

Mildred Salgado Menez

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Updated: August 2026

EDUCATION

Ph.D. in Biomedical Sciences

National Autonomous University of Mexico (UNAM), 2019 — 2026

M.Sc. in Biochemical Sciences

National Autonomous University of Mexico (UNAM), 2016 — 2019

B.Sc. in Sciences

Autonomous University of the State of Morelos (UAEM), 2010 — 2016

RESEARCH EXPERIENCE

Instituto de Neurobiología, UNAM

Querétaro, Mexico

PhD Candidate

Aug 2019 — 2026

- Investigation of temporal prediction and internally generated rhythmic representations in the primate hippocampus.
- Extracellular single-unit and local field potential (LFP) recordings from behaving rhesus macaques during a visual timing task.
- Computational analysis of single-neuron and population dynamics using point-process GLMs, time-frequency analysis, PCA/dPCA, and statistical resampling methods.

Institute of Neuroscience (ION), Chinese Academy of Sciences

Shanghai, China

Research Visit, Dr. Gouki Okazawa's Laboratory

Aug — Sep 2024

- Research visit in non-human primate systems neuroscience, including exposure to behavioral paradigms and experimental approaches across ION laboratories, project discussions, and a joint seminar presentation to the laboratories of Dr. Gouki Okazawa and Dr. Tianming Yang.

Instituto de Fisiología Celular, UNAM

Mexico City, Mexico

M.Sc. Researcher

Aug 2016 — Aug 2019

- Investigation of hippocampal dopamine and norepinephrine contributions to spatial memory retrieval, updating, and extinction.
- Intracranial pharmacological manipulations of the dorsal hippocampus, behavioral testing, and histological verification of infusion sites.

TECHNICAL EXPERTISE

Primate Electrophysiology

Extracellular single-unit and local field potential (LFP) recordings in behaving rhesus macaques using custom-built tungsten-platinum microelectrodes (Thomas Recording components); behavioral task implementation and neural data acquisition.

Neural Data Analysis

Spike-train and firing-rate analysis; LFP time-frequency analysis; neural population dynamics; autocorrelation and cross-correlation analyses; behavioral-neural alignment.

Computational & Statistical Methods

Generalized linear models (GLMs); PCA and demixed PCA (dPCA); multivariate statistical analysis.

Programming & Scientific Computing

MATLAB; FieldTrip; high-performance computing (HPC) workflows.

PUBLICATIONS

- **Salgado-Menez, M.**, Malagón, A. M., Mercado, K., de Lafuente, V. (2026). The primate hippocampus constructs a dynamic internal model of rhythmic events. *Scientific Reports*. [\[link\]](#)
- **Salgado-Menez, M.**, Fenton, A. (2026). From Place Cells to Predictive Codes: Lecture Notes on the Dynamic Hippocampus. *Analytical Connectionism School* (pp. 177-193). PMLR. [\[link\]](#)
- **Salgado-Menez, M.**, Espinoza-Monroy, M., Malagón, A. M., Mercado, K., de Lafuente, V. (2024). Estimating Time and Rhythm by Predicting External Stimuli. *Chapter in book: Neurobiology of Interval Timing*, 159-169. [\[link\]](#)
- Gálvez-Márquez, D. K., **Salgado-Menez, M.**, Moreno-Castilla, P., Rodríguez-Durán, L., Escobar, M. L., Tecuapetla, F., Bermudez-Rattoni, F. (2022). Spatial contextual recognition memory updating is modulated by dopamine release in the dorsal hippocampus from the locus coeruleus. *PNAS*. [\[link\]](#)
- **Salgado-Menez, M.**, de Lafuente, V. (2022). Purkinje Cells are Key for Rhythmic Predictions in the Cerebellum. *Neuroscience*, 482, 159-160. [\[link\]](#)
- Pliego, A., Traub, F. M., de la Rosa, N., Requejo-Mendoza, N. N. H., **Salgado-Menez, M.**, Velarde, M. G., & Gonzalez, A. (2021). Stimulus to Action Neural Network by Inferring Connectomics. *43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*. [\[link\]](#)

FELLOWSHIPS & AWARDS

Conference Travel Award 4 th Timing Research Forum (TRF4) Conference, Tokyo, Japan.	2025
Internship Travel Award International Center for Primate Brain Research (ICPBR), Chinese Academy of Sciences, Shanghai, China.	2024
Ph.D. Fellowship Secretariat of Science, Humanities, Technology, and Innovation (SECIHTI / former CONAHCYT), Mexico.	2020 – 2026
Research Assistantship National System of Researchers (SNI) / CONACYT, Mexico.	2018 – 2020
M.Sc. Fellowship Secretariat of Science, Humanities, Technology, and Innovation (SECIHTI / former CONAHCYT), Mexico.	2016 – 2018

TEACHING & MENTORING

Neuronal Excitability <i>Neuropathology course, Undergraduate Program in Neuroscience, ENES Juriquilla, UNAM.</i>	Mar 2024
Introduction to MATLAB Programming <i>Graduate Program in Biomedical Sciences, Institute of Neurobiology, UNAM.</i>	Aug – Dec 2023
Introduction to Statistics <i>Graduate Program in Pharmacology, CINVESTAV Zacatenco, IPN.</i>	Sept 2023
Computational Neuroscience Course <i>Neuromatch Academy, online summer course</i>	Aug 2022

■ ACADEMIC CONFERENCE PRESENTATIONS

4th Timing Research Forum (TRF4) <i>University of Tokyo, Komaba Campus, Tokyo, Japan.</i> Poster: "Time in the primate hippocampus during a visual metronome task".	Oct 2025
ICPBR Summer School & Conference <i>International Center for Primate Brain Research (ICPBR), CAS, Shanghai, China.</i> Poster: "Interval time perception in the monkey hippocampus".	Oct 2024
Analytical Connectionism (Summer School & Conference) <i>Flatiron Institute (Simons Foundation), New York City, NY, USA.</i> Poster: "Interval time perception in the monkey hippocampus".	Aug 2024
International Conference on Learning and Memory <i>UC Irvine, CA, USA.</i> Poster: "Differential Role of Catecholamines in Contextual Memory Updating".	Apr 2018

■ INVITED & PUBLIC TALKS

"How Does Our Brain Represent Other Individuals?" <i>Event: Neuroscience in Mexico and Worldwide: Multidisciplinary Workshop, El Colegio Nacional</i>	Nov 2023
"Is It Possible to Map the Morphology of Glial Cells...?" <i>Event: Neuroscience in Mexico and Worldwide: Multidisciplinary Workshop, El Colegio Nacional</i>	Nov 2022

■ ADDITIONAL TRAINING

Robust and Stochastic Control <i>El Inge de Control</i>	Apr–Aug 2026
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■ PEER REVIEW

Neuroscience <i>Elsevier.</i> Served as ad hoc peer reviewer for submitted research manuscripts.	Jul 2023
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■ EDUCATIONAL PUBLICATIONS

- Salgado-Menez, M. (2025). Human Beings: Structures and Processes. *Planea Publishing House*.
- Salgado-Menez, M. (2025). Science Workshop 1 (2nd ed.). *Planea Publishing House*.
- Salgado-Menez, M. (2024). Science Workshop 2. *Planea Publishing House*.
- Salgado-Menez, M. (2018). Biology II. *MX Editorial Group*. ISBN: 9786078613298.

■ SKILLS

Languages	Spanish (native) / English (C1)
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