Kelvin Chen

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Research Goals: My research concerns the characterization of neurological disease biomarkers and the underpinning neuropathological mechanisms of diseased conditions at the molecular level. I explore the translatability of such findings for the novel development of ethical clinical applications to improve patient care.

Areas of Interest: Translational neuroscience, nervous system disorders, neural stem cell biology, neuroimaging, applied neuroethics

Education

2022 – 2026	**University of Virginia**, Charlottesville, VA. BA, Neuroscience & Cognitive Science; Minor, Bioethics
2020 – 2022	**New Horizons Governor's School for Science & Technology**, Hampton, VA. Dual Enrollment, Biological Sciences
2018 – 2022	**Woodside High School**, Newport News, VA. Advanced Studies Diploma

Research Experience

2023 – Pres.	**UVA Schools of Medicine**, Charlottesville, VA. Undergraduate Researcher, Dept. of Neuroscience, Advisor: Lulu Jiang, MD, PhD.

- *Current project*: Utilizing iPSC-induced brain organoid models for the study of Alzheimer's disease pathology.

2022 – 2023	Undergraduate Researcher, Dept. of Pharmacology, Advisor: Julius Zhu, PhD.

- Optimized a genetically encoded sensor-based image visualization and analysis algorithm for rendering nanoscopic images of neuromodulatory synaptic transmission and neurotransmitter properties.

Summer 2023	**Barrow Neurological Institute**, Phoenix, AZ. Research Intern, Dept. of Translational Neuroscience, Advisor: Richard Dortch, PhD.

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

2021 – 2022	**Hampton University**, Hampton, VA. Research Intern, Dept. of Chemistry & Biochemistry, Advisor: Peter Njoki, PhD.

- Explored the role of gold nanoparticle for COVID-19 diagnosis and its mediating effect with antiviral drugs to target the SARS-CoV-2 RdRp gene.

Publications

Editorials

[6] Chen, K., *A Neuroethical Discourse on the Application of Optogenetics for Memory Modification*, Grounds: The Virginia Journal of Bioethics, 2023 [HTML].

[5] Chen, K., *Therapeutic Nihilism in Disorders of Consciousness Care and the Right to Live*, Grounds: The Virginia Journal of Bioethics, 2023 [HTML].

[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].

[3] Chen, K., *Moral Status in Cerebral Organoids, Gastruloids, and Chimeras*, Grounds: The Virginia Journal of Bioethics, 2023 [HTML].

[2] Chen, K., *The Inadvertent Consequences of Scanning the Human Brain*, Grounds: The Virginia Journal of Bioethics, 2023 [HTML].

[1] Chen, K., *Towards a Brave New World: The Huxleyan Reality of Using Pharmacological Neuroenhancement*, Grounds: The Virginia Journal of Bioethics, 2023 [HTML].

Presentations

Poster

[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, 2023 [PDF].

Teaching Experience

UVA

Fall 2023	Undergraduate Teaching Assistant, CHEM 1811: Principles of Chemical Structure Lab (Accelerated).
Fall 2023	Undergraduate Teaching Assistant, CHEM 2311: Organic Chemistry Lab I (for Non-Chemistry Majors/Minors).

Awards & Grants

2023 – 2026	Echols Scholarship, UVA.
2022 – 2026	University Achievement Award Scholarship, UVA.
2022	Distinguished Research Mentorship Award, NHGSST.
2022	Valedictorian, WHS.

Services & Outreach

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

Affiliations

2022 – Pres.	Undergraduate Research Network.

Skills

Programming	MATLAB, R
Languages	English, Mandarin