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

ENC Manoogian, MJ Wilkinson, M O'Neal, K Laing, J Nguyen, D Van, A Rosander, A Pazargadi, NR Gutierrez, JG Fleischer, S Golshan, S Panda, PR Taub (2024) Time-restricted eating in adults with metabolic syndrome: a randomized controlled trial. *Annals of Internal Medicine* 177 (11), 1462-1470

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.

Peer reviewed 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.

Abstracts, talks and posters

O Carrioli, A Camassa, D Greene, T Sejnowski, JG Fleischer (2025) Decoding Preadolescent Anxiety with Machine Learning Insights from Neuroimaging Data. Abstract and poster at Society for Neuroscience Meeting

JG Fleischer (2024) Tools for automating project-based data science classes with hundreds of students. Abstract and talk at Go Big or Go Home: Innovations in Large Scale Assessment Practice, a workshop at the Joint Statistical Meetings

T Tran, EM Manoogian, Z Hou, S. Varney, J Sui, K Liang, JG Fleischer, S Panda (2025) The diversity and consistency of what and when people eat. Abstract and talk at the 28th Congress of the European Biological Rhythms Society

JG Fleischer and Y Yang (2025) Canvas - GitHub - JupyterHub integration tools for programming classes. Abstract and poster at UC Professors of Teaching Conference.

S Panda, J Sui, JG Fleischer, ENC Manoogian (2023) myCircadianClock-a smartphone app to monitor and optimize daily eating patterns. *Annals of Nutrition and Metabolism* 79:87-87.

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 2025 COGS 108, 2 sections totaling 7 TAs, 7 IAs, 730 students
- Winter 2025 COGS 188 AI Algorithms, 1 TA, 1 IA, 108 students
- Fall 2024 COGS 108, 2 sections totaling 8 TAs, 8 IAs, 833 students
- Spring 2024 COGS 188 AI Algorithms, 2 TAs, 1 IA, 99 students
- Spring 2024 COGS 108 Data Science in Practice, 4 TAs, 6 IAs, 441 students
- Spring 2024 COGS 87 Freshman Seminar, 20 students
- Winter 2024 COGS 118B Unsupervised Machine Learning, 2TAs, 4 IAs, 211 students
- Winter 2024 COGS 18 Introduction to Python, 3 TAs, 8 IAs, 308 students
- Fall 2023 COGS 108, 2 sections totaling 7 TAs, 5 IAs, 730 students
- Fall 2023 COGS 87 Freshman Seminar, 20 students
- 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
- Fall 2022 COGS 87 Freshman Seminar, 20 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

Mentorship

PhD student research

2023	Annapurna Vadaparty	Design of training for TAs in programming courses

MS student research

2024–25	Reuben Chatterjee	Advising on side project analysing COGS 108 pedagogical experiment data
2024–25	Yawen Dong	CSS Capstone advisor on data dashboard for the McGovern-Dole Food for Education Program
2023–24	Pooja Pathak	Analysis of racial disparities in San Diego's justice system
2021	Huy Tranh Ngiem	STARS scholarship, Leveraging implicit information in deep learning language models to build knowledge graphs of the scientific literature

Undergraduate honors thesis

2024–25	Olimpia Carrioli	Decoding Preadolescent Anxiety with Machine Learning Insights from Neuroimaging Data
2024–25	Tairan Liu	Gender Inequality in English Textbooks Around the World: an NLP Approach
2023–24	Lobna Kebir	One-shot learning with transformer networks for EEG prediction
2023–24	Anna Sim	Using microscopy data about mitochondria to predict cell state

Undergraduate student research

2024–25	Jaden Clarke	Particle Swarm Optimization with applications to pedestrian traffic microsimulation
2023–24	Dhathry Doppalapudi	Instructional software for an unsupervised machine learning class
2023–24	Van Nguyen	Racial disparities in sentencing in California prisons
2023–24	Girish Krishnan	Design and implementation of interactive lab exercises
2022–23	Scott Yang	TRELS scholarship
2022–23	Viki Zhao	Chancellor's Research Scholarship
2022–23	Sreetama Chowdhury	
2022	Ruoxuan Li	
2022	Sahithi Chimmula	
2022	Donovan Cronkhite	
2022	Sneha Panda	
2022	Samuel Chu	TRELS scholarship
2022	Benjamin Chen	
2021–22	Qiwen Zhang	
2021–23	Tyler Tran	MADURA scholarship
2021–22	Jialu Sui	Physical Sciences scholarship
2021	Aoxi Li	
2021	Bernardo Martinez	STARS scholarship
2021	Bao Nguyen	
2021	Richard Li	
2019–20	Joey Hou	
2018–20	Katherine Wang	

Other mentorship

2024–25	Derrick Chen	Informal mentor for startup company
2022-23	Adelynn Lefavre-Bailey	Marshall Mentor Program

Supervised 18 students in 32 quarters of their COGS/AIP 197 internships

Service

University
2020 – present Department representative to the Academic Senate
2021 Senate Committee on Undergraduate Scholarships and Honors
2024 – 2025 Reviewer for Undergraduate Research Scholarship

Division
2021–22 Member, Computational Social Sciences LPSOE search committee
2022 Ran week-long data visualization and machine learning workshops for Computational Social Sciences Bootcamp

Department
2020–21 Member, temporary lecturer search committee
2021–22 Member, LPSOE promotion and tenure standards committee
2021–22 Undergraduate Advisor
2022–23 Member, Combined program review committee
2022–23 Member, Biological Computation faculty search committee
2023 Ran computational workshop for COGS Ph.D. Bootcamp
2023 – 24 Participated in department MSO search interviews
2023 – 24 Chair, review committee for Mary Boyle's promotion to Senior Lecturer

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

JSM Symposium on Large-scale Teaching (2025), 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.