VISHAL JOHN
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Education

University of Louisville School of Medicine, Louisville, KY — May 2028
M.D. Expected
University of Michigan, Ann Arbor, MI — *May 2021*
B.S. Biopsychology, Cognition, and Neuroscience; GPA: 3.78/4.00
Minor in Business Administration - Ross School of Business
Relevant Coursework/Skills: Research Methodology, Organic Chemistry, General Chemistry, Biochemistry, Statistics & Data Analysis,
Honors/Awards: 5x University High Honors, James B. Angell Scholar, South Asian Studies Fellow, Center for Japanese Studies Scholarship Recipient, Health Sciences Scholar

Research Experience

Koschmann Lab for Pediatric Brain Cancer | Clinical Lab Specialist — *May 2021-Jan 2023*
University of Michigan Medical School, Dept. of Pediatrics Hematology/Oncology

- Analyzed CSF, blood,and tissue samples from pediatric brain tumor patients by ddPCR to assess and track cancer progression in response to experimental clinical trials.
- Assisted in the coordination of collecting brain tissue, spinal fluid, and blood plasma from pediatric patients during autopsy to store for future research.
- Created and integrated a new system to track and catalog pediatric brain tissue and liquid samples coming in to the lab via barcoding and computer tracking.
- Developed a novel method to recreate the microenvironment of cancer cells invading the brain using stem cell-derived thalamic and cortical organoids co-cultured with cancer cells. I presented this work on a first authored poster presented at the BioInnovation in Brain Cancer Symposium (see below)
- First author review on liquid biopsy techniques to combat pediatric brain tumors and a contributing author on three peer-reviewed publications (see below).
- Trained various lab members in techniques such as ddPCR, qPCR, western blot, cell culture (2D & organoids), cryo-sectioning, confocal microscopy, immunohistochemistry, primer/assay design, and ELISA.
- Maintained the lab's regulatory approval of human subjects studies in collaboration with the U-M Institutional Review Board.
- Managed ordering and receiving of biological reagents and chemicals for a lab of 15 people. I implemented a new system of ordering to streamline the ordering process for members easier using an online tool called Quartzy.

Food Addiction and Science Treatment Lab | Research Assistant — *May 2019-Jan 2020*
University of Michigan, Dept. of Psychology

- Managed participant interviews and collected research through questionnaires pertaining to how much people are influenced to eat when in a restaurant setting versus an office space
- Analyzed quantitative data within a study involving 190 subjects using Excel and found a strong correlation between eating habits and surrounding environments

Publications

John, V., Patel, N. The Brave Little Immune Team. Amazon Kindle Direct Publishing. ISBN: xxxxxxxxxxxx. (In Review)

Venneti, S., Kawakibi, A. R., Ji, S., Waszak, S. M., Sweha, S. R., Mota, M., ... **John, V**., ... & Koschmann, C. (2023). Clinical efficacy of ONC201 in H3K27M-mutant diffuse midline gliomas

is driven by disruption of integrated metabolic and epigenetic pathways. Cancer Discov, CD-23-0131. https://doi.org/10.1158/2159-8290.CD-23-0131

Tripathy A, **John V**, Wadden J, Kong S, Sharba S and Koschmann C (2023), Liquid biopsy in pediatric brain tumors. Front. Genet. 13:1114762. doi: 10.3389/fgene.2022.1114762

Cantor E, Wierzbicki K, Tarapore RS, Ravi K, Thomas C, Cartaxo R, Yadav VN, Ravindran R, Bruzek AK, Wadden J, **John V**, Babila CM, Cummings JR, Kawakibi AR, Ji S, Ramos J, Paul A, Walling D, Leonard M, Robertson P, Franson A, Mody R, Garton HJL, Venetti S, Odia Y, Kline C, Vitanza NA, Khatua S, Mueller S, Allen JE, Gardner S, Koschmann C. Serial H3K27M cell-free tumor DNA (cf-tDNA) tracking predicts ONC201 treatment response and progression in diffuse midline glioma. *Neuro Oncol.* 2022 Feb 6:noac030.

Wadden, J., Ravi, K., **John, V.**, Babila, C., & Koschmann, C. (2022). Cell-Free Tumor DNA (cf-tDNA) Liquid Biopsy: Current Methods and Use in Brain Tumor Immunotherapy. *Frontiers In Immunology*, 13. doi: 10.3389/fimmu.2022.882452

Wadden, J., Newell, B. S., Bugbee, J., **John, V.**, Bruzek, A. K., Dickson, R. P., Koschmann, C., Blaauw, D., Narayanasamy, S., & Das, R. (2022). Ultra-rapid somatic variant detection via real-time targeted amplicon sequencing. *Communications Biology*, 5(1). https://doi.org/10.1038/s42003-022-03657-6

Abstracts/Posters and Presentations

Vishal John, Veena Thamilsevan, Lucia Moscola, Inhan Lee (2025, October 16th). Engaging citizen scientists through WES self-data analysis training. Abstract presented at the American Society of Human Genetics (ASHG) Annual Meeting, Boston, MA, United States

Vishal John, Lucia Moscola, Ava Dornseif, Ziqi Guo, Inhan Lee (2025, October 14) From Blood Types to Base Pairs: High School Students Decode Their Own ABO Gene [Abstract Presentation] Research!Louisville, Louisville, KY, United States

Vishal John, Rodrigo Cartaxo, Robert Doherty, Kallen Schwark, Jenna LaBelle, Tuo Ji, Mariella Filbin, Jack Parent, Carl Koschmann (2022, September 30-October 1) Use Of A Thalamic Organoid Co-culture Model To Determine Drivers Of Diffuse Midline Glioma Migration And Invasion [Conference Session] Inaugural Brain Cancer Symposium, Ann Arbor, MI, United States

Jack Wadden, **Vishal John**, Kait Verbal, Amy Bruzek, Wajd-Al-Holou, Jason Heth, Hugh Garton, and Carl Koschmann (2022, May 24) Zero-waste Molecular Diagnostics From Biopsy Needle Wash Water [Conference Session] Pediatric Research Symposium, Ann Arbor, MI, United States

Amy Bruzek, Jack Wadden, **Vishal John**, Kait Verbal, Wajd-Al-Holou, Jason Heth, Hugh Garton and Carl Koschmann (2022, December 1-4) Ultra-rapid Molecular Diagnosis of H3K27M Mutation from Biopsy Washings: A Feasibility Report [Conference Session] AANS/CNS Pediatric Neurosurgery Section Meeting, Washington DC, United States

Work Experience

MiRcore | Research and Teaching Assistant *Apr 2015-May 2024*

- Taught high school students computational biology using statistical tools such as GEO2R, String Db, and RStudio, allowing 68 students to publish abstracts regarding their findings at the annual MiRcore research conference.
- Facilitated largest 4-hour Computational Biology contest for 164 high school students from all over MidWest and California at the University of Michigan.
- Led annual summer camps teaching high school students statistics through R programming by analyzing miRNA expression of 50,000 cancer biomarkers.

Palmer Commons at the University of Michigan | Building Manager *Jan 2018-Jan 2021*

- Created financial forecasting models for projected profit by analyzing previous revenue totaling $542,000 from event bookings.
- Provided customers with onsite technical service and accommodated their needs by scheduling events for various organizations including UofM departments, students, and local businesses

University of Michigan Housing | Resident Advisor Aug 2020-Jan 2021

- Mentored 36 freshmen intending to improve their first-year experiences through personal and professional support. I implemented events to promote inclusive community building and personal skill development.
- Managed the residence hall community center, facilitated community dialogues, and filled bias and incident reports when appropriate with the purpose of upholding community values and guidelines.

Rebrand Cities | Marketing Consultant *Apr 2020-Jul 2020*

- Developed new marketing campaigns and print advertisements for local small businesses in Detroit such as Onyx Tax Services, Boro Clothing, and Donut Villa in order to increase revenue after the coronavirus pandemic drastically affected sales
- Modernized local Detroit small businesses via user-friendly websites tailored to each business in collaboration with undergraduate and MBA students from Ross School of Business

Ace Hardware | Summer Sales Associate Jun 2018-Sep 2018

- Helped customers with finding the right tools and equipment for their home improvement projects.
- Assembled Weber barbeque grills and wheelbarrows to make ready for purchasing by customers

Volunteer Experience

Rock Cancer | Board Member *Mar 2022-Present*

- Taught pediatric cancer patients how to rock climb in an indoor rock climbing gym to build physical and mental confidence to support patients and their families.

Hospital Elder Life Program | Patient Volunteer *Jan 2022-Present*

- Assisted elderly patients by promoting and monitoring sleep/relaxation, feeding, hearing/vision, and mobility needs. The overall goal is to prevent the onset of delirium in elderly patients within the hospital.

The Breakfast Program at Saint Andrews | Food Server *Dec 2021-Present*

- Served healthy breakfasts, clothes, and provides nutritional bagged lunches for the homeless population of Ann Arbor, MI.

Lab on Wheels | Teaching Assistant *Apr 2018-Apr 2022*

- Traveled to local high schools within Ann Arbor to mentor students with grasping proper laboratory techniques such as micropipetting, PCR, PAGE, microarray, western blot, and cell culture.

826 Michigan | After-School Tutor Aug 2021-Dec 2021

- Tutored ~15 students ranging from second grade to high school for after-school support on homework assignments and class concepts. Specifically, provided support on STEM concepts for individual students.

God's Love We Deliver | Service Trip Leader Sept 2018-Apr 2019

- Led and planned a volunteer experience to New York City in association with a nonprofit called God's Love We Deliver. As a part of the Alternative Spring Break Organization through the Ginsberg Center, we prepared and delivered meals to those who are medically impaired from preparing meals themselves.

Ishinomaki Community Revitalization | Volunteer Carpenter Jan 2018-Jun 2018

- Built wooden-crafted benches, tables, and chairs for a local community in Ishinomaki, Japan after they were struck by a catastrophic tsunami and earthquake.

Extracurricular/Leadership Activities

Oncology Interest Group | President Jul 2025-Present

- Participated in trips at nearby national parks for rock climbing. Climbed at Red River Gorge and ice-climbing in Fenton Michigan at the annual Ice Festival.

Michigan Rock Climbing Club | Member Aug 2021-May 2024

- Participated in trips at nearby national parks for rock climbing. Climbed at Red River Gorge and ice-climbing in Fenton Michigan at the annual Ice Festival.

Genes in Diseases and Symptoms | President Jan 2018-Apr 2021

- Conducted COVID research using bash shell programming on UofM's Great Lakes supercomputer which analyzed 100,000 base pairs of tRNA fragments within coronavirus.
- Fundraised more than $27,000 by creating marketing campaigns for research microgrants for various diseases including Brain Cancer, Alzheimer's, and Autism in a span of four years.
- Created monthly speaker series events for doctors and academics to discuss research and their journey navigating STEM fields with more than 100 viewers in attendance.

Phi Chi Professional Pre-Medical Fraternity | Member Jan 2019-Apr 2021

- As a member I was fortunate to hear talks from medical school students and doctors to advance my professional pre-medical development.
- Partook in volunteering opportunities such as fundraising for the Washtenaw Literacy Program through a 5K race.

COVID19 Campus Challenge | Presenter Apr 2020-Jun 2020

- Created ideas for the University of Michigan-Ann Arbor that addresses the current issues surrounding the reopening of schools all across the nation. Our team designed the university with a safe plan when dealing with emergency procedures and open public spaces for students within the 2020-2021 school year.

Optimize | Student Entrepreneur Oct 2019-Apr 2020

- Competed in a university-wide entrepreneurship initiative. We showcased our conceptual biodegradable hand sanitizer packet to reduce plastic waste and pollution in our environment.

ROFL Stand Up Comedy Club | Member Sept 2017-May 2019

- Performed at club meetings and semester shows at our end of semester Comedy show.

Health Sciences Scholars Program | Student Scholar Sept 2017-May 2018

- Participated in a pre-professional Michigan Learning Community that introduces key issues and the breadth of careers in the healthcare field by bringing together students and faculty from a broad range of backgrounds, interests, and experiences. Learned about healthcare and health perspectives that affect marginalized populations.

References

Dr. Carl Koschmann
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Affiliations: Koschmann Lab for Pediatric Brain Cancer, Rock Cancer

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Affiliations: MiRcore, Lab on Wheels, Genes in Diseases and Symptoms

Professor Nick Tobier, MFA
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Affiliations: Ishinomaki Community Revitalization