

Alexander Anand Iyer

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Current

Fellow, National Institutes of Health Clinical Center, Department of Bioethics

- Conduct empirical and conceptual bioethics research, with current projects focusing on:
 - (1) the ethics of early-phase gene transfer trials,
 - (2) fair participant selection in 'high-demand' clinical trials,
 - (3) minimal-risk assessments in clinical research, and
 - (4) the misuse of emerging neurotechnologies.
- Serve with an attending on the NIH Clinical Center's bioethics consultation service, helping NIH community members navigate ethical challenges in clinical research and care.

Education

Brown University, Providence, RI

May 2019

- Sc.B. in Neuroscience; GPA: **4.0**, *magna cum laude*

Menlo-Atherton High School

June 2015

- Unweighted GPA: **4.0**

Honors and Awards

Phi Beta Kappa

Spring 2019

Sigma Xi

Spring 2019

Zern Endowment for the Life and Physical Sciences Award

Summer 2018

Grant awarded for the purpose of developing Neural Systems (NEUR1030), a core undergraduate neuroscience course at Brown

- Worked with Dr. Monica Linden to create and implement a set of weekly exams designed to develop students' abilities to reason critically about scientific research in neuroscience

Organic Chemistry Award

Spring 2017

Awarded annually to the Brown University student with the highest cumulative score in Organic Chemistry II

Other Awards, Honors, and Recognitions

- National Merit Scholar (2015), Multidisciplinary Faculty Award (2015), National AP Scholar (2015), Bausch & Lomb Honorary Science Award (2014), MIT Book Award (2014)

Publications (*peer-reviewed)

*Iyer AA, Barzilay JR, Tabor HK (2020) Patient and Family Social Media Use Surrounding a Novel Treatment for a Rare Genetic Disease: A Qualitative Interview Study, *Genetics in Medicine*, online first. <https://doi.org/10.1038/s41436-020-0890-6>

*Iyer AA, Hendriks S, Rid A (2020) Advantages of Using Lotteries to Select Participants for High-Demand Covid-19 Treatment Trials, *Ethics & Human Research*, 42:4, 35-40. <https://doi.org/10.1002/eahr.500061>

Iyer AA, Hendriks S, Rid A (2020) The Challenge of Selecting Participants Fairly in High-Demand Clinical Trials, *The American Journal of Bioethics*, 20:2, 35-38. <https://doi.org/10.1080/15265161.2019.1701746>

Presentations

Iyer AA, Saade D, Bharucha-Goebel DX, Foley AR, Averion G, Paredes E, Gray S, Bönnemann CG, Grady C, Hendriks S, Rid A. Lessons Learned from the Ethical Challenges Posed by a First-in-Human Gene Transfer Trial for a Neurodegenerative Disease. *International Neuroethics Society*, October 2020.

Iyer AA, Saade D, Bharucha-Goebel DX, Foley AR, Averion G, Gray S, Bönnemann CG, Grady C, Hendriks S, Rid A. Ethical Foresight for a New Wave of Gene Transfer Trials for Rare Genetic Diseases. *American Society for Bioethics and Humanities*, October 2020.

Iyer AA, Rid A, Hendriks S. Fair Participant Selection in High-Demand Clinical Trials: A Pluralistic Approach. *American Society for Bioethics and Humanities*, October 2020.

Iyer AA, Barzilay JR, Tabor HK. The Role of Social Media in Helping Stakeholders Navigate Ethical Challenges Raised by Innovative Therapies. *World Congress of Bioethics*, June 2020.

Tabor HK, Young J, Barzilay JR, **Iyer AA**, Treadwell N, Ormond K. Trusted Experts, Novel Treatments, and Real-Time Advice: The Use of Social Networks for Rare Disease. *American Society for Bioethics and Humanities*, October 2019.

Iyer AA, Barzilay JR, Tabor HK. "It helped me see what I would be going through": Democratization of Medical Knowledge Through Social Media for a Rare Genetic Disease. *American Society for Bioethics and Humanities*, October 2018.

Research Experience

Stanford Center for Biomedical Ethics, Stanford University, CA

Jan 2018 – Sept 2019

- Conducted qualitative medical ethics research, focusing on ways in which patients with rare genetic disease use social media to (i) improve their treatment experiences and outcomes, and (ii) develop networks of social, emotional, and informational support

Delaney Laboratory, Brown University, RI

Sept 2016 – May 2017

- Synthesized protein-DNA complexes to examine the role of protein modifications in eukaryotic DNA repair
- Collaborated with postdoctoral fellows and graduate students on experimental design and data analysis

Teaching/Leadership Experience

Head Teaching Assistant: Organic Chemistry I & II, Brown University, RI

Jan 2017 – May 2019

Organic Chemistry I and II (CHEM0350 and CHEM0360) are challenging, highly enrolled (400+) mid-level chemistry courses that emphasize the ability to apply existing knowledge of chemistry to novel situations.

- Led weekly problem sessions for up to 150 students to reinforce key concepts and answer student questions
- Designed problem sets to facilitate student understanding and encourage critical reasoning
- Supervised 9-12 junior teaching assistants, providing weekly feedback on their teaching and problem sets to help them teach more effectively

Teaching Assistant: Neural Systems, Brown University, RI

Fall 2017, 2018

Neural Systems (NEUR1030) is a highly enrolled (100+) mid-level neuroscience course that explores the neural mechanisms underlying sensory perception and motor function. The course emphasizes critical thinking and interpretation of primary scientific literature, and it is widely regarded by students as the most challenging neuroscience course at Brown.

- Taught a weekly recitation section, held office hours, graded exams, and met individually with students to discuss course content and develop effective studying and stress-management strategies
- Delivered a 1.5-hour lecture on motor control in the professor's absence

Counselor-in-Training Program Coordinator, Mountain Camp, CA

Summer 2016, 2017

- Coordinated and implemented a professional and emotional development program for ninety 15- to 17-year-olds in 2017
- Led leadership and problem-solving training, mediated conflict resolution, and performed individual counseling
- Taught campers ages 7-14 to waterski, windsurf, and sail, emphasizing controlled risk-taking and a growth mindset
- De-escalated conflicts, inspired personal growth, and supported campers with empathy through emotional challenges

Clinical Experience

Emergency Medical Technician, Brown University Emergency Medical Services, RI Sept 2016 – May 2019

- Responded to on-campus medical emergencies as part of Brown University's volunteer, student-run EMS service that is certified at all levels of pre-hospital care
- Provided patient care (monitored and maintained airway, breathing, and circulation; administered medication/interventions per RI state protocol); transported patients to hospitals; transferred care of patients to ER medical staff

Emergency Department Volunteer, The Miriam Hospital, Providence, RI Jan 2017 – May 2018

- Assisted nurses in registering incoming patients and transporting patients to appropriate treatment areas
- Accompanied independent patients during treatment to foster a comforting and supportive hospital environment

Stanford Center for Biomedical Ethics, Stanford University, CA Summer 2018

- Attended meetings of the Lucile Packard Children's Hospital Ethics Committee, where physicians sought ethical consult in patient care
- Observed doctors, nurses, social workers, and ethical consultants as they developed treatment plans during ICU multidisciplinary rounds at Stanford Hospital

Intern, PSG Hospitals, Coimbatore, Tamil Nadu, India Summer 2014

- General surgery: helped prepare operating room and assisted the surgical team with equipment during three surgeries
- Emergency medicine: cleaned beds, collected and organized patient records
- Health screenings in economically disadvantaged rural areas: organized crowds, set up equipment, streamlined screening processes

Skills and Interests

Languages

- Spanish (proficient); Tamil (basic)

Technical Skills

- Qualitative data analysis (Dedoose); statistical analysis (SPSS)

Other Activities

- Alto saxophone (jazz); tennis; skiing; hiking; traveling
- Certified black belt in karate