

Kelvin Chen

CONTACT INFORMATION

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

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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

N. H. Governor's School for Science & Technology, Hampton, VA Sep 2020 – Jun 2022
• Dual Enrollment, Biological Sciences & Mathematics

Woodside High School, Newport News VA Sep 2018 – Jun 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.](#)
• Mapped cortical myeloid dynamics in situ in proximal middle cerebral artery occlusion models of stroke in Iba1-Dre and/or LysM-Cre transgenic mouse with the intersectional *RC::RLTG* dual-recombinase reporter allele.

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 DTI- and SMT-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](#)]
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PRESENTATIONS

Posters

- [P.1] **Chen, K.**, Sharifi, K.A., Tvrdik, P. *Dual-Recombinase-Based Intersectional Genetic Labeling of Myeloid Cells in a Preclinical Model of Middle Cerebral Artery Occlusion, in preparation.*
- [P.2] **Chen, K.**, Sadrabadi, M.S., Dortch, R.D. *Geometry-Informed Multi-Compartmental Diffusion MRI Modeling of Injured Peripheral Nerves.* BNI Summer Undergraduate Research Symposium, Phoenix, AZ, Aug 11, 2023 [[PDF](#)]
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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)
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HONORS &
AWARDS

- Echols Scholarship, UVA Aug 2023
- Distinguished Research Mentorship Award, NHGSST Jun 2022
- Valedictorian, WHS Jun 2022
- University Achievement Award Scholarship, UVA Apr 2022

PROFESSIONAL SERVICES	<p>W. M. Keck Center for Cellular Imaging, Charlottesville, VA Mar 4 – Mar 8, 2024 <i>Workshop Volunteer, Department of Biology</i></p> <ul style="list-style-type: none"> 21st Annual Workshop on FLIM, FRET, & NAD(P)H/FAD Metabolic Imaging <p>University of Virginia, Charlottesville, VA Apr 27, 2023 <i>Symposium Volunteer, Office of Citizen Scholar Development</i></p> <ul style="list-style-type: none"> URN Undergraduate Research Symposium
ADDITIONAL ACTIVITIES	<ul style="list-style-type: none"> <i>Editor</i>, Grounds: The Virginia Journal of Bioethics Jun 2023 – Present <i>Senior Translator</i>, The Cavalier Daily Feb 2023 – Present <i>Copy Editor</i>, Oculus: The Virginia Journal of Undergraduate Research Sep 2022 – Present <i>Investigator</i>, University Judiciary Committee Sep 2022 – Present <i>Senior Associate</i>, The Blosson Together Association Sep 2022 – Present <i>Surgical Supply Volunteer</i>, UVA Health University Hospital Sep 2022 – May 2023
TECHNICAL SKILLS	<ul style="list-style-type: none"> Programming Languages: MATLAB, R, HTML Softwares: L^AT_EX, Microsoft Offices, ImageJ/Fiji, ZEN, CellProfiler
REFERENCES	<div> <p>Petr Tvrđik, Ph.D. Assistant Professor of Neurosurgery Department of Neurosurgery University of Virginia School of Medicine pt8bm@virginia.edu</p> <p>Richard Dortch, Ph.D. Associate Professor of Imaging Research Department of Translational Neuroscience Barrow Neurological Institute richard.dortch@barrowneuro.org</p> <p>Ammasi Periasamy, Ph.D. Professor of Biology & Biomedical Engineering Department of Biology University of Virginia ap3t@virginia.edu</p> </div> <div> <p>Lulu Jiang, M.D., Ph.D. Assistant Professor of Neuroscience Department of Neuroscience University of Virginia School of Medicine wpm5vs@virginia.edu</p> <p>Jason Chroma, Ph.D. Assistant Professor of Chemistry Department of Chemistry University of Virginia jjc5p@virginia.edu</p> <p>Justin Mutter, M.D. Associate Professor of Geriatric Medicine Department of Medicine University of Virginia School of Medicine jbm4n@uvahealth.org</p> </div>