GREG KRONBERG

PhD Candidate, Biomedical Engineering, The City College of New York

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Education

2015-2020 **PhD in Biomedical Engineering**
Neural Engineering Lab, The City College of New York
Thesis: Direct current stimulation modulates synaptic plasticity
Advisor: **Lucas C. Parra**

2013-2015 **MS in Biomedical Engineering**
The City College of New York

2006-2010 **BS in Physiology and Neurobiology**
University of Maryland, College Park

Publications

2019 **Direct current stimulation boosts Hebbian plasticity in vitro** — Brain Stimulation
Kronberg G, Rahman A, Sharma M, Bikson M, Parra LC

Temporal interference stimulation targets deep brain regions by modulating neural oscillations — bioRxiv
Esmaeilpour Z, **Kronberg G**, Parra LC, Bikson M

Transcranial electrical stimulation nomenclature — Brain Stimulation
Bikson M, Esmaeilpour Z, Adair D, **Kronberg G**…Peterchev A

Mechanisms of acute and after effects of transcranial direct current stimulation — Practical guide to tDCS (book chapter)
Bikson M, Paulus W, Esmaeilpour Z, **Kronberg G**, Nitsche M

2018 **Immediate neurophysiological effects of transcranial electrical stimulation** — Nature Communications
Liu A, Voroslakos M, **Kronberg G**, Henin S… Buzsaki G

Synaptic transmission modulates while non-synaptic processes govern the transition from pre-ictal to seizure activity in vitro — bioRxiv
Bikson M, Ruiz-Nuno A, Miranda D, **Kronberg G**, Jefferys JGR

2017 **Direct current stimulation modulates LTP and LTD: activity dependence and dendritic effects** — Brain Stimulation
Kronberg G, Bridi M, Abel T, Bikson M, Parra LC

2016 **Animal models of transcranial direct current stimulation: methods and mechanisms** — Clinical Neurophysiology
Jackson MP, Rahman A, Lafon B, **Kronberg G**…Bikson M

Safety of transcranial direct current stimulation: evidence based update 2016 — Brain Stimulation
Bikson M, Grossman P, Thomas C, Zannou AL, Jiang J…**Kronberg G**…Woods AJ

2012 **Electrode assembly design for transcranial direct current stimulation: a FEM modeling study** — IEEE Engineering in Medicine and Biology
Kronberg G and Bikson M

Patents

2018 **Electrode assembly** — US Patent: 9956395
Bikson M, **Kronberg G**, Naguib TN, Arce D, Minhas P

Technical Skills

Data analysis: Signal processing and machine learning (Python, MATLAB)

Computational Neuroscience: Biophysical models of morphologically detailed single neurons, recurrent spiking networks, synaptic plasticity (Python, Neuron, Brian)

Experimental Neuroscience: In vitro electrophysiology, synaptic plasticity

Teaching

2015-2020	**Teaching Assistant, The City College of New York** Biomedical signal processing (graduate level, 2016-2020) Biostatistics and research methods (undergraduate level, 2015-2016)
2010-2013	**MCAT Classroom Instructor, Kaplan Test Prep** Physics, chemistry, and biology for pre-medical students (undergraduate level)

Presentations

2019	**CCNY Biomedical Engineering Seminar**, New York NY Enhancing associative learning with transcranial direct current stimulation	Invited talk
2018	**Society for Neuroscience Conference**, San Diego CA A Hebbian framework for predicting modulation of synaptic plasticity with tDCS	Poster
	North American Neuromodulation Society Conference, New York NY tDCS boosts Hebb: Explaining the sensitivity and selectivity of tDCS	Invited talk
2017	**Society for Neuroscience Conference**, Washington D.C. Direct current stimulation and synaptic plasticity	Poster
	CCNY Works in Progress Seminar, New York NY Modulating synaptic plasticity with tDCS	Invited talk
	NYC Neuromodulation Conference, New York NY. Direct current stimulation modulates LTP and LTD: activity dependence and dendritic effects	Poster
2016	**Society for Neuroscience Conference**, San Diego CA. Direct current stimulation modulates LTP and LTD: activity dependence and dendritic effects	Submitted Talk (nanosymposium)
	CCNY Biomedical Engineering Seminar Series, New York NY. Modulating synaptic plasticity with tDCS	Invited talk
2015	**Society for Neuroscience Conference,** Chicago IL. Direct current stimulation modulates bidirectional synaptic plasticity	Poster
	NYC Neuromodulation Conference, New York NY. Electric fields boost LTP in vitro	Invited talk
2014	**Society for Neuroscience Conference,** Washington D.C. Electric fields boost LTP in vitro	Poster
2012	**IEEE Engineering in Medicine and Biology Conference,** San Diego CA. Electrode assembly design for transcranial Direct Current Stimulation: A FEM modeling study	Poster

Activities, Memberships, Awards

2020	**Neural Engineering Seminar Organizer** (since 2016) The City College of New York
	Ad-hoc Reviewer Brain Stimulation, PLoS Computational Biology, eNeuro, Scientific Reports, Brain Research, Transactions on Biomedical Engineering, Neuropharmacology, IEEE Access
2019	**Computational and Theoretical Neuroscience Summer School** Tsinghua University
2018	**Wallace H. Coulter Graduate Academic Service Award** The City College of New York, Biomedical Engineering Department
2017	**Computational Neuroscience Summer Course** Okinawa Institute of Science and Technology
	Wallace H. Coulter Graduate Research Performance Award The City College of New York, Biomedical Engineering Department
2015	**Harold Shames Award for Graduate Academic Excellence** The City College of New York, Biomedical Engineering Department