

KEVIN DAVIS

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Education

University of Miami

Miami, Florida

2018-Present. Medical Scientist Training Program

Brigham Young University

Provo, Utah

2009–2015. B.S. Neuroscience.

Research Experiences

University of Miami

Miami, Florida

2019–Present. Dr. Abhishek Prasad.

Application design for home-use modulation of brain-computer interface in a patient with Spinal Cord Injury

2018. Dr. Bradley Goldstein. Research Rotation

Time-course expression of CXCLR4 within murine olfactory epithelium after injury

2018. Dr. Monica Perez. Research Rotation

Modulation of spasticity through vibration and acute intermittent hypoxia

University of Iowa

Iowa City, Iowa

2016–2018. Dr. Huxing Cui. Research Projects: Lateral hypothalamic regulation of blood pressure; behavioral and metabolic characterization of eating disorders associated with HDAC4^{A778T} mutation in mice

2015–2016. Dr. Andrew Pieper. Research Projects: Axonal degradation in mouse models of traumatic brain injury; neuroprotective properties of compound P7C3

Brigham Young University

Provo, Utah

2013–2015. Dr. Steven Charles. Research Projects: Control of redundant movements of the wrist and forearm; minimum-jerk trajectories applied to rotational movements of the wrist

2014–2015. Dr. Jonathan Wisco. Research Project: Developmental differences in putative pheromone-induced brain activity in male and female adults

Center for Sensorimotor Neural Engineering

Seattle, Washington

2014. Dr. Kat Steele. Research Projects: Long-term electromyography gait analysis in patients with cerebral palsy

Publications Published

- Davis, K. C.**, Saito, K., Rodeghiero, S. R., Toth, B. A., Lutter, M., & Cui, H. (2020). Behavioral Alterations in Mice Carrying Homozygous HDAC4A778T Missense Mutation Associated With Eating Disorder. *Frontiers in Neuroscience*, 14. <https://doi.org/10.3389/fnins.2020.00139>
- Saito, K., **Davis, K. C.**, Morgan, D. A., Toth, B. A., Jiang, J., Singh, U., ... Cui, H. (2019). Celastrol reduces obesity in MC4R deficiency and stimulates sympathetic nerve activity affecting metabolic and cardiovascular functions. *Diabetes*, 68(6), 1210–1220. <https://doi.org/10.2337/db18-1167>
- Dorman, G. R., **Davis, K. C.**, Peadar, A. W., & Charles, S. K. (2018). Control of redundant pointing movements involving the wrist and forearm. *Journal of Neurophysiology*, 120(4), 2138–2154. <https://doi.org/10.1152/jn.00449.2017>
- Lutter, M., Khan, M. Z., Satio, K., **Davis, K. C.**, Kidder, I. J., McDaniel, L., ... Cui, H. (2017). The Eating-Disorder Associated HDAC4A778T Mutation Alters Feeding Behaviors in Female Mice. *Biological Psychiatry*, 81(9). <https://doi.org/10.1016/j.biopsych.2016.09.024>
- Yin, T. C., Voorhees, J. R., Genova, R. M., **Davis, K. C.**, Madison, A. M., Britt, J. K., ... Pieper, A. A. (2016). Acute axonal degeneration drives development of cognitive, motor, and visual deficits after blast-mediated traumatic brain injury in mice. *ENeuro*, 3(5). <https://doi.org/10.1523/ENEURO.0220-16.2016>

In Review

- Cajigas, I., **Davis, K. C.**, Meschede-Krasa, B., Prins, N. W., Gallo, S., Ahmad Naeem, J., ... Jagid, J. R. (2021). Implantable Brain-Computer Interface for Volitional Hand Grasp in Spinal Cord Injury. *Nature Medicine*. <https://doi.org/10.21203/rs.3.rs-138657/v1>
- Ottesen, T. D., **Davis, K. C.**, Hobbs, L. K., Muncy, N. M., Stevens, N. M., Anderson, M., ... Wisco, J. J. (2020). Sexual Dimorphism in Olfactory Chemo-Signaling 1 Differences in Chemo-signaling Compound-Evoked Brain Activity in Male and Female Young Adults: A Pilot Study in the Role of Sexual Dimorphism in Olfactory Chemo-Signaling. *BioRxiv*, 2020.09.03.280685. Retrieved from <https://doi.org/10.1101/2020.09.03.280685>

Awards Presentations

2020. Outstanding Poster Award. Neural Engineering Research Symposium. Miami. FL
2020. 1st place MD/PhD Trainee Presentation. Eastern-Atlantic Student Research Forum. Miami, FL

Grants

2014. Brigham Young University Magnetic Resonance Imaging Research Facility Grant

Presentations & Abstracts

Community Health Leadership Conference

Miami, Florida

2021. Poster Presentation. Utilizing Version Control Through GitHub for Maintaining Quality Control of a REDCap Electronic Health Record System. K. C. Davis, J. Hunter, A. R. Deshpande

Clinical Neurosurgery

Miami, Florida

2020. A Modular Brain-Computer Interface that Restores Hand Grasp Designed for Independent, At-Home Use. Davis, K., Meschede-Krasa, B., Alver, C., Gallo, S., Batia, S., Abel, J., ... & Cajigas, I. (2020), 67(Supplement_1), nyaa447_627.

Neural Engineering Research Symposium

Miami, Florida

2020. Poster Presentation. A Modular Brain-Computer Interface for Restoring Hand Grasp at Home. K. C. Davis, B. Meschede-Krasa, C. Alver, S. Gallo, S. Bhatia, J. H. Abel, J. Tauber, I. C. Garwood, N. W. Prins, M. E. Ivan, A. Prasad, J. Jagid, E. N. Brown, I. Cajigas

Eastern-Atlantic Student Research Forum

Miami, Florida

2020. Poster Presentation. Behavioral Alterations in homozygous HDAC4A778T mice with eating disorder. K.C. Davis, K. Saito. S. R. Rodeghiero. H. Cui.

Diabetes Research Week

Iowa City, Iowa

2018. Poster Presentation. Celastrol reduces obesity in MC4R deficiency and stimulates sympathetic nerve activity affecting cardiovascular function. K. C. Davis, K. Saito, D. Morgan, B. A. Toth, H. Cui

Society for Neuroscience 2017

Washington D.C.

2017. Poster Presentation. Behavioral and metabolic characterization of eating disorder associated HDAC4-A778-T mutant mice. K.C. Davis, S. R. Rodeghiero, K. Saito, B. A. Ahlers, H. Cui.

Iowa Research Week

Iowa City, Iowa

2017. Poster Presentation. Anti-obesity effect of celastrol requires leptin signaling but is independent of the central melanocortin system. K. C. Davis, K. Saito, E. N. Rodriguez, B. Toth, E. Martinez, H. Cui

Pharmacology Retreat

Coralville, Iowa

2016. Poster Presentation. Characterization of the HDAC4^{A778T} Mouse. K. C. Davis, M. Z. Khan, L. McDaniel, B. W. Darbro, A. A. Pieper, M. Lutter, H. Cui.

UW Research Symposium*Seattle, Washington*

2014. Poster Presentation. Long-Term acquisition of EEG signals in daily activities. K. C. Davis, B. Shuman, K. Rumberger, K. M. Steele.

Utah Neuroscience Symposium*Snowbird, Utah*

2013. Poster Presentation. Control of redundant wrist movements. G. M. Dorman, K. C. Davis, A. W. Peadar, S. K. Charles

**Teaching
Experiences****University of Miami***Miami, Florida*

2019. Dr. Thomas Champney. Anatomy Laboratory. Head Teaching Assistant

Brigham Young University*Provo, Utah*

2013–2015. Dr. Jonathan Wisco. Elementary Anatomy Laboratory Teaching Assistant

University of Utah*Salt Lake City, Utah*

2014. Dr. Jonathan Wisco. University of Utah School of Medicine anatomy laboratory short-term teaching assistant

**Volunteer
Service****University of Miami DOCS***Miami, Florida*

2020–Present. DOCS Medical Informatics Consultant
2019–2020. DOCS Medical Informatics Project Manager
2018–2019. DOCS Medical Informatics Assistant Station Manager

Iowa City Free Medical Clinic*Iowa City, Iowa*

2016–2018. Supervisor: Jennifer Beltran. Patient guide

**Technical
Skills****Life Sciences**

PCR/qPCR, Western Blot, Immunohistochemistry, Mouse dissection, Mouse Stereotaxic Surgery, Optogenetics, Behavioral Assays

Computational

Python, C/C++, Bash, NodeJS, R, TypeScript, JavaScript, HTML, (S)CSS, MatLab, Assembly, Lua. Familiar: PHP, SQL, Networking Systems

Software

Microsoft Office, LaTeX, Pandoc, GraphPad Prism