

Guy Avraham, PhD

Cognitive and Movement Scientist



📍 San Francisco, CA, United States

✉️ guyavraham@berkeley.edu

☎️ +1 (718) 288 8873 🌐 www.guyavraham.net

🏠 Guy Avraham **in** [guyavraham](#)

🐦 [@avraham_guy](#)

🗨️ ABOUT ME

I am a cognitive and movement scientist working at UC Berkeley and UCSF.

My research focuses on the interaction between cognition and action. I study how humans develop and perform motor skills and how movements can teach us about cognitive processes related to learning, memory, decision-making, and affect.

🧠 SKILLS

Academic research

Data collection (behavioral experiments and psychophysics, neuromodulation, functional neuroimaging), kinematic data analysis, team management, scientific writing, public speaking

Data science

Data processing and visualization, computational and statistical modeling, signal processing, machine learning

Software development

MATLAB, Python, JavaScript, C++

🌐 LANGUAGES

Hebrew | English

🎓 EDUCATION

PhD in Biomedical Engineering

Ben-Gurion University of the Negev [📍](#)

2012 – 2016 | Beer-Sheva, Israel

My doctoral research examined how the motor system copes with inherent time delays in the processing of sensory feedback.

MSc in Biomedical Engineering

Ben-Gurion University of the Negev [📍](#)

2008 – 2011 | Beer-Sheva, Israel

My Master's thesis used approaches from artificial intelligence to study motor interaction.

BSc in Life Science

The Hebrew University of Jerusalem [📍](#)

2005 – 2008 | Jerusalem, Israel

👨‍💼 PROFESSIONAL EXPERIENCE

Research scientist

University of California, San Francisco [📍](#)

2022 – present

In collaboration with Dr. Simon Little [📍](#), we use adaptive deep brain stimulation as a novel neuromodulation approach to improve motor and cognitive symptoms in Parkinson's patients.

Postdoctoral researcher

University of California, Berkeley [📍](#)

2018 – present | Berkeley, United States

My research with Prof. Richard Ivry [📍](#) focuses on the interaction between cognition and action. We have shown that, unlike previously thought, motor skills rely strongly on high cognitive processes and that procedural motor memories are retained by overcoming interference through association with separate contexts.

Postdoctoral researcher

Ben-Gurion University of the Negev [📍](#)

2016 – 2017 | Beer-Sheva, Israel

In collaboration with Prof. Ilana Nisky [📍](#) and Prof. Lior Shmuelof [📍](#), we used behavioral experiments, computational modeling, and functional neuroimaging to study how the motor system processes sensorimotor feedback.

Teaching and mentoring

2010 – present

- Supervision of undergraduate and graduate students- *Ben-Gurion University, UC Berkeley and UCSF*
- Lecturer- Cell Biology (undergraduate level)- *Ben-Gurion University*
- Teaching lab coordinator and instructor- Biomedical Engineering (undergraduate level)- *Ben-Gurion University*

SELECTED AWARDS

Postdoctoral scholarship (1 year)

Kreitman School for Advanced Graduate Studies, Ben-Gurion University of the Negev
2016

Negev PhD fellowship (4 years)

Faran fellowship program, Ben-Gurion University of the Negev
2012

MSc scholarship for excellence (3 years)

Biomedical Engineering Department, Ben-Gurion University of the Negev
2008

CIFAR Winter School on the Neuroscience of Consciousness Travel Award

The Canadian Institute for Advanced Research
2017

Research excellence award

The Ehud Ben Amitai Foundation
2016

Neural Control of Movement scholarship award

The Society of the Neural Control of Movement
2015

Prof. Rahamimoff Travel Grant for Young Scientists

United States - Israel Binational Science Foundation
2013

REFERENCES

Prof. Richard Ivry, *Postdoc advisor*,
University of California, Berkeley
ivry@berkeley.edu

Prof. Ilana Nisky, *PhD advisor*,
Ben-Gurion University of the Negev
nisky@bgu.ac.il

Prof. Jordan Taylor, *Research collaborator*,
Princeton University
jordanat@princeton.edu

Peer-review contribution

Reviewer for multiple journals, including *eLife*, *Current Biology*, *Journal of Neuroscience*, *Journal of Cognitive Neuroscience*, *NeuroImage*, and more.

SELECTED PUBLICATIONS

Contextual effects in sensorimotor adaptation adhere to associative learning rules

eLife (2022)
Avraham G, Taylor JA, Breska A, Ivry RB, McDougale SD

Moving outside the lab: The viability of conducting sensorimotor learning studies online

Neurons, Behavior, Data analysis, and Theory (2021)
Tsay JS, Lee AS, Ivry RB, Avraham G

Reexposure to a sensorimotor perturbation produces opposite effects on explicit and implicit learning processes

PLoS Biology (2021)
Avraham G, Morehead JR, Kim HE, Ivry RB

The psychology of reaching: action Selection, movement implementation, and sensorimotor learning

Annual Review of Psychology (2021)
Kim HE*, Avraham G*, Ivry RB (*co-first authors)

Environmental consistency modulation of error sensitivity during motor adaptation is explicitly controlled

Journal of Neurophysiology (2020)
Avraham G, Keizman M, Shmuelof L

Effects of visuomotor delays on the control of movement and on perceptual localization in the presence and absence of visual targets

Journal of Neurophysiology (2019)
Avraham G*, Sulimani E*, Mussa-Ivaldi FA, Nisky I (*co-first authors)

State-Based Delay Representation and Its Transfer from a Game of Pong to Reaching and Tracking

eNeuro (2017)
Avraham G, Leib R, *et al.*

Representing Delayed Force Feedback as a Combination of Current and Delayed States

Journal of Neurophysiology (2017)
Avraham G, Mawase F, *et al.* **Featured on cover**

Towards Perceiving Robots as Humans: Three Handshake Models Face the Turing-like Handshake Test

IEEE Transactions on Haptics (2012)
Avraham G, Nisky I, *et al.*