Jason G. Fleischer

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Appointments

University of California San Diego La Jolla, California
Assistant Teaching Professor July 2020 - present

The Salk Institute for Biological Sciences La Jolla, California
Data Scientist, Integrative Biology Laboratory May 2017 - July 2020

University of California San Diego La Jolla, California
Lecturer, Psychology & Cognitive Science Jun 2016 - Jun 2017

The Neurosciences Institute La Jolla, California
Senior Fellow Jun 2009 - Jun 2016
Research Fellow Oct 2007 - Aug 2009
Postdoctoral Fellow Feb 2004 - Sep 2007

Albert-Ludwigs-Universität Freiburg, Germany
Visiting Researcher Jul 2003 - Jan 2004

Education

Ph.D. 2004 Computer Science, The University of Manchester, UK
Supervisors: Jonathan L. Shapiro, Ulrich D.F. Nehmzow
Thesis: "Self-organized symbol meanings for route communication between mobile robots."

M.S. 1999 Mechanical Engineering, Colorado State University, USA
Advisor: Wade O. Troxell
Thesis: "Biomimetic design of a cooperative mobile robot system for a foraging task."

B.S. 1997 Mechanical Engineering, Colorado State University, USA
Advisor: Susan P. James
Thesis: "The Advanced Wear Tester: A large-cycle gait simulator for the testing of artificial hip designs."

Peer reviewed journal articles

GP Dunster, I Hua, A Grahe, JG Fleischer, S Panda, KP Wright Jr, C Vetter, JH Doherty, HO de la Iglesia (2023) Daytime light exposure is a strong predictor of seasonal variation in sleep and circadian timing of university students. *J Pineal Res.* 74(2):e12843.

ENC Manoogian, A Zadourian, HC Lo, NR Gutierrez, A Shoghi, A Rosander, A Pazargadi, CK Ormiston, X Wang, J Sui, Z Hou, **JG Fleischer**, S Golshan, PR Taub, S Panda (2022) Feasibility of time-restricted eating and impacts on cardiometabolic health in 24-h shift workers: The Healthy Heroes randomized control trial. *Cell Metabolism*, 34(10):1442-1456.e7

JG Fleischer, SK Das, M Bhapkar, ENC Manoogian, S Panda (2022) Associations between the timing of eating and weight-loss in calorically restricted healthy adults: Findings from the CALERIE study. *Exp Gerontol.*, 165:111837.

ENC Manoogian, A Zadourian, HC Lo, NR Guitierrez, A Shoghi, A Rosander, A Pazargadi, X Wang, **JG Fleischer**, S Golshan, PR Taub, S Panda. (2021) Protocol for a randomised controlled trial on the feasibility and effects of 10-hour time-restricted eating on cardiometabolic disease risk among career firefighters doing 24-hour shift work: the Healthy Heroes Study. *BMJ Open*, 11(6):e045537.

L Chow, ENC Manoogian, A Alvear, **JG Fleischer**, H Thor, K Dietsche, Q Wang, JS Hodges, KS Nair, S Panda, DG Mashek. (2020) Effects of time restricted eating on body composition and metabolic measures in overweight humans: a randomized trial. *Obesity*, 28: 860–869.

MJ Wilkinson, ENC Manoogian, A Zadourian, H Loa, S Fakourib, A Shoghib, **JG Fleischer**, S Navlakha, S Panda, PR Taub. (2019) Ten-hour time-restricted eating reduces weight, blood pressure, and atherogenic lipids in patients with metabolic syndrome. *Cell Metabolism*, 31(1):92-104.e5
Media: NPR — CBS This Morning — MD Magazine — The Conversation

AT Hutchison, P Regmi, ENC Manoogian, **JG Fleischer**, GA Wittert, S Panda, LK Heilbronn. (2019) Time-restricted feeding improves glucose tolerance in men at risk of type 2 diabetes: a randomized crossover trial. *Obesity*, 27:724–732.

JG Fleischer, R Schulte, HH Tsai, S Tyagi, A Ibarra, MN Shokhirev, L Huang, MW Hetzer, S Navlakha (2018). Predicting age from the transcriptome of human dermal fibroblasts. *Genome Biology*, 19:221.
Media: San Diego Union-Tribune — Tech Times — Pew Trusts

GP Dunster, L de la Iglesia, M Ben-Hamo, C Nave, **JG Fleischer**, S Panda, HO de la Iglesia (2018). Sleepmore in Seattle: Later school start times are associated with more sleep and better performance in high school students. *Science Advances*, 4 (12), eaau6200.
Media: NPR — NBC News — Washington Post — Seattle Magazine

JL McKinstry, **JG Fleischer**, Y Chen, WE Gall, GM Edelman (2016). Imagery may arise from associations formed through sensory experience: a network of spiking neurons controlling a robot learns visual sequences in order to perform a mental rotation task. *PLOS One*, 11(9): e0162155.

JG Fleischer and GM Edelman (2009). Brain-based devices: An embodied approach to linking nervous system structure and function to behavior. *IEEE Robotics & Automation Magazine*, 16(3):33–41.

JG Fleischer and JL Krichmar (2007). Sensory integration and remapping in a medial temporal lobe model during maze navigation by a brain-based device. *Journal of Integrative Neuroscience*, 6(3):403–431.

JG Fleischer, JA Gally, GM Edelman, and JL Krichmar (2007). Retrospective and prospective responses arising in a modeled hippocampus during maze navigation by a brain-based device. *Proceedings of the National Academy of Sciences USA*, 104(9):3556–3561.

DA Nitz, WJ Kargo, and **JG Fleischer** (2007). Dopamine signaling and the distal reward problem. *Neuroreport*, 18(17):1833–1836.

JL Krichmar, AK Seth, DA Nitz, **JG Fleischer**, and GM Edelman (2005). Spatial navigation and causal analysis in a brain-based device modeling cortical-hippocampal interactions. *Neuroinformatics*, 3(3):197–222.

Refereed conference

JG Fleischer (2014). Persistent activity through multiple mechanisms in a spiking network that solves DMS tasks. Abstract and poster at *Computational and Systems Neuroscience Meeting (COSYNE)*

JG Fleischer and AE Kozarev (2012). Perceptual grouping and figure-ground segregation arising from short-term plasticity in a spiking network. Abstract and poster at *Computational and Systems Neuroscience Meeting (COSYNE)*

JG Fleischer, B Szatmáry, DB Hutson, DA Moore, JA Snook, GM Edelman, and JL Krichmar (2006). A neurally controlled robot competes and cooperates with humans in Segway Soccer. In *Proceedings of the IEEE International Conference on Robotics and Automation*, pp.3673–3678

B Szatmáry, **JG Fleischer**, DB Hutson, DA Moore, JA Snook, GM Edelman, and JL Krichmar (2006). A Segway-based human-robot soccer team. In *Proceedings of the IEEE International Conference on Robotics and Automation*, pp.4436–4438.

Other conference and preprints

X Wang, ENC Manoogian, **JG Fleischer**, and S Panda (2019) Novel Methods to Visualize Circadian Data. Poster at *Fall Workshop on Biological Timing*, Center for Circadian Biology, University of California San Diego.

JG Fleischer, R Schulte, HH Tsai, S Tyagi, A Ibarra, MN Shokhirev, L Huang, MW Hetzer, S Navlakha, J Mertens, and R Gage (2019) Predicting age from the transcriptome of human dermal fibroblasts both within and across datasets. Poster at *The Salk Institute Integrative Biology Syposium*

JG Fleischer and JA Gally (2013). A spiking neural network model of working memory can solve delayed match-to-sample tasks and displays a serial position effect. Poster at *The Society for Neuroscience Annual Meeting*

JG Fleischer, JA Gally, GM Edelman, and JL Krichmar (2007). Different neural pathways lead to journey-dependent and journey-independent place cell activity in an embodied model of hippocampus. Poster at *The Society for Neuroscience Annual Meeting*

JG Fleischer (2004). Imitation is not enough for lexicon learning In *Proceedings of the Eighth International Conference on Simulation of Adaptive Behavior*, pp.477–486.

JG Fleischer and SR Marsland (2002). Learning to autonomously select landmarks for navigation and communication. In *Proceedings of the Seventh International Conference on Simulation of Adaptive Behavior*, pp. 151–160.

JG Fleischer and UDF Nehmzow (2001). Towards robots that give each other navigational directions: Learning symbols for perceptual categories. In *Proceedings of the 3rd British Conference on Autonomous Mobile Robotics and Autonomous Systems*. Dept. of Computer Science, University of Manchester Technical Report UMCS-01-4-1.

JG Fleischer and WO Troxell (1999). Biomimicry as a tool in the design of robotic systems. In *Proceedings of the 3rd International Conference on Engineering Design and Automation*. Integrated Technology Systems, Prospect, KY.

Book chapters

JG Fleischer, JL McKinstry, DE Edelman, and GM Edelman (2011). The case for using Brain-Based Devices to study consciousness. In, JL Krichmar and H Wagatsuma (Eds.), *Neuromorphic and Brain-Based Robots: Trends and Perspectives*, Cambridge University Press, pp. 303–320.

JG Fleischer (2007). Neural correlates of anticipation in cerebellum, basal ganglia, and hippocampus. In, MV Butz, O Siguard, G Baldassarre, G Pezzulo (Eds.),, *Anticipatory Behavior in Adaptive Learning Systems: From Brains to Individual and Social Behavior*, Lecture Notes in Artificial Intelligence. vol 4520, pp.19–34.

JG Fleischer, SR Marsland, and JL Shapiro (2003). Sensory anticipation for autonomous selection of robot landmarks. In, MV Butz, O Siguard, P Gerard (Eds.), *Anticipatory Behavior in Adaptive Learning Systems: Foundations, Theories, and Systems*, Lecture Notes in Artificial Intelligence. vol 2684, pp.201–221.

Other writing and media

JG Fleischer Social distancing has probably saved more than 1,200 lives in San Diego County, OpEd in San Diego Union-Tribune, 2020-04-03.

Smart Talk on the 'Intelligence Explosion', interview on the limits and ethics of Artificial Intelligence, Voice of San Diego, 2009-06-31.

Patents

JG Fleischer, B Szatmáry, DB Hutson, DA Moore, JA Snook, GM Edelman, JL Krichmar (2005) *Hybrid control device.* U.S. Patent # 8583286, priority date September 13, 2005, granted Nov 12, 2013.

Teaching

UC San Diego, *2016 - present*

- Spring 2023 COGS 118A Supervised Machine Learning, 2 TAs, 3 IAs, 160 students
- Spring 2023 CCOGS 108 Data Science in Practice, 3 TAs, 5 IAs, 433 students
- Winter 2023 COGS 118A Supervised Machine Learning, 2 TAs, 4 IAs, 184 students
- Winter 2023 COGS 18 Introduction to Python, 3 TAs, 6 IAs, 345 students
- Fall 2022 COGS 18 Introduction to Python, 3 TAs, 6 IAs, 375 students
- Fall 2022 COGS 108 Data Science in Practice, 3 TAs, 7 IAs, 450 students
- Summer 2022 CSS 202S Computational Social Sciences Technical Bootcamp, 1 TA, 14 students
- Spring 2022 COGS 108 Data Science in Practice, 3 TAs, 6 IAs, 450 students
- Spring 2022 COGS 118A Supervised Machine Learning, 3 TAs, 3 IAs, 226 students
- Winter 2022 COGS 118A Supervised Machine Learning, 3 TAs, 4 IAs, 235 students
- Fall 2021 COGS 108 Data Science in Practice, 3 TAs, 3 IAs, 5 IAs, 450 students
- Fall 2021 COGS 9 Introduction to Data Science, 3 TAs, 3 IAs, 355 students
- Spring 2021 COGS 9 Introduction to Data Science, 3 TAs, 2 IAs, 226 students
- Winter 2021 COGS 118A Supervised Machine Learning, 2 TAs, 2 IAs, 193 students
- Fall 2020 COGS 118A Supervised Machine Learning, 2 TAs, 2 IAs, 95 students
- Fall 2020 COGS 9 Introduction to Data Science, 3 TAs, 2 IAs, 355 students
- Spring 2017 COGS 9 Introduction to Data Science, 3 TAs, 185 students
- Summer 2016 PSYC 142 Psychology of Consciousness, 1 TA, 29 students

The Neurosciences Institute, *2004 – 2016.* While NSI is not a degree-granting institution, I maintained my commitment to teaching in practical settings. From 2009-2012 I lectured twice a year for a half-day program that familiarized each incoming class of DARPA interns with computational neuroscience. I participated in many community lecture series that demystify science for different groups of school children, adults, and senior citizens.

University of Manchester, *1999 – 2003*. As a graduate student I created and taught lectures, created course materials, ran hands-on laboratory sessions, helped students, and marked student work in the following classes:

CS201	Algorithms and Data Structures	CS643	Machine Learning
CS202	Imperative programming in C	CS648	Neural Networks
CS503	System Software	CS649	Mobile Robotics

Colorado State University, *1997 –1999*. As a graduate student I ran laboratory classes, created and taught lectures, constructed assignments for students, and graded assignments.

ME325	Machine Design and Manufacturing	EE411	Control Systems
ME417	Digital Control Systems		

Mentorship

Yunjia (Scott) Yang, undergrad IA & RA *2021 - present*
mentored in ML, professional skills, and successful application for UR scholarship

Tyler Tran, undergrad RA *2021 - present*
mentored in data science, professional skills, and successful application for UR scholarship

Jiayi (Viki) Zhao, undergrad IA & RA *2021 - present*
mentored in ML, data science, professional skills, and successful application for UR scholarship

Jialu Sui, undergraduate RA *2020 - 2022*
mentored in data science, professional skills, and successful applications for UR scholarship and grad school

Xinran (Katherine) Wang, undergraduate intern *2018 - 2020*
mentored in data science, professional skills, and successful grad school application

Zhaoyi (Joey) Hou, undergraduate intern *2019 - present*
mentored in data science and professional skills

Javier How, Ph.D. student *2017 - present*
mentored in statistics, machine learning and professional skills

Sophie Aimon, postdoc *2017 - 2019*
mentored in writing and navigating the job market

Sam Sultan, technician *2017 - 2019*
mentored in statistics, machine learning, professional skills, and successful application to grad school

Kearney Mesa High School FIRST robotics team *2012 - 2013; 2016*
mentored in programming, logic, presentation making, and professional skills. I was co-lead of the programming team with 6 students in each year of the program, 3 of which were females we specifically encouraged to take up lead technical rather than supporting roles.

Alexander Kozarev, technician *2010 - 2013*
mentored in computational neuroscience, machine learning, professional skills, and in a successful application to grad school

Thomas Allen, technician *2006 - 2011*
mentored in computational neuroscience, probabilistic machine learning for robotics, professional skills, and in a successful application to grad school

Service Reviewer for the National Science Foundation (CRCNS) and the journals: Adaptive Behavior, Neural Networks, PLOS One, Frontiers in Computational Neuroscience, Frontiers in Neurorobotics, IEEE Transactions on Robotics, IEEE Transactions on Autonomous Mental Development

Program committee member for conferences: Computational and Systems Neuroscience (2012–2013), Simulation of Adaptive Behavior (2008–2010), International Neural Network Society (2008), Anticipatory Behavior in Adaptive Learning Systems (2004–2008), Towards Intelligent Mobile Robots (2001).

Invited talks Neurosci Dept Colloquium SUNY Downstate (2014), Air Force Research Labs Colloquium (2013), HRL DARPA SyNAPSE (2010–2012), DARPA Neural Engineering, Science, and Technology Meeting (2010), DARPA Interns Education Program (4 times a year, 2009–2012), Minding the Brain (an annual scientific event for donors and the general public, 2008 – 2011), Informatik Dept Colloquium Albert-Ludwigs-Universität (2003), Anticipatory Behavior in Adaptive Learning Systems (2002).

Awards and Honors 2003 Duetscher Academischer Austausch Dienst (DAAD) Fellowship
1999–2002 American/Canadian Citizens Scholarship - Manchester University
1999–2002 ATLAS Prestige Scholarship - Manchester University
1998–1999 Maxtor Corporation Scholarship - Colorado State University
1997 NASA/CEISS Scholarship in Engineering Science
1997 Inducted into Order of the Engineer
1995 Inducted into Pi Tau Sigma, The National Mechanical Engineering Honor Fraternity. Served as Secretary of the Tau Psi chapter.