Juan Sergio Ponce de Leon
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RESEARCH INTERESTS

Consciousness science, philosophy of mind, artificial intelligence. Computational, philosophical, & empirical approaches.

EDUCATION

PhD, Cognitive and Information Sciences — 2021 – 2026 (expected)
University of California, Merced; School of Social Sciences, Humanities, and Arts
Dissertation (in preparation): Consciousness, complexity, and silent neurons: Philosophical and empirical investigations for integrated information theory (IIT)

MS, Cognitive and Information Sciences — 2025
University of California, Merced; School of Social Sciences, Humanities, and Arts

MS, Information — 2019
University of Michigan, School of Information
Specializations: Human-Computer Interaction; Information Analysis and Retrieval

Non-degree seeking coursework in mathematics & computer science — 2005, 2015
Washtenaw Community College

BS, Environment — 2008
University of Michigan; College of Literature, Science, and the Arts
Specialization: Urban and Environmental Planning

TRAININGS & WORKSHOPS

MESEC Winter School 2024 — March 19 – 23, 2024
Mediterranean Society for Consciousness Science

Special Advanced Course: Integrated Information Theory of Consciousness — September 8 – 17, 2023
Neuroscience School of Advanced Studies

9th Science Factory: TMS–EEG Summer School and Workshop — May 27 – June 2, 2023
Aalto University, School of Science, Department of Neuroscience & Biomedical Engineering

SPONSORED RESEARCH

BrainStorm Neuroscience Pitch Competition Semi-finalist — Jun 2025
Mind Science
Project: Does brain activity cause consciousness? A TMS experiment

Funding Consciousness Research with Registered Reports — Jan 2023 – Present
Templeton World Charity Foundation / Center for Open Science / ASSC
Project: Detecting differences in conscious contents using EEG complexity measures (Stage 1 IPA)
Amount: $31,932 USD

AWARDS

Student Poster Competition (2nd place) June 25, 2023
Association for the Scientific Study of Consciousness 26
Poster: Detecting differences in conscious contents using EEG complexity measures

PUBLIC TALKS (INVITED*)

Consciousness science: progress and problems, *Society for Brain Mapping and Therapeutics 21st Annual World Congress* (March 15, 2024).*

Detecting differences in conscious contents using EEG complexity measures, *University of California, Los Angeles Department of Psychology MontiLab* (December 11, 2023).*

Integrated information theory and the testability of the silent neuron predictions, *Monash University School of Psychological Sciences MoNoC/Tsuchiya Lab* (May 16, 2023).*

Does brain activity cause consciousness? A TMS experiment, *University of California, Merced Department of Cognitive and Information Sciences Weekly Brownbag* (April 10, 2023).

Simulating the perturbational complexity index at the edge of chaos, *University of California, Merced Department of Cognitive and Information Sciences Annual Project Mini-Conference* (May 9, 2022).

Philosophical and scientific foundations of integrated information theory, *University of California, Merced Cognitive and Information Sciences Weekly Brownbag* (April 25, 2022).

PUBLICATIONS

Ponce de Leon, S., Yoshimi, J. (in preparation). Does phenomenology support the axiomatic framework of integrated information theory (IIT).

Ponce de Leon, S., Yoshimi, J. (2025). Integrated information theory (IIT) and the testability of the silent neuron predictions. *Neuroscience of Consciousness*. [under review]

Ponce de Leon, S., Backer, K. C., Monti, M. M., & Yoshimi, J. (2025). Detecting differences in conscious contents using EEG complexity measures. *In principle acceptance of Version 3 by Peer Community in Registered Reports*. https://osf.io/kdsau

CONFERENCE POSTERS

Ponce de Leon, S., Yoshimi, J. Does phenomenology support the axiomatic framework of integrated information theory (IIT), *Association for the Scientific Study of Consciousness 28*, Heraklion, Crete (July 6 – 9, 2025).

Ponce de Leon, S., Yoshimi, J. Integrated information theory (IIT) and the testability of the silent neuron predictions, *Association for the Scientific Study of Consciousness 27*, Tokyo, Japan (July 2 – 5, 2024).

Ponce de Leon, S., Backer, K.C., Yoshimi, J. Detecting differences in conscious contents using EEG complexity measures, *Association for the Scientific Study of Consciousness 26*, New York, NY (June 23 – 25, 2023).

Ponce de Leon, S., Backer, K.C., Yoshimi, J. Detecting differences in conscious contents using EEG complexity measures, *9th Science Factory: TMS–EEG Summer School and Workshop*, Espoo, Finland (May 27 – June 2, 2023).

TEACHING ASSISTANTSHIPS

University of California, Merced

Philosophy of Cognitive Science – COGS 110/PHIL 110 (~45 students)	01/2025 – 05/2025
Introduction to Neural Networks in Cognitive Science – COGS 103 (~45 students)	08/2024 – 12/2024
Introduction to Phenomenology – PHIL 150 (~24 students)	01/2024 – 05/2024
Consciousness in Philosophy & Cognitive Science – COGS 177/PHIL 173 (55 students)	08/2023 – 12/2023
Philosophy of Cognitive Science – COGS 110/PHIL 110 (62 students)	01/2023 – 05/2023
Introduction to Neural Networks in Cognitive Science – COGS 103 (~30 students)	08/2022 – 12/2022
Computational Cognitive Neuroscience – COGS 123/CSE 173 (39 students)	01/2022 – 05/2022
Introduction to Philosophy – PHIL 001 (42 students)	08/2021 – 12/2021

UNIVERSITY SERVICE

University of California, Merced

Lab Manager, Cognitive and Information Sciences Weekly Philosophy Lab Meetings	09/2023 – 05/2025
Professional Development Officer, CIS Graduate Student Group	08/2023 – 07/2024
Advisory Mentor, Mentorship for Undergraduates Program	02/2024 – 05/2024
Organizer, Cognitive and Information Sciences Weekly Brownbag Meetings	01/2023 – 05/2023

INDUSTRY EXPERIENCE

PMA Consultants, LLC	Ann Arbor, MI
Senior Director, Product Management	2019 – 2021
Director, Product Design & Development	2016 – 2019
Senior Associate, UX Research & Design	2014 – 2016
Associate, UI Design & Customer Support	2013 – 2014
Senior Specialist, UI Design & Digital Marketing	2011 – 2013
Specialist, Technical Writing & UI Design	2008 – 2011

SKILLS & LANGUAGES

Programming: Python, R, Git, JavaScript, HTML, CSS, MATLAB, SQL, PHP, C++
Data Analysis: Bayesian Data Analysis, Generalized Linear Models, EEGLAB/ERPLAB, Information Visualization
Machine Learning: Artificial Neural Networks, Natural Language Processing, Reinforcement Learning
Languages: English (Native), Spanish (Basic)