Anand 'Andy' Tekriwal, PhD
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Secondary Education:

University of Colorado, Medical Scientist Training Program, Enrolled May 2015 Thesis defended June 2022 - Dr. Gidon Felsen, PhD; Dr. John Thompson, PhD

University of Pennsylvania, School of Arts and Sciences Bachelor of Arts, Cum Laude, Graduated May 2013

Major: Biologic Basis of Behavior with Honors

Minor: South Asia Studies

Articles & Chapters

2022

Article: Scientific Reports

- ***Tekriwal A.***, Baker S., Christensen E., Peterson-Jones H., Tien R.N., Felsen G., Kern D.S., Ojemann S.G., Kramer D.R., & Thompson J.A. "Quantifying neuro-motor correlations during awake deep brain stimulation surgery using markerless tracking" Scientific Reports (2022): DOI:10.1038/s41598-022-21860-7

Article: PLOS ONE

- Baker S., ***Tekriwal A.***, Tien R.N., Felsen G., Kern D.S., Christensen E., Ojemann S.G., Kramer D.R., & Thompson J.A. "Automatic extraction of upper-limb kinematic activity using deep learning-based markerless tracking during deep brain stimulation implantation for Parkinson's disease: A proof of concept study." PLOS ONE (2022): DOI: 10.1371/journal.pone.0275490

Article: Frontiers in Signal Processing

- Tien R.N., ***Tekriwal A.***, Calame D.J., Platt J.P., Baker S., Seeberger L.C., Kern D.S., Person A.L., Ojemann S.G., Thompson J.A., & Kramer D.R. "Deep learning based markerless motion tracking as a clinical tool for movement disorders: Utility, feasibility, and early experience" Frontiers in Signal Processing (2022): DOI: 10.3389/frsip.2022.884384

Article: Journal of Neurology, Neurosurgery, and Psychiatry

- ***Tekriwal A.***, Felsen G., Ojemann S.G., Abosch A., & Thompson J.A. "Motor context modulates substantia nigra pars reticulata spike activity in patients with Parkinson's disease" Journal of Neurology, Neurosurgery, and Psychiatry (2022): DOI: 10.1136/jnnp-2021-326962

2021

Article: Journal of Neurophysiology

- ***Tekriwal A.***, Lintz M.J., Thompson J.A., & Felsen G. "Disrupted basal ganglia output during movement preparation in hemiparkinsonian mice is consistent with behavioral deficits" Journal of Neurophysiology (2021): DOI: 10.1152/jn.00001.2021

2019

Article: Brain Sciences

- ***Tekriwal A.***, Afshar N.M., Santiago-Moreno J., Kuijper F.M., Kern D.S., Halpern C.H., Felsen G., & Thompson J.A. "Neural Circuit and Clinical Insights from Intraoperative Recordings during Deep Brain Stimulation Surgery" Brain Sciences (2019): DOI: 10.3390/brainsci9070173.

2018

Article: Journal of Neuroscience Methods

- ***Tekriwal A.***, Felsen G., & Thompson J.A. "Modular auditory decision-making behavioral task designed for intraoperative use in humans" Journal of Neuroscience Methods (2018): DOI: 10.1016/j.jneumeth.2018.05.004

2017

Article: Journal of Neurology, Neurosurgery, and Psychiatry

- Thompson J.*, ***Tekriwal A.****, Felsen G., Ozturk M., Telkes I., Wu J., Ince N.F., & Abosch A. "Sleep patterns in Parkinson's disease: direct recordings from the subthalamic nucleus." Journal of Neurology, Neurosurgery, and Psychiatry (2017): DOI: 10.1136/jnnp-2017-316115
    - * authors contributed equally

2016

Article: Journal of Neurology, Neurosurgery, and Psychiatry

- ***Tekriwal A.***, Kern D.S., Tsai J., Ince N.F., Wu J., Thompson J.A., & Abosch, A. "REM sleep behavior disorder: Prodromal and mechanistic insights for Parkinson's disease." Journal of Neurology, Neurosurgery, and Psychiatry (2016): DOI: 10.1136/jnnp-2016-314471
    - Selected as the 'Patient's Choice' Article

Article: Journal of Experimental Psychology Learning Memory and Cognition

- Kraemer D.J.M., Schinazi V.R., Cawkwell P.B., ***Tekriwal A.***, Epstein R.A., & Thompson-Schill S.L. "Verbalizing, Visualizing, and Navigating: The Effect of Strategies on Encoding a Large-Scale Virtual Environment (2016): DOI: 10.1037/xlm0000314

2015

Article: Neurologia medico-chirurgica

- ***Tekriwal A.*** & Baltuch G.H. "Deep Brain Stimulation: Expanding Applications" Advance Publication Date: October 15, 2015. DOI: 10.2176/nmc.ra.2015-0172

2014

Chapter: Future Perspectives in Deep Brain Stimulation

- ***Tekriwal A.***, Halpern C.H., & Baltuch G.H. Functional Neurosurgery. 1st ed. São Paulo: Câmara Brasileira do Livro; 2014. Chapter, Future Perspectives in Deep Brain Stimulation (DBS); p. 757-765.

Chapter: eLifeSciences

- ***Tekriwal A***., Keshavan A., Halpern C.H., & Baltuch G.H. "Expanding Applications of

Deep Brain Stimulation." Encyclopedia of Life Sciences.
DOI: 10.1002/9780470015902.a0020283.pub2 (2014).

Chapter: Deep Brain Stimulation: Technology and Applications

- ***Tekriwal A***., Halpern C.H., & Baltuch G.H. "DBS for the treatment of epilepsy". In: Deep Brain Stimulation: Technology and Applications (Volume 2). Vitek J.L. (Ed.). Future Medicine, London, UK.
  DOI: 10.2217/EBO.13.428 (2014).

Article: Acta Neurochirurgica Epub

- Halpern C.H., Attiah M.A., ***Tekriwal A.***, & Baltuch G.H. "A step-wise approach to deep brain stimulation in mice." Acta Neurochirurgica Epub (2014): 1515–1521. Print.

2013

Article: Journal of Neuroscience

- Halpern C.H., ***Tekriwal A.***, Santollo J., Keating J.G., Wolf J.A., Daniels D., & Bale T.L. "Amelioration of Binge Eating by Nucleus Accumbens Shell Deep Brain Stimulation in Mice Involves D2 Receptor Modulation." Journal of Neuroscience 33.17 (2013): 7122-7129. Print.

Posters, Conference papers, Talks, & Patents

2023

Poster: Society for General Internal Medicine Regional Conference at Aurora, Colorado

- June, 2023. ***Tekriwal A.***, Bergstedt D., Carr H., Grush K.A., Titus B., Delino N.G., & Cunningham J. "Challenges in treatment and follow-up of undocumented persons"

Poster: Western Medical Research Conference at Carmel, California

- January 19-21st, 2023. Bergstedt D., Feldhus C., & ***Tekriwal A.*** "IgA vasculitis adult presentation"

2022

Invited Talk: University of Colorado "TED for your Head" Series

- December 15th, 2022. ***Tekriwal A.***, "Towards computationally guided neurologic clinical care"

Poster: Society for General Internal Medicine Regional Conference at Salt Lake City, Utah

- November 4th, 2022. Bergstedt D. & ***Tekriwal A.*** "Undiagnosed cardiac amyloidosis underlying congestive heart failure"

2021

Poster: Society for Neuroscience Annual Conference at Chicago, Illinois

- November 11th, 2021. ***Tekriwal A.***, Felsen G., Ojemann S.G., Abosch A., & Thompson J.A. "Motor context modulates substantia nigra pars reticulata spike activity in patients with Parkinson's disease"

Poster: Society for Neuroscience Annual Conference at Chicago, Illinois

- November 9th, 2021. Parra M., ***Tekriwal A.***, Kramer D., & Thompson J.A. "Phase-phase coupling network analysis performed on sEEG recordings"

2020

Provisional patent: Correlating kinematic with time series data.
Anand Tekriwal & John A. Thompson

2019

Poster: World Society for Stereotactic and Functional Neurosurgery at NYC, NY

- June 24th, 2019. Kahn L., Constabile J., ***Tekriwal A.***, Abosch A., & Thompson J.A. "Spectral analysis of local field potentials during sleep in Parkinson disease: Evaluation of canonical frequency bands within subthalamic nucleus and adjacent basal ganglia regions"

Invited Talk: University of Colorado Movement Disorder Center Annual Research Retreat

- June 12th 2019. ***Tekriwal A.***, Thompson J.A., & Felsen G. "Differential basal ganglia output in Parkinson's disease"

Poster: Annual Rocky Mountain Research Retreat at Aurora, Colorado

- April 26th, 2019. ***Tekriwal A.***, Lintz M.J., Felsen G., & Thompson J.A. "Parkinsonian deficits and substantia nigra pars reticulata activity in stimulus-guided and memory-guided movements"

Invited Talk: Medical Scientist Training Program Research Retreat at Aurora, Colorado

- March 1st, 2019. ***Tekriwal A.***, Felsen G., & Thompson J.A. "Human spike recordings acquired from the substantia nigra pars reticulata"

Poster: 32nd Annual Neurosurgery in the Rockies at Bachelor Gulch, Colorado

- February 24th, 2019. Kahn L., Constabile J., ***Tekriwal A.***, Abosch A., & Thompson J.A. "Spectral analysis of local field potentials during sleep in Parkinson disease: Evaluation of canonical frequency bands within subthalamic nucleus and adjacent basal ganglia regions"

2018

Poster: Neuroscience Graduate Program Annual Retreat at Estes Park, Colorado

- November 9th, 2018. ***Tekriwal A.***, Lintz M.J., Felsen G., & Thompson J.A. "Differential parkinsonian deficits and basal ganglia output in stimulus-guided and memory-guided movements"

Poster: Society for Neuroscience Annual Conference at San Diego, California

- November 7th, 2018. ***Tekriwal A.***, Felsen G., & Thompson J.A. "Human spike recordings acquired from the substantia nigra pars reticulata"

Poster: Annual MD/PhD Conference at Keystone, Colorado

- June 2018, Neuroscience section. ***Tekriwal A.***, Felsen G., & Thompson J.A. "Conducting intraoperative research during deep brain stimulation"

Poster: American Society for Stereotactic and Functional Neurosurgery at Denver, Colorado

- June 2-5th 2018, ***Tekriwal A.***, Felsen G., Abosch A., & Thompson J.A. "Human Spike Recordings Acquired in the Context of an Open-source, Intraoperative Paradigm"

2017

Invited Talk: Annual MD/PhD Conference at Keystone, Colorado

- June 2017, Bioengineering section. ***Tekriwal A.***, Thompson J.A., Felsen G., & Abosch A. "The Evolution of Deep Brain Stimulation"

Poster: International Parkinson's and Movement Disorder Society at Vancouver, Canada

- May 2017, ***Tekriwal A.***, Thompson J.A., Felsen G., & Abosch A. "Local field potential changes in the subthalamic nucleus of PD patients treated with DBS"

Digital course: Stereotactic Academy

- April 2017, Abosch A. & ***Tekriwal A.***, "Local field potential recordings for evaluation of electrode location"
    - 'https://stereotactic.org/'

2015

Poster: Society for Neuroscience at Chicago Illinois

- October 19 2015, Koch P., ***Tekriwal A.,*** Grovola M., Ulyanova A.V., Cullen D.K., & Wolf J.A. "Hippocampal neurophysiology in awake behaving swine after diffuse brain injury"

Conference Paper: Journal of Neurosurgery Conference at Washington, D.C.

- August 1 2015, Koch P., ***Tekriwal A.***, & Wolf J.A. "Optogenetic Neuromodulation of the Hippocampus via Direct Light Stimulation of the Fimbria/Fornix."

Conference Paper: Journal of Neurotrauma Conference at Santa Fe, NM

- June 28 2015, Koch P., ***Tekriwal A.***, Ulyanova A.V., Grovola M., Cullen D.K., & Wolf J.A. "Chronic Neurophysiological recording of the hippocampus in awake behaving swine after diffuse brain injury"

2013

Invited Talk: American Association of Neurologic Surgeons at New Orleans, LA

- May 1, 2013, Halpern C., ***Tekriwal A.***, & Bale T. "Regional Striatal Variation in The DBS Amelioration of Binge Eating in Mice: Choosing a Target For Obesity"

RESEARCH EXPERIENCE

Graduate Student in Dr. Gidon Felsen's Lab, University of Colorado Anschutz School of Medicine, Department of Physiology and Biophysics and Dr. John A. Thompson's Lab, University of Colorado Anschutz School of Medicine, Department of Neurosurgery, Department of Neurology

- April 2017 – July 2022

Research Assistant in Dr. John Wolf's Lab, Perelman School of Medicine, University of Pennsylvania, Department of Neurosurgery

- May 2014-June 2015

Research Assistant in Dr. Tracy Bale's Lab, Veterinary & Medical School, University of Pennsylvania, Department of Animal Biology

- January 2012- October 2013

Research Assistant to David Kraemer, PhD, Center for Cognitive Neuroscience, University of Pennsylvania Psychology Department,

- September 2009- January 2012

Honors, Awards, Professional Organizations - Graduate

AOA University of Colorado School of Medicine
-Nominated and selected 2023
Foresight Institute
-Nominated and selected 2022
Brain-Mind
-Joined September 2019

Honors, Awards, Professional Organizations - Undergraduate

Neuroscience Research Honor Society Nu Rho Psi
- Executive Member, 2012-2013
Biological Research Honor Society Phi Sigma
Dean's List
-Junior Year, 2011-2012

Academic Community Involvement

MSTP Student Council Member

- 2019-2021, elected position with formal duties including assisting with Policy components (curriculum reform, clinical reintegration capstone course)

Class representative (Class of 2015) for MSTP Council

- Beginning in 2017 until present

TA for graduate course 'Matlab for Neuroscientists'

- 2019

MSTP Admissions Council

- Two-year term position beginning 2017 and concluding in 2019

MSTP Journal Club

- Co-president from 2016-2018, organized and hosted bi-monthly student led discussions on pertinent papers

MSTP Mentor Program

- Co-founder and participant 2015-2017

Medical School and Graduate School Tutor

- Beginning in 2018-2020

Community Outreach

2020

Bryant Webster STEM Scholar Program

- Mentored Gifted & Talented elementary school student in assembling a neuroscience focused presentation

2019

Brain Awareness Event at Denver Museum of Nature and Science

2018

Brain Awareness Event at Denver Museum of Nature and Science
BRAiN Initiative Outreach