

Kelvin Chen

CONTACT INFORMATION

University of Virginia
College of Arts & Sciences
Charlottesville, VA 22904

Phone: (929) 377-0923
Email: ddw4hp@virginia.edu
Homepage: k9chen.github.io

RESEARCH INTERESTS

Clinical and translational neuroscience, nervous system disorders, neurological surgery, neural stem cell biology, neuroimaging, machine learning, applied neuroethics

EDUCATION

University of Virginia, Charlottesville, VA Aug 2022 – May 2026 (Expected)
• B.A., Neuroscience & Cognitive Science; Minor, Bioethics

Virginia Peninsula Community College, Hampton, VA Sep 2020 – May 2022
• Dual Enrollment, Biological Sciences & Mathematics

Woodside High School, Newport News VA Sep 2018 – June 2022
• Advanced Studies Diploma

RESEARCH EXPERIENCE

University of Virginia School of Medicine, Charlottesville, VA Jan 2024 – Present
Undergraduate Researcher, Department of Neurosurgery
Advisor: [Petr Tvrdek, Ph.D.](#)

•

Undergraduate Researcher, Department of Neuroscience Aug 2023 – Present
Advisor: [Lulu Jiang, M.D., Ph.D.](#)

• Investigated the cellular mechanism underlying nuclear membrane disruption and nucleocytoplasmic translocation of RNA-binding proteins and transcripts triggered by tau pathology in Alzheimer's disease using mouse and iPSC-derived human organoid models.

Barrow Neurological Institute, Phoenix, AZ May 2023 – Aug 2023
Research Intern, Department of Translational Neuroscience
Advisor: [Richard Dortch, Ph.D.](#)

• Modeled multi-compartmental diffusion MRI signals in pre-clinical rat models of peripheral nerve trauma based on segmented histological sections to derive diffusion tensor imaging and spherical mean technique-based metrics for monitoring axonal re/degeneration.

University of Virginia School of Medicine, Charlottesville, VA Sep 2022 – May 2023
Undergraduate Researcher, Department of Pharmacology
Advisor: [Julius Zhu, Ph.D.](#)

• Optimized a genetically encoded sensor-based image visualization and analysis algorithm to probe neuromodulatory synaptic activities and characterize neurotransmitter properties on the nanoscopic scale.

Hampton University, Hampton, VA Sep 2021 – Mar 2022
Research Intern, Department of Chemistry & Biochemistry
Advisor: [Peter Njoki, Ph.D.](#)

• Explored the role of gold nanoparticles for COVID-19 diagnosis and its mediating effect with antiviral drugs to target the SARS-CoV-2 RdRp gene through biochemical and mathematical modeling.

PUBLICATIONS

Editorials

- [E.1] **Chen, K.**, *Towards a Brave New World: The Huxleyan Reality of Using Pharmacological Neuroenhancement* Grounds: The Virginia Journal of Bioethics, 2023 [[HTML](#)]
- [E.2] **Chen, K.**, *The Inadvertent Consequences of Scanning the Human Brain* Grounds: The Virginia Journal of Bioethics, 2023 [[HTML](#)]
- [E.3] **Chen, K.**, *Moral Status in Cerebral Organoids, Gastruloids, and Chimeras* Grounds: The Virginia Journal of Bioethics, 2023 [[HTML](#)]
- [E.4] **Chen, K.**, *On the Psychological Disembodiment of Autonomy and Agency in Patients with Brain-Computer Interface Implants* Grounds: The Virginia Journal of Bioethics, 2023 [[HTML](#)]
- [E.5] **Chen, K.**, *Therapeutic Nihilism in Disorders of Consciousness Care and the Right to Live* Grounds: The Virginia Journal of Bioethics, 2023 [[HTML](#)]
- [E.6] **Chen, K.**, *A Neuroethical Discourse on the Application of Optogenetics for Memory Modification* Grounds: The Virginia Journal of Bioethics, 2023 [[HTML](#)]

PRESENTATIONS

Posters

- [P.1] **Chen, K.**, Sadrabadi, M.S., Dortch, R.D. *Geometry-Informed Multi-Compartmental Diffusion MRI Modeling of Injured Peripheral Nerves*. Barrow Neurological Institute Undergraduate Symposium, Phoenix, AZ, Aug 2023 [[PDF](#)]

TEACHING EXPERIENCE

University of Virginia, Charlottesville, VA

Undergraduate Teaching Assistant, Department of Psychology Spring 2024

- PSYC 3210: Research Methods: Psychobiology Laboratory

Undergraduate Teaching Assistant, Department of Chemistry Spring 2023

- CHEM 2321: Organic Chemistry Laboratory II (for Non-Chemistry Majors/Minors)

Undergraduate Teaching Assistant, Department of Chemistry Fall 2023

- CHEM 2311: Organic Chemistry Laboratory I (for Non-Chemistry Majors/Minors)

Undergraduate Teaching Assistant, Department of Chemistry Fall 2023

- CHEM 1811: Principles of Chemical Structure Laboratory (Accelerated)

HONORS & AWARDS

- Echols Scholarship, UVA 2023
- University Achievement Award Scholarship (~\$80,000), UVA 2022 – 2026
- Distinguished Research Mentorship Award, NHGSST 2022
- Valedictorian, WHS 2022

TECHNICAL SKILLS

- Programming Languages: MATLAB, R, HTML
- Softwares: LaTeX, Microsoft Offices, ImageJ

SERVICE &
OUTREACH

- The Cavalier Daily, Senior Translator 2023 – Present
 - The Oculus: The Virginia Journal of Undergraduate Research, Copy Editor 2022 – Present
 - Grounds: The Virginia Journal of Bioethics, Editor 2022 – Present
 - University Judiciary Committee, Investigator 2022 – Present
 - The Blosson Together Association, Senior Associate 2022 – Present
 - Madison House, Medical Services Volunteer 2022 – 2023
-

REFERENCES

Petr Tvrđik, Ph.D.

Assistant Professor of Neurosurgery
Department of Neurosurgery
University of Virginia School of Medicine
pt8bm@virginia.edu

Richard Dortch, Ph.D.

Associate Professor of Imaging Research
Department of Translational Neuroscience
Barrow Neurological Institute
richard.dortch@barrowneuro.org

Lulu Jiang, M.D., Ph.D.

Assistant Professor of Neuroscience
Department of Neuroscience
University of Virginia School of Medicine
wpm5vs@virginia.edu

Jason Chruma, Ph.D.

Assistant Professor of Chemistry
Department of Chemistry
University of Virginia
jjc5p@virginia.edu