ORHAN SOYUHOS

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Education

University of California - Davis, United States Sep 2022–Jul 2027 (expected)
Ph.D. candidate, Psychology
Designated Emphasis in Neuroengineering
Advisor: Xiaomo Chen | Committee: Rishidev Chaudhuri, John M. Henderson

University of Trento, Italy Sep 2019–Mar 2022
M.Sc., Cognitive Science
Advisor: Daniel Baldauf
Thesis: *Functional connectivity fingerprints of frontal eye field and inferior frontal junction*

Bogazici University, Turkey Sep 2014–Jan 2019
B.A., Philosophy (Honors student)
Erasmus+ exchange at KU Leuven, Belgium (2017)

Research Experience

Graduate Researcher | *Cognitive Control Lab, UC Davis* Aug 2023–Present
Mentor: Xiaomo Chen, Ph.D.
Project 1: *Selective modulation of neuronal dynamics in the frontal eye field during parietal inactivation.*
Project 2: *Meaning-based attention in non-human primates during free-viewing of naturalistic scenes.*

Research Assistant | *Attention Network Group, CIMeC* Apr 2022–Aug 2022
Mentor: Daniel Baldauf, Ph.D.
Project: *Intrinsic fMRI and MEG connectivity profiles of the face vs. scene processing networks.*

Research Intern | *Object Vision Group, CIMeC* Jan 2022–Mar 2022
Mentor: Stefania Bracci, Ph.D.
Project: *Object versus scene representations in deep neural networks using representational similarity analysis.*

Research Intern | *Attention Network Group, CIMeC* Mar 2021–Mar 2022
Mentor: Daniel Baldauf, Ph.D.
Project: *Frequency-specific functional couplings of the frontal eye field vs. inferior frontal junction.*

Research Intern | *Donders Institute for Brain, Cognition, and Behaviour* Nov 2020–Feb 2021
Mentor: Yağmur Güçlütürk, Ph.D.
Project: *Naturalistic video reconstruction from fMRI and eye tracking with generative adversarial networks.*

Publications

Peer-reviewed publications

1. **Soyuhos, O.**, Chaudhuri, R., & Chen, X. (in press). Multi-timescale circuit dynamics as a framework for visual attention. *The Journal of Neuroscience.*
2. **Soyuhos, O.**, Zirnsak, M., Chaudhuri, R., & Chen, X. (2026). Selective control of prefrontal neural timescales by parietal cortex. *Nature Communications*, 17, 3687.
3. **Soyuhos, O.**, Scarpa, A., & Baldauf, D. (2026). Distinct resting-state connectomes for face and scene perception predict individual task performance. *Human Brain Mapping*, 47(5), e70498.
4. **Soyuhos, O.** & Baldauf, D. (2023). Functional connectivity fingerprints of the frontal eye field and inferior frontal junction suggest spatial versus nonspatial processing in the prefrontal cortex. *European Journal of Neuroscience*, 57(7), 1114–1140.

Manuscripts under review

5. **Soyuhos, O.**, Hayes, T. R., Hu, W., Hamel, T. P., Sevak, B., Henderson, J. M., & Chen, X. (2026). Meaning-based guidance of attention in rhesus monkeys during naturalistic scene viewing. *eLife*, 15.

Conference Presentations

Talks ** presenting author*

1. **Soyuhos, O.***, Zirnsak, M., Moore, T., Chaudhuri, R., & Chen, X. (2024). Posterior parietal inactivation alters intrinsic neural timescales and attentional processing in frontal eye field neurons. Bay Area Vision Research Day (BAVRD), Berkeley, CA, USA.

Posters

1. **Soyuhos, O.**, Zirnsak, M., Moore, T., Chaudhuri, R., & Chen, X.* (2026). Parietal cortex regulates visual salience representations and intrinsic timescales in the prefrontal cortex. Simian Collective (SimCo) conference, Pittsburgh, PA, USA.
2. **Soyuhos, O.***, Hayes, T. R., Hamel, T. P., Sevak, B., Hu, W., Henderson, J. M., & Chen, X. (2025). Meaning-based attentional guidance in macaques while viewing naturalistic scenes. Society for Neuroscience (SfN) annual meeting, San Diego, CA, USA.
3. Sevak, B.*, Hu, W., **Soyuhos, O.**, & Chen, X. (2025). Temporal dynamics and functional specialization of frontal oculomotor neurons. Society for Neuroscience (SfN) annual meeting, San Diego, CA, USA.
4. **Soyuhos, O.***, Hayes, T. R., Hamel, T. P., Sevak, B., Hu, W., Henderson, J. M., & Chen, X. (2025). Experience shapes naturalistic attentional control in non-human primates. Bay Area Memory Meeting (BAMM), Davis, CA, USA.
5. **Soyuhos, O.***, Zirnsak, M., Moore, T., Chaudhuri, R., & Chen, X. (2025). Selective control of prefrontal timescales and attentional modulation by parietal cortex. Annual Research Symposium of the Center for Neuroengineering and Medicine, Davis, CA, USA.
6. **Soyuhos, O.***, Zirnsak, M., Moore, T., Chaudhuri, R., & Chen, X. (2023). Inactivation of parietal cortex neurons increases the intrinsic timescales of the frontal eye field. Society for Neuroscience (SfN) annual meeting, Washington, D.C., USA.
7. Scarpa, A.*, **Soyuhos, O.**, & Baldauf, D. (2023). fMRI and MEG connectivity analyses of face- and scene-selective brain areas. Rovereto Attention Workshop (RAW), Rovereto, Italy.
8. **Soyuhos, O.** & Baldauf, D.* (2023). MEG connectivity fingerprints of the frontal eye field and inferior-frontal junction. Rovereto Attention Workshop (RAW), Rovereto, Italy.
9. **Soyuhos, O.*** & Baldauf, D. (2022). Functional connectivity fingerprints of frontal eye field and inferior frontal junction. Vision Sciences Society (VSS) annual meeting, Online.

Awards & Fellowships

UC Davis Victor and Meg Chan Graduate Student Award ($2k)	2026
UC Davis Summer Research Fellowship ($6k)	2026
UC Davis Graduate Student Association Travel Award ($1k)	2025
National Science Foundation Research Training NeuralStorm Fellowship ($55k)	2023–2024
Research Assistant Fellowship at CIMeC funded by the Fondazione Caritro ($2.5k)	2022
Erasmus+ Internship Grant ($4k)	2020–2021
Italian Ministry of Foreign Affairs and International Cooperation (MAECI) ($12k)	2019–2021
Erasmus+ Study Grant ($2k)	2017
Mehmet Zorlu Foundation Success Scholarship ($16k)	2014–2019

Research & Technical Skills

Experimental Methods: Primate Neurophysiology, fMRI, MEG/EEG, Eye-Tracking, and Psychophysics.

Computational Methods: Population Dynamics, Neural Decoding, RSA, Spectral Analysis, Functional Connectivity, Predictive Modelling, and Bayesian Statistical Modelling.

Programming: MATLAB, Python, and R.

Additional Training:

Deep Learning Specialization (DeepLearning.AI)	Dec 2020
Neural Networks in Neuroscience (UniTrento)	Dec 2020
Machine Learning (Stanford Online)	Mar 2018
Intro to CS and Programming Using Python (MITx)	Nov 2016

Teaching Experience

Guest Lecturer | *University of California - Davis* — Winter 2026

Cognitive Neuroscience (PSC 135): *Cognitive Control and Executive Functions*

Topics: executive functions, frontal-lobe case studies, prefrontal cortex, and working memory.

Teaching Assistant | *University of California - Davis* — 6 quarters

Data Visualization (PSC 012Y - Winter 2027); discussion sections, 2 h/week

Human Learning & Memory (PSC 130 - Spring 2026); discussion sections, 2 h/week

Cognitive Neuroscience (PSC 135 - Fall 2025 & Winter 2026)

Neurobiology (NPB 110B - Winter 2025); discussion sections, 3 h/week

Psychology of Emotion (PSC 154 - Winter 2023)

Mentorship

A. Mangla, M.S. Rotation Student, UC Davis	Fall 2026
Q. Ryan, Undergraduate Researcher, UC Davis	Spring 2026
M. Khanna, Ph.D. Rotation Student, UC Davis	Fall 2024
J. F. Zhu, Undergraduate Researcher, UC Davis, now M.S. student at Northwestern University	2023–2024
A. Scarpa, M.Sc. Student, University of Trento, now Ph.D. student at KU Leuven, Belgium Outcomes: poster (RAW, 2023) and paper (*Human Brain Mapping*, 2026)	2022–2023

Service & Outreach

Ad hoc reviewer: *Brain Structure and Function*, *Communications Biology*, *Imaging Neuroscience*	
Graduate student representative for Psychology, Graduate Studies Support Committee	2026
Q&A host, Psychology Diversity Breakfast for graduate recruitment	2024–2026
Volunteer at Neurofest: hosted an interactive booth on visual perception	2026
Onboarding presentation for incoming Neuroscience Ph.D. students	2024
Q&A panelist at NeuralStorm summer workshop	2024
Founding member, Bogazici University Behavioral Science Club	2014–2015