, **Mitchell JF**, Freiwald WA (2017). '*Evolved Mechanisms of High-Level Visual Perception in Primates.*' In Evolution of Nervous Systems, 2nd Edition, edited by Jon H. Kaas, Elsevier, Inc.

Invited Talks, Colloquiums, and Tutorials

2022 - GRC Meeting, Neurobiology of Cognition, Maine
Neural mechanisms of active vision and foveal prediction

Simian Collective Meeting, San Diego, CA
Neural mechanisms of active vision

2019 - Neuroscience Seminar, Maryland University, College Park, MD
Neural mechanisms of pre-saccadic attention in marmoset monkeys

Neuroscience Seminar, Yale University, New Haven, CT
Neural mechanisms of pre-saccadic attention in marmoset monkeys

Neural Computation Institute Seminar, University of Pennsylvania, PA
Neural mechanisms of pre-saccadic attention in marmoset monkeys

2018 - Marmoset PI Meeting, Boulder, CO
Organizers: Kuo-Fen Lee (Salk) and Cory Miller (UCSD)
Discussions to standardize care and use of marmoset in research

2017 - Marmoset Social Event, Society for Neuroscience, Washington, DC
Challenges in establishing a marmoset research program

Vision Course Seminar, Banbury Center, Cold Springs Harbor, NY
Neural mechanisms of attention and the marmoset as a model system

Center for Perceptual Systems (CPS) Seminar, Austin, TX
Neural mechanisms of attention and the marmoset as a model system

2016 - Neurosciences Graduate Program Seminar, Rochester, NY
Neural mechanisms of attention and the marmoset as a model system

2015 - Neuroscience Seminar, University of Western Ontario, Canada
Active vision in marmosets: a model for visual neuroscience.

The Common Marmoset as a Transgenic Model of the Human Brain in Health, Janelia Farm, Washington, DC.
Active vision in marmosets: a model for visual neuroscience.

Japanese Meeting on Marmoset Neuroscience, Inuyama, Japan
Active vision in marmosets: a model for visual neuroscience.

Special Seminar, Center for Visual Sciences, Rochester, NY
Active vision in marmosets: a model for visual neuroscience.

2014 - Marmoset social, The Society for Neuroscience, Washington, DC
Visual behavioral experiments in awake marmosets.

Neuroscience Search Seminar, Cambridge University, England
Active vision in marmosets: a New World for visual neuroscience

Laboratory of Sensorimotor Research, NIH, Bethesda, MD
Active vision in marmosets: a New World for visual neuroscience

Krieger Brain & Mind Institute Seminar, Johns Hopkins, Baltimore, MD
Active vision in marmosets: a New World for visual neuroscience

Physiology Search Seminar, University of Arizona, Tucson, AZ
Active vision in marmosets: a New World for visual neuroscience

Neuroscience Seminar, Pittsburgh University, Pittsburgh, PA
Active vision in marmosets: a New World for visual neuroscience

Neuroscience Search Seminar, Baylor University, Houston, TX
Active vision in marmosets: a New World for visual neuroscience

Neuroscience Search Seminar, Brain and Cognitive Sciences, Rochester, NY
Active vision in marmosets: a New World for visual neuroscience

2013 - Transgenic models of the human brain. Cricks-Jacobs Symposium, La Jolla, CA
Active vision in marmosets: a New World for visual neuroscience.

Invited seminar: Dr. Erika Sasaki and Hideyuki Okano, Keio University, Japan
Mechanisms of attention and the marmoset as a model for visual neuroscience.

Attention and Learning Neuroscience Satellite Meeting, La Jolla, CA
Neural mechanisms of spatial attention: reductions of ongoing cortical activity.

Physiology Dept. Seminar, Monash University, Melbourne, Australia
Active vision in marmosets: a New World for visual neuroscience.

Gordon Research Conference, Stonehill College, Easton, MA
The role of attention feedback in sensory processing.

Psychology Seminar, University of Arizona, Tucson, AZ.
Neural mechanisms of attention.

Psychology Seminar, Psychology Dept, UCSD, La Jolla, CA.
The marmoset as a primate model for visual neuroscience.

Neuroscience Special Seminar, Psychology Dept, Vanderbilt U., Nashville, TN.

The role of attention feedback in sensory processing.

Neurobiology Seminar Series, Zilke Institute, USC, Los Angeles, CA.
The role of attention feedback in sensory processing.

2012 - Swartz Foundation Research Retreat, La Jolla, CA.
A network model of attention-dependent reductions of correlated noise.

2010 - Special Seminar, Neurosciences Institute, La Jolla, CA
Spatial attention decorrelates intrinsic noise fluctuations

2009 - COSYNE Workshop, 'Modulation of cortical state', Snowbird, UT
Spatial attention decorrelates intrinsic noise fluctuations

Conference Oral Presentations (within 5 years)

1. *Abrham Y, Yates JL, Mitchell JF. Dynamic visual processing in post-saccadic V1 visual responses of the marmoset monkey. To be presented at Society for Neuroscience (SFN), November, 2022.
2. *Coop SH, Sarch G, Yates JL, Mitchell JF. Laminar organization of pre-saccadic attention in marmoset area MT. Vision Sciences Society Talk, May, 2022.
3. *Mitchell JF, Yates JL, Coop SH. Neural circuits for pre-saccadic attention (and active vision) in the marmoset monkey. Vision Sciences Society Talk, May, 2021.
4. *Coop SH, Yates JL, Mitchell JF. Foveal remapping of motion in area MT of the marmoset monkey. Vision Sciences Society Talk, May, 2021.
5. *Yates JL, Coop SH, Sarch G, Wu R, Butts DA, Rucci M, Mitchell JF. Beyond fixation: foveal receptive field estimation in freely viewing primates. Vision Science Society Talk, May, 2020.
6. *Coop SH, Yates JL, Mitchell JF. Presaccadic attention in marmoset area MT. The Marmoset BioSymposium, October, 2019.
7. *Yates JL, Coop SH, Mitchell JF. V1 neurons tuned for high spatial frequencies show pre-saccadic enhancement. Vision Science Society Talk, May, 2019.

Conference Poster Presentations (within 5 years)

1. Shaw L, Padmanabhan K, Mitchell JF, Wang KH. Intersectional optogenetics for excitation and inhibition of cortico-cortical projections in the mouse and marmoset brain. To be presented at Society for Neuroscience (SFN), November, 2022.
2. Bucklaew A, Coop SC, Sarch G, Mitchell JF. Laminar and cell class distinctions for pre-saccadic attention in marmoset MT/MTC. To be presented at Society for Neuroscience (SFN), November, 2022.

3. Hangen H, Coop SH, Mitchell JF. Laminar organization and diversity of area MT receptive fields in the marmoset. Vision Sciences Society, May 2022
4. Bucklaew A, Coop SH, Mitchell JF. Comparison of visual tuning and pre-saccadic attention modulation between area MT and MTC of the marmoset monkey. Vision Sciences Society, May 2022
5. Shaw LH, Mitchell JF, Wang KH. Do marmosets reach predictively for moving targets? Society for Neuroscience, Chicago, 2021.
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Research and Work-Related Experiences

1994-95: Scientific Programmer, Brigham Women's Hospital, Harvard University
Analysis of semi-periodic signals in noisy time-series
Supervisors: Richard Kronauer and Emery Brown

1993-94: Senior Undergraduate Thesis, Electrical Engineering, Harvard University
Differential equations and multi-compartment models of single neurons
Advisor: Richard Kronauer

1992: Scientific Programmer and Research Assistant, NOAA, Asheville, NC
Analysis of geographic information data and precipitation patterns
Advisor: Alan McNab