GLADIA HOTAN

https://gladiahotan.github.io/ ◇ LinkedIn: gladia-hotan

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY — Cambridge, MA, USA

PhD, Brain and Cognitive Sciences — *Sep 2014–Aug 2020*

Thesis: State-space Modeling and Electroencephalogram Source Localization of Slow Oscillations with Applications to the Study of General Anesthesia, Sedation and Sleep

Thesis Advisors: Dr Patrick Purdon, Dr Emery Brown

MIT Sloan Healthcare Certificate — *Sep 2019–May 2020*

H-Lab Action Learning Project: Quality Predictive Modeling for Diabetes and Hypertension

NATIONAL UNIVERSITY OF SINGAPORE — Singapore

MBA (Part-Time), Specializations in Consulting and Healthcare Management — *Aug 2023–present*

CALIFORNIA INSTITUTE OF TECHNOLOGY — Pasadena, CA, USA

BS, Physics (with Honor) — *Sep 2009–May 2013*

Thesis: Experimental Analysis of Dynamic Interactions between Micrometer-Scale Stainless Steel Spheres

Thesis Advisor: Dr Chiara Daraio

WORK EXPERIENCE

SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN — Singapore

Adjunct Assistant Professor: Introductory mathematics — *Jul 2025–present*

INSTITUTE OF HIGH PERFORMANCE COMPUTING — Singapore

Scientist: Computational neuroscience, cognitive science, neuroimaging, clinical data analytics — *Nov 2020–present*

INSTITUTE FOR INFOCOMM RESEARCH — Singapore

Research Engineer: Cognitive science — *Feb 2014–Jul 2014*

INSTITUTE OF MICROELECTRONICS — Singapore

Research Engineer: Medical device engineering — *Jul 2013–Jan 2014*

AWARDS

- First Place in Penn Healthcare Case Competition 2024
- NUS Part-Time MBA Scholarship (2023)
- A*STAR National Science Scholarship (BS *2009*, PhD *2014*)

ACTIVITIES

LEADERSHIP

President, NUS MBA Healthcare Case Competition — *Jun 2024–May 2025*

Initiated and led a 5-person committee to organize the inaugural NUS MBA Healthcare Case Competition in partnership with Singapore government agencies and regional startups. The competition attracted 128 participants from 26 schools across 13 countries.

Vice-President, NUS MBA Healthcare Club — *Sep 2023–Aug 2024*

Co-organized speaker panels and sound bathing meditation events.

President, MIT Singaporean Students' Society (MITSSS) *Apr 2016–Mar 2017*
Led a 5-person executive committee to organize 7 social events for Singaporeans in Boston and the MIT community. Our largest event had 50 volunteers cooking Singaporean food for 200 guests.

VOLUNTEERING

CDAC Supervised Homework Group (SHG) *Mar 2023–Nov 2023*
Gave free tuition and organized activities for low-income students aged 10 to 12 years old (3 hours/week)
Joined the Mid-Year Camp Committee and organized camp games

Massachusetts General Hospital (MGH Volunteer Department) *Nov 2018–Nov 2019*
Collected Patient Reported Outcome Measures surveys from arthroplasty patients (4 hours/week)

PUBLICATIONS

- Satish S, Patel A, Mastick M, Lee S, Hotan G, Ham AS, Chen T, Tsai E, Mateen F. **Multiple Sclerosis in the Emergency Department: A Retrospective Case-control Study in a Large US Center (P8-1.002).** Neurology. 2025 Apr 8;104(7_Supplement_1):1652. [Link]
- He M, Das P, Hotan G, Purdon PL. **Switching state-space modeling of neural signal dynamics.** PLOS Computational Biology. 2023 Aug 28;19(8):e1011395. [Link]
- Manzano GS, Holroyd KB, Kaplan T, Bhattacharyya S, Chitnis T, Hotan G, Zurawski J, Galetta KM, Mateen FJ. **Disease modifying therapy management of multiple sclerosis after stem cell therapies: A retrospective case series.** Multiple Sclerosis and Related Disorders. 2022 Jul 1;63:103861.[Link]
- Rice DR, Kaplan TB, Hotan GC, Vogel AC, Matiello M, Gillani RL, Hutto SK, Ham AS, Klawiter EC, George IC, Galetta K. **Electronic pill bottles to monitor and promote medication adherence for people with multiple sclerosis: a randomized, virtual clinical trial.** Journal of the Neurological Sciences. 2021 Sep 15;428:117612. [Link]
- Stephen EP, Hotan GC, Pierce ET, Harrell PG, Walsh JL, Brown EN, Purdon PL. **Broadband slow-wave modulation in posterior and anterior cortex tracks distinct states of propofol-induced unconsciousness.** Scientific reports. 2020 Aug 13;10(1):13701. [Link]
- Sokolov E, Abdoul Bachir DH, Sakadi F, Williams J, Vogel AC, Schaekermann M, Tassiou N, Bah AK, Khatri V, Hotan GC, Ayub N. **Tablet-based electroencephalography diagnostics for patients with epilepsy in the West African Republic of Guinea.** European journal of neurology. 2020 Aug;27(8):1570-7. [Link]
- Mateen FJ, Vogel AC, Kaplan TB, Hotan GC, Grundy SJ, Holroyd KB, Manalo N, Stauder M, Videnovic A. **Light therapy for multiple sclerosis-associated fatigue: a randomized, controlled phase II trial.** Journal of Neurology. 2020 Aug;267:2319-27. [Link]
- Anand P, Hotan GC, Vogel A, Venna N, Mateen FJ. **Progressive multifocal leukoencephalopathy: A 25-year retrospective cohort study.** Neurology-Neuroimmunology Neuroinflammation. 2019 Nov 1;6(6). [Link]
- Williams J, Cisse FA, Schaekermann M, Sakadi F, Tassiou NR, Bah AK, Hamani AB, Lim A, Leung EC, Fantaneau TA, Milligan T. **Utilizing a wearable smartphone-based EEG for pediatric epilepsy patients in the resource poor environment of Guinea: A prospective study.** Neurology. 2019 Apr;92(15 Supplement)N5.001. [Link]
- Mateen FJ, Manalo NC, Grundy SJ, Houghton MA, Hotan GC, Erickson H, Videnovic A. **Light therapy for multiple sclerosis-associated fatigue: Study protocol for a randomized controlled trial.** Medicine. 2017 Sep;96(36). [Link]
- Hotan GC, Struck AF, Bianchi MT, Eskandar EN, Cole AJ, Westover MB. **Decision analysis of intracranial monitoring in non-lesional epilepsy.** Seizure. 2016 Aug;40:59-70. [Link]

TEACHING

UNIVERSITY TEACHING

Integrated Learning Programme Mathematics, Singapore University of Technology and Design (2025) (Course Instructor)

HST.S56: Introduction to Closed-Loop Control of Physiological Systems, Massachusetts Institute of Technology (2019, 2020) (Course Instructor)
Worked as part of a 5-person team to design and teach this course.

9.014: Quantitative Methods for Neuroscience, Massachusetts Institute of Technology (2016) (Teaching Assistant)

9.00: Introduction to Psychological Science, Massachusetts Institute of Technology (2015) (Teaching Assistant)

HIGH SCHOOL OUTREACH

Introduction to Neuroscience, Seoul High School (2021, 2018), Seoul Science High School (2018, 2015), Myeonmok High School (2015) (Course Instructor)
Designed and taught a 5-day course introducing cellular and molecular, systems, cognitive, computational and clinical neuroscience to high school students in Korea.

Introduction to University-Level Mathematics Techniques, Temasek Junior College (2013) (Course Instructor)
Designed and taught an 8-week course introducing linear algebra, vector calculus, Fourier series and differential equations to high school students in Singapore.

SKILLS

Languages: English, Chinese (Mandarin)
Programming languages: Python, Matlab, R, Mathematica