

# Jonathan (Jon) Vincent

## SUMMARY

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- Current MD-PhD student driven towards understanding the neurological processes of neuro-health, disruption upon insult/injury, neural reparation systems, TBI, stroke, and neurodegenerative diseases.
- Uniquely curious problem-solver with a strong passion for healing, leading, and inspiring others through medicine and science.
- Former Full Scholarship D1 student-athlete; MBA and BS in Neurobiology, Magna Cum Laude.

## EDUCATION

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### University of Kentucky College of Medicine; MD-PhD Program

Lexington, KY

*Doctor of Medicine (July 2020 – May 2022; July 2026 – May 2028)*

Expected: May 2028

- Passed all M1 & M2 coursework with no remediation and successfully passed USMLE Step 1 on first attempt

*Doctor of Philosophy, Department of Neuroscience (June 2022 – April 2026) | GPA: 4.0*

Expected: April 2026

- Doctoral Advisory Committee: Dr. Adam Bachstetter, PhD (PI), Dr. Chris Norris, PhD, Dr. Pavel Ortinski, PhD, Dr. Ann Stowe, PhD, & Dr. Linda Van Eldik, PhD

### University of Cincinnati, Carl H. Lindner College of Business

Cincinnati, OH

*Master of Business Administration | GPA: 3.6*

April 2018

### University of Cincinnati, McMicken College of Arts & Sciences

Cincinnati, OH

*Bachelor of Science, Neurobiology | GPA: 3.8, Magna Cum Laude*

April 2017

- Awarded the highest honor for a UC student-athlete, in recognition of leadership ability and academic performance
- Sole recipient of a top financial grant to pursue undergraduate research investigating potential therapeutic intervention of CKD
- Transitioned from D1 football walk-on to earning starting position and full athletic scholarship

## APPOINTED POSITIONS

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### MD-PhD Admissions Committee

Lexington, KY

University of Kentucky College of Medicine, MD-PhD Program

May 2021 – Present

- Selected by program directors to lead the Student MD-PhD Admissions Committee, recognizing embodiment of program's core values.
- Conduct comprehensive reviews of MD-PhD program applications and discuss applicant qualifications with program directors.
- Collaborate in the development of interview questions and coordinate with University of Kentucky faculty to organize and conduct candidate interviews.

### Institutional MD-PhD Representative

Lexington, KY

University of Kentucky College of Medicine, MD-PhD Program

February 2021 – Present

- Designated by program directors as the University of Kentucky's Institutional Representative at the American Physician-Scientists Association (APSA) meetings for the MD-PhD program.
- Serve as the exclusive representative among 40 MD-PhD students, liaising between our institution and national MD-PhD program meetings.

## ACADEMIC HONORS, AWARDS & GRANT FUNDING

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### Neurotrauma 2024 Trainee Poster Competition Finalist

San Francisco, CA

Presented by 41<sup>st</sup> Annual Symposium of the National Neurotrauma Society, including AANS/CNS Joint Section

June 2024

- My abstract, "Differential Impact of Closed-Head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice," was accepted into the Neurotrauma 2024 Program as a poster presentation. It was selected as one of the top 20 trainee abstracts out of over 450+ submissions, earning a finalist position in the Trainee Poster Competition. My poster will be judged during the Poster Session (PS01) on June 10th, 2024, from 4:30 - 6:30 pm. Additionally, I am invited to present a 3-minute Data Blitz session on the same day from 1:00 - 2:30 pm.

### National Neurotrauma Society Trainee Travel Award (2024)

San Francisco, CA

Presented by 41<sup>st</sup> Annual Symposium of the National Neurotrauma Society, including AANS/CNS Joint Section

June 2024

- Awarded the 2024 National Neurotrauma Society Trainee Travel Award, selected from over 500+ trainees based on the rigor and merit of my abstract, as well as the potential to contribute to the field demonstrated in my CV and personal statement. This award provides \$750 to support travel expenses for attending the Society's annual meeting.

### Outstanding Graduate Student Poster Presentation

Lexington, KY

Presented by 13<sup>th</sup> Annual Markesbery Symposium on Aging and Dementia by Sanders-Brown Center of Aging

November 2023

- Awarded \$100 to 2 out of 35 graduate students who presented work at the 13<sup>th</sup> Annual Markesbery Symposium on Aging and Dementia; poster presentation quality assessed by 3x University of Kentucky faculty, based on overall knowledge of research project, data interpretation, and presentation efficiency.

**NIH T32 Grant Funding**

Lexington, KY

NIH T32 AG078110 Training in Translational Research in Alzheimer's and Related Dementias (TRIAD)

July 2023

- Awarded the NIH T32 AG078110 grant for specialized training in Translational Research in Alzheimer's and Related Dementias (TRIAD), recognizing my commitment to advancing research and treatment in neurodegenerative diseases.
- Engaged in comprehensive translational research training, enhancing my skills in bridging basic science discoveries with clinical applications in Alzheimer's and related dementias.
- Collaborated with renowned researchers and clinicians in the field, contributing to cutting-edge advancements in the understanding and treatment of neurodegenerative diseases.
- Secured a significant training grant with total compensation of \$XX,XXX.XX USD, enabling focused research efforts and professional development in Alzheimer's and related dementias research.

**Wilson Reflection Award**

Lexington, KY

Presented by University of Kentucky College of Medicine

October 2021

- Awarded \$250 to 10 out of 150 second-year medical students; nominated by course preceptors, for genuine and exceptional reflective writings on difficult conversations during Introduction to Clinical Medicine course.

**Professional Student Mentored Research Fellowship**

Lexington, KY

Presented by UKCOM Center for Clinical and Translational Science

March 2021

- Awarded \$3,000 fellowship to collaborate with UK faculty interested in mentoring professional students in clinical and translational research.

**Legion of Excellence Award**

Cincinnati, OH

Presented by UC Athletics Department

October 2017

- Awarded to one graduating senior from each sport who demonstrates the highest academic standing among their teammates, exhibits significant leadership both on and off the field, and has substantially contributed to the Cincinnati community

**UC Scholar Athlete of the Month**

Cincinnati, OH

Presented by UC Athletics Department

September 2017

- Awarded to stand-out student-athletes for their remarkable academic achievements while in season

**McMicken College of Arts & Sciences Neuroscience Fellowship Grant**

Cincinnati, OH

Presented by Dr. Ilya Vilinsky, Ph.D., Director of UC Neuroscience Program

April 2015

- Grant funding provided by the Department of Biological Sciences to undergraduate students who exhibit strong academic performance, genuine research interest, top graded research project proposal, letters of recommendations, and experiences.
- Three grants were available, the top grant for \$4000, the second tier for \$2500, and the third tier for \$1500. I was awarded the top \$4,000 grant

**Academic All-American (x14)**

Cincinnati, OH

Presented by American Athletic Conference (each semester)

August 2013 – December 2017

- Awarded by the American Athletic Conference for student-athletes in the top 5% for academic performance

**Dean's List (x14)**

Cincinnati, OH

Presented by University of Cincinnati (each semester)

August 2013 – April 2018

- Awarded to students who achieve over a 3.3 semester grade point average

**RESEARCH EXPERIENCES****University of Kentucky College of Medicine**

Lexington, KY

Graduate Research Assistant

June 2022 – Present

*Department of Neuroscience; Spinal Cord & Brain Injury Research Center under the supervision of Dr. Adam Bachstetter, Ph.D. (avg. 50 hours/week)*

- Dissertation Thesis: The Role of Neuronal Interleukin-1 Receptor 1 in Synaptic Function Following Traumatic Brain Injury
- My dissertation investigates the time-dependent role of neuronal interleukin-1 receptor 1 (IL-1R1) in modulating synaptic function after a mild traumatic brain injury (TBI). This study tests the hypothesis that the effects of IL-1R1 are critically timed: initially, blocking IL-1R1 activation during the peak of neuroinflammatory response post-injury may be mildly beneficial or irrelevant (Aim 1); however, inhibition during the recovery phase (2-6 weeks post-injury) proves detrimental due to the resultant impairment in synaptic plasticity (Aim 2). This research provides insights into the mechanisms by which TBI-induced neuroinflammation, particularly through interleukin-1, affects synaptic functionality and contributes to broader understandings of neuroinflammation-related synaptic dysfunction. Outcomes from this work have been published in the Journal of Neuroinflammation and presented at multiple national and local conferences, earning notable recognition including a travel award. Further, my research is supported by a two-year T32 fellowship awarded in August 2023, underscoring its significance and impact in the field of neuroscientific research.

**University of Kentucky College of Medicine**

Lexington, KY

Research Assistant

July 2024 – Present

*Department of Neurosurgery under the supervision of Dr. David Dornbos III, M.D. (avg. 5 hours/ week)*

- Developing a comprehensive database of patient demographic information, including detailed thrombectomy and thrombus data, for stroke patients treated at University of Kentucky Healthcare, facilitating improved patient outcome tracking and research accuracy.
- Calculating ARRIVE scores from clinical MRIs, contributing to enhanced predictive analytics and personalized treatment plans in vascular neurosurgery.

#### **University of Kentucky College of Medicine**

Lexington, KY

Professional Student Mentored Research Fellowship – Center for Clinical and Translational Science

May 2021 – August 2021

*Department of Neuroscience; Spinal Cord & Brain Injury Research Center under the supervision of Dr. Adam Bachstetter (avg. 40 hours/ week)*

- Investigating the severity of traumatic brain injury in closed-head injury, stereotaxis impact mice model using autofluorescent molecules small enough to leak through the blood-brain barrier if disrupted.
- Exploring immune response in the central nervous system in response to mild traumatic brain injury and relationships to neurodegeneration.
- Developed and presented a proposal for establishing new methodologies in evaluating CHI mice model brain injury severity.

#### **University of Cincinnati College of Medicine**

Cincinnati, OH

Volunteer Traumatic Brain Injury Post-Graduate Researcher

May 2018 – August 2020

*Department of Sports Medicine and Neurology & Rehabilitative Medicine under the supervision of Dr. Joseph Clark (20+ hours/ week)*

- Total hours: ~ 1,300 hours
- Develop and directly implement strategies to treat TBI patients with neurorehabilitation methodologies
- Exploring the remediation of TBI and concussion symptoms through Neuro-Visual Training protocols
- Investigating and validating clinical assessment models of concussion diagnosis and rehabilitation paradigms associated with TBI-centric care

Undergraduate Research Assistant

January 2014 – August 2017

*Department of Microbiology, Molecular Genetics and Biochemistry, Dr. Tom Thompson Laboratory (25+ hours/ week)*

- Total hours: ~ 3500 hours
- Investigated the protein-antagonistic relationship between TGF- $\beta$  proteins and DAN family antagonists
- Explored signal transduction models of wild-type and mutant BMP2 ligands and their potential therapeutic effects on diseases
- Hypothesized the therapeutic potential of an artificial BMP2 double mutant protein acting as a ‘decoy’ ligand to mop up overexpressed antagonists, which occurs during chronic kidney disease, through increased binding affinity and silenced signal
- Discovered initial results were successful in silencing harmful protein signaling effects which was essential in proceeding to the final step of research directed towards combating Chronic Kidney Disease
- Earned sole top-financial grant of \$4,000 to support further research endeavors in Dr. Thompson’s lab

#### **UC Health Hospital**

Cincinnati, OH

Volunteer Research Assistant

April 2019 – May 2020

*Department of Orthopaedic Surgery; Dr. Brian Grave (5-10 hours/ week)*

- Total hours: ~ 120 hours
- Explore post-operative patient satisfactory outcomes after varying types of shoulder surgeries
- Investigated the post-operative patient outcomes after non-lateralized vs. lateralized RTSA surgeries
- Examine massive data registry of different anterior cruciate ligament surgery effects on patient outcomes and comparing patient demographics parameters

#### **PEER-REVIEWED PUBLICATIONS**

- **Vincent JC**, Divine JG, Kuehn-Himmler A, Mangine RE, Ellis JK, Carrick FR, Hasselfeld KA, Bacevich BM, Fosselman D, and Clark JF. “Novel Pre-Season Sports Concussion Baseline for Men and Women Division-1 Collegiate Athletes”. *J Sports Neuroscience*. 2025. [Accepted 4/16/2025]
- Bauerle L, Frank JA, Karnik K, Al-Sharshahi ZF, **Vincent JC**, Ahmad H, Franz E, Gowda S, Millson N, Pennypacker K, Al-Kawaz M, Pahwa S, Fraser JF, Dornbos DL III. Predictors and outcome metrics of futile recanalization in patients with acute ischemic stroke. *J NeuroInterv Surg*. [Accepted 4/2/2025]
- **Vincent, JC\***, Gabbita, R, Mack, A, Kohmescher, K, & Stout, J (2024). A sports concussion baseline implemented at the conclusion of a collegiate athlete's career. *Journal of Sports Performance and Vision*, 6(SP1). <https://doi.org/10.22374/jspv.v6iSP1.20>
- **Vincent, JC\***, Kohmescher, K., Mack, A., & Stout, J (2024). Concussion rehabilitation interventions: A literature review of alternative strategies. *Journal of Sports Performance and Vision*, 6(SP1), 1-13. <https://doi.org/10.22374/jspv.v6iSP1.19>
- Bacevich, BM, & **Vincent, JC** (2024). Vision training to improve classroom endurance post-TBI: A case study with a 26-year-old female. *Journal of Sports Performance and Vision*, 6(SP1). <https://doi.org/10.22374/jspv.v6iSP1.16>
- **Vincent, JC**, Garnett, CN, Watson, JB et al. IL-1R1 signaling in TBI: assessing chronic impacts and neuroinflammatory dynamics in a mouse model of mild closed-head injury. *J Neuroinflammation* 20, 248 (2023). <https://doi.org/10.1186/s12974-023-02934-3>

- Clark, Joseph F.; Selmanovic, Enna; Drewry, Kip; **Vincent, Jon**; Himmler, Aaron; Mangine, Bob; Hasselfeld, Kim; Khoury, Jane; Polanski, David; and Divine, Jon (2021) "Survey of Prevention and Intervention Strategies Reducing Return to Play Post-Concussion in Division 1 Football," *Journal for Sports Neuroscience*: Vol. 1: Iss. 1, Article 5. <https://nsuworks.nova.edu/neurosports/vol1/iss1/5>
- Clark JF, Mangine R, Hasselfeld K, Schramm V, Colosimo A, Kuehn-Himmler A, Holloway G, Fosselmen D, **Vincent JC**, Giordano N, Divine JG. An Objective Method to Assess and Recommend Exertion and Exercises Targets for Return to Play Post Concussion. *J NeuroSport*. Vol. 1 , Article 4. 2020. <https://nsuworks.nova.edu/neurosports/vol1/iss1/4>.
- **Vincent JC**, Divine JG, Clark JF, et al. A Test Panel to Assess and Document an Absence of Concussive Signs for Sports Related Concussion. *Journal of Sports Performance Vision*. 2020. Vol 2(1):e29-e35. <https://doi.org/10.22374/jspv.v2i1.6>.
- Matar, R. N., Shah, N. S., **Vincent, J. C.**, Rayos Del Sol, S., & Grawe, B. M. Factors that influence inpatient satisfaction after shoulder arthroplasty. *Journal of Shoulder and Elbow Surgery*, 30(4), e165-e172. 2019. <https://doi.org/10.1016/j.jse.2020.07.022>

#### PEER-REVIEWED PRESENTATIONS (poster presentation unless otherwise noted)

- **Vincent JC**, Macheda T, Roberts KN, Spearman H, Norris CM, Bachstetter AD. "Differential Impact of Closed-head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice". 16<sup>th</sup> Annual Trainee Research Day. Lexington, KY. March 2025.
- Bauerle L, Frank JA, Karnik K, Al-Sharshahi ZF, **Vincent JC**, Ahmad H, Franz E, Gowda S, Millson N, Pennypacker K, Al-Kawaz M, Pahwa S, Fraser JF, Dornbos III DL. "Outcome metrics and complications for femoral versus radial access for endovascular intervention in patients with acute ischemic stroke." 75<sup>th</sup> Southern Neurosurgical Society Annual Meeting, Marco Island, FL. February 2025.
- Bauerle L, Frank JA, Karnik K, Al-Sharshahi ZF, **Vincent JC**, Ahmad H, Franz E, Gowda S, Millson N, Pennypacker K, Al-Kawaz M, Pahwa S, Fraser JF, Dornbos III DL. "Predictors and outcome metrics of futile recanalization in patients with acute ischemic stroke." 75<sup>th</sup> Southern Neurosurgical Society Annual Meeting, Marco Island, FL. February 2025.
- **Vincent JC**, Macheda T, Roberts KN, Spearman H, Norris CM, Bachstetter AD. "Differential Impact of Closed-head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice". 2024 Neuroscience Clinical-Translational Research Symposium. Lexington, KY. October 2024. **Abstract Top 20 Finalist, Data Blitz Presentation**
- **Vincent JC**, Macheda T, Roberts KN, Spearman H, Norris CM, Bachstetter AD. "Differential Impact of Closed-head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice". 14<sup>th</sup> Annual Markesbery Symposium on Aging and Dementia. Lexington, KY. September 2024.
- **Vincent JC**, Macheda T, Roberts KN, Spearman H, Norris CM, Bachstetter AD. "Differential Impact of Closed-head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice". 41<sup>st</sup> Annual Symposium for the National Neurotrauma Society. San Francisco, CA. June 2024. **Abstract Top 20 Finalist, Data Blitz Presentation, & Travel Award Recipient**
- **Vincent JC**, Macheda T, Roberts KN, Spearman H, Norris CM, Bachstetter AD. "Differential Impact of Closed-head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice". 15<sup>th</sup> Annual Trainee Research Day. Lexington, KY. April 2024.
- **Vincent JC**, Bodnar CN, Watson JB, Higgins EK, and Bachstetter AD. "IL-1R1 signaling in TBI: assessing chronic impacts and neuroinflammatory dynamics in a mouse model of mild CHI" 13<sup>th</sup> Annual Markesbery Symposium on Aging and Dementia. Lexington, KY. November 2023. **Outstanding Graduate Student Poster Presentation**
- **Vincent JC**, Bodnar CN, Watson JB, Higgins EK, and Bachstetter AD. "Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice." National Neurotrauma Symposium. Austin, TX. June 2023
- **Vincent JC**, Bodnar CN, Watson JB, Higgins EK, and Bachstetter AD. "Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice." American Physician-Scientist Association Annual Joint Meeting. Chicago, IL. April 2023
- **Vincent JC**, Bodnar CN, Watson JB, Higgins EK, and Bachstetter AD. "Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice." American Society of Neurochemistry. Lexington, KY. March 2023
- **Vincent JC**, Bodnar CN, Watson JB, Higgins EK, and Bachstetter AD. "Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice." American Society of Neurochemistry. Lexington, KY. March 2023
- Sanders L, Bodnar C, **Vincent J**, Macheda T, and Bachstetter AD. "Defining the Role of IL-1R1 in Endothelial to Microglia Interactions after a TBI." American Society of Neurochemistry. Lexington, KY. March 2023
- **Vincent JC**, Bodnar CN, and Bachstetter AD. "Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice." 12<sup>th</sup> Annual Markesbery Symposium on Aging and Dementia. Lexington, KY. November 2022
- **Vincent JC**, Bodnar CN, and Bachstetter AD. "Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice." American Medical Association Abstract Research Challenge. Virtual. October 2022
- **Vincent JC**, Bodnar CN, and Bachstetter AD. "Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice." Neuroscience Clinical-Translational Research Symposium. Lexington, KY. September 2022

- **Vincent JC**, Bodnar CN, and Bachstetter AD. “Insights into the necessary function of interleukin-1 in regulating neuroinflammatory gene expression following a closed-head traumatic brain injury in mice.” Americas School of Neuroimmunology. Columbus, OH. July 2022
- **Vincent JC**, et al. “Novel Pre-Season Concussion Baseline Assessment Including Protocols based on Recognizable Clinically Relevant Neurosensory Methodologies.” American Academy of Neurology. July 2019.
- **Vincent JC**, et al. “Novel Assessment for Interpreting and Documenting an Absence of Suspicion of Injury Including Protocols based on Recognizable Clinically Relevant Neurophysiological Methods.” American Academy of Neurology. July 2019.

## OTHER ORAL PRESENTATIONS

- **Vincent JC**. “Unpacking IL-1R1: Cell-Type Specific Contributions to Synapse Dysfunction in the Injured Brain”. University of Kentucky College of Medicine, Department of Neuroscience. Departmental Seminar. Lexington, KY. April 2025.
- **Vincent JC**. “Differential Impact of Closed-head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice”. University of Kentucky College of Medicine, Sanders-Brown Center on Aging. Journal Club Presentation. Lexington, KY. February 2025.
- **Vincent JC**. “Differential Impact of Closed-head Injury on CA1 and Dentate Gyrus Neuronal Functions in Mice”. University of Kentucky College of Medicine, Spinal Cord and Brain Injury Research Center. Trainee Works-in-Progress. Lexington, KY. July 2024
- **Vincent JC**. “Temporal Dynamics of Neuronal IL-1R1 Signaling: From Injury to Repair in TBI”. University of Kentucky Department of Neuroscience Trainee Seminar Presentation. Lexington, KY. April 2024.
- **Vincent JC**. “Critique of Ojo et al, 2021: Mural Cell Dysfunction Leads to Altered Cerebrovascular Tau Uptake Following Repetitive Head Trauma”. University of Kentucky College of Medicine, Spinal Cord & Brain Injury Research Center. Journal Club Presentation. Lexington, KY. March 2024.
- **Vincent JC**. “F30 Support Group”. University of Kentucky College of Medicine, Sanders-Brown Center on Aging. Journal Club Presentation. Lexington, KY. February 2024.
- **Vincent JC**. “Evaluating the role of neuronal IL-1R1 in modulating synaptic plasticity following CHI.” University of Kentucky Spinal Cord and Brain Injury Research Center Trainee Work-in-Progress. Lexington, KY. July 2023.
- **Vincent JC**. “Interleukin-1’s effect on gene expression following a closed-head injury in mice.” University of Kentucky Department of Neuroscience Trainee Seminar Presentation. Lexington, KY. January 2023.
- **Vincent JC**. “Critique of Whalen et al, 2022: Repetitive Mold Closed Head Injury in Adolescent Mice is Associated with Impaired Proteostasis, Neuroinflammation, and Tauopathy.” University of Kentucky College of Medicine, Spinal Cord & Brain Injury Research Center. Journal Club Presentation. Lexington, KY. September 2022.

## PATENTS

- **Vincent, Jonathan** and Clark, Joseph. 2021. Absence of Suspicion Test. US Patent: 17/357,246. June 24, 2021
- Clark, Joseph, and **Vincent, Jonathan**. 2021. Suppression Assessment Scoring and Mitigation Panel. US Patent: 17/400,843. August 12, 2021.
- Clark, Joseph, and **Vincent, Jonathan**. 2021. Stroop Saccades with Word Recall. US Provision App: 63/232,812, filed August 13, 2021. Patent pending.
- Clark, Joseph, and **Vincent, Jonathan**. 2021. Spatial Reasoning with Connect the Dots. US Provision App: 63/232,803, filed August 13, 2021. Patent pending.

## TEACHING EXPERIENCES

### University of Kentucky College of Medicine

Guest Lecturer

Lexington, KY

July 11, 2024 & November 17, 2025

*Course: Introduction to Clinical Research (82 first-year medical students) led by Dr. Peter Sawaya, MD.*

- Lecture Topic: Critically Evaluating a Clinical Scientific Manuscript
- Delivered a comprehensive lecture on how to critically review a scientific manuscript. The lecture was divided into two parts: the first part focused on teaching the principles and techniques for critical evaluation of scientific literature, and the second part involved a practical session where we reviewed an example scientific manuscript that the students had read prior to the lecture. This interactive approach facilitated a deeper understanding of the material and engaged students in hands-on learning.

## CERTIFICATIONS

### UC Health, Department of Orthopedics & Sports Medicine

Research Phlebotomy Certification

Cincinnati, OH

May 2018

Basic IV Certification

August 2018

### Inneuractive, Inc.

NeuroVisual Training for TBI Rehabilitation and Sports Performance Enhancement

Cincinnati, OH

September 2018

## PAID PROFESSIONAL EXPERIENCES

### American Broadcasting Company

Los Angeles, CA

Paid Medical Consultant & Actor for Grey's Anatomy Television Show

February 2022

- Consulted on neuro-cognitive assessments using the Dynavision D2 device for Grey's Anatomy Season 18 Episode 15
- Paid actor on Grey's Anatomy television show Season 18 Episode 15 as laboratory skills technician operating Dynavision D2

**Inneuractive, Inc.**

Cincinnati, OH

Founder & President

April 2019 – Present

- Pioneered the commercialization of Neuro-Visual Training (NVT) methods, addressing a critical market gap to enhance Traumatic Brain Injury (TBI) care accessibility and affordability.
- Spearheaded the development of cutting-edge services that scientifically demonstrated an 80% reduction in concussion incidences and a 50% decrease in post-injury recovery times, driving sustainable business growth.
- Forged strategic partnerships with leading experts in Sports Medicine and Neurology to refine and advance Neuro-Visual Training techniques, ensuring continuous innovation and excellence in patient care.
- Skillfully balanced academic commitments with entrepreneurial leadership, expanding the advisory network to bolster organizational growth and ensure a seamless transition of leadership while navigating the demands of medical and graduate education.

**Dynavision Global Holdings, LLC**

Cincinnati, OH

Director of Sales & Medical Research Integration

September 2019 – Present

- Spearheaded sales strategies and operations as Director of Sales and Medical Research Integration, leading to consistent achievement of ambitious sales targets for the Dynavision D2 Light Board with an average annual revenue of \$500,000 USD.
- Expertly integrated medical research findings into sales strategies, enhancing product relevance and effectiveness, thereby fostering strong relationships with healthcare professionals and institutions.
- Drove market expansion efforts and led a high-performing sales team, leveraging in-depth industry knowledge and innovative sales techniques to secure a competitive position in the healthcare and technology markets.
- Ensured strict compliance with FDA regulations, working closely with the FDA to navigate the regulatory landscape, thereby upholding the highest standards of product safety and efficacy in the medical device sector.

**Scribe America**

Cincinnati, OH

Medical Scribe

May 2019 – May 2020

*Cincinnati Children's Hospital Medical Center, Emergency Department (24 hours/ week)*

- Gained unique exposure to the nuanced decision-making processes of clinicians, enhancing my understanding beyond traditional academic learning.
- Directly supported physicians by efficiently capturing patient interactions and medical notes, contributing to reduced physician workload and enhanced patient care quality.
- Played a key role in patient triage in a fast-paced Emergency Department environment, ensuring timely and effective patient care.
- Advanced my medical knowledge, mastering medical terminology, patient examination methodologies, and interpretation of laboratory results.

**University of Cincinnati - Lindner College of Business**

Cincinnati, OH

Spokesperson for Co-Curricular Engagement Platform

August 2017 – April 2018

- Co-created a multimodal platform to help connect UC students with the often-unknown offerings of the community
- Pitched our platform to the Provost's Office, leading it to becoming incorporated into the first-year curriculum for freshmen apart of the Lindner College of Business
- Gained student awareness by setting up information booths around campus and attending student innovation conferences

**University of Cincinnati Athletics**

Cincinnati, OH

UC Bearcat Football Player – Special Teams Captain (years 4 & 5)

August 2013 – December 2017

- Successfully executed my role under immense pressure environments with a career accuracy rating of 98.6%
- Responsible for both the on and off field success of the players apart of the Special Teams Unit
- Earned full-scholarship after 2 years as walk-on due to my dogged determination and results-oriented work ethic in improving my skill set
- Earned many leaderships and academic awards; most notably the Legion of Excellence Award given once each year to student-athletes with the highest academic standing on their team, immense contribution to the community, and integritous leadership

**University of Cincinnati - Learning Assistance Center**

Cincinnati, OH

*An organization apart of the University of Cincinnati that helps students become engaged and empowered learners*

Peer Tutor

August 2014 – April 2016

- Tutored on average 10 hours per week in Organic Chemistry, Neuroscience, Physics, Applied Calculus, General Biology and General Chemistry
- Highest customer satisfaction rating at 97.8%, which is among the top 5% of all 44 tutors at the time
- Guided students in understanding key concepts through techniques learned from College Reading and Learning Association Certification

- Counsel students regarding educational issues, such as course and program selection, class scheduling and registration, school adjustment, truancy, study habits, and career planning
- Prepare students for later educational experiences by encouraging them to explore learning opportunities and to persevere with challenging tasks
- Prepare reports on students and activities as required by administration

## VOLUNTEER ACTIVITIES

### American Physician Scientists Association

Washington, D.C.

Co-Chair, Public Relations Committee, Executive Committee

May 2024 – Present

- Elected by peers to lead the Public Relations Committee, overseeing strategic vision and creative direction to enhance APSA's brand identity. Ensured professional standards and effective communication across organization-wide channels, significantly enhancing digital presence and member engagement.
- Accountable for the overall performance of the PR Committee, including the completeness, accuracy, and timeliness of all communications such as social media accounts and the monthly APSA newsletter. Conducted regular monthly meetings to foster teamwork and address committee needs, improving internal collaboration and external relationships.
- Aim to increase member engagement by 30% through targeted social media strategies and a robust digital outreach program. Responsible for maintaining a consistent posting schedule across platforms, ensuring frequency and quality of interactions to build lasting relationships and trust within the physician-scientist community.

### Neurosurgery Interest Group

Lexington, KY

President, NSIG, University of Kentucky College of Medicine, Faculty Advisor: Dr. David Dornbos III, MD

May 2024 – Present

- Nominated by UK neurosurgery faculty and elected by peers, providing visionary leadership and fostering academic excellence within the group.
- Coordinated guest lectures, hands-on workshops, and networking opportunities with leading neurosurgeons, enhancing members' knowledge and professional growth.
- Promoted the local chapter's alignment with national objectives, increasing member engagement and participation in national conferences and initiatives.

### Medical Research Scholars ePublication

Lexington, KY

Deputy Editor | under the leadership of Peter Sawaya, M.D.

November 2021 – Present

- Critically assess the scientific rigor of manuscripts submitted for consideration in the Medical Research Scholars ePublication Journal.
- Oversee the management of submitted manuscripts, coordinating with external peer reviewers and ensuring compliance with journal formatting standards.
- Facilitate the editorial process, working closely with authors to refine submissions and advance the publication of high-quality research.
- Mentor medical students in the manuscript review and critique process to improve critical scientific thinking.

### American Physician Scientists Association

Washington, D.C.

APSA Undergraduate Mentor

October 2021 – Present

- Empower undergraduate students to explore and refine their career interests in science and medicine, fostering the development of their academic and research skills.
- Provide comprehensive guidance on career development, effectively mentoring students through the application and interview processes for MD/PhD programs, resulting in two of my recent three mentees successfully matriculating into MD/PhD programs.
- Facilitate valuable networking opportunities, connecting students with established researchers and professionals in the field to enhance their exposure to the physician-scientist career path and opportunities.

### Salvation Army Clinic

Lexington, KY

Medical Student Volunteer

August 2020 – Present

- Serve underrepresented individuals at the Salvation Army Clinic by conducting medical interviews and performing physical examination to assess for health abnormalities and address patient concerns.
- Collaborate with and learn from attending physicians' critiques of my interview and physical examination skills.

### Neurosurgery Interest Group

Lexington, KY

Secretary, NSIG, University of Kentucky College of Medicine, Faculty Advisor: Dr. David Dornbos III, MD

May 2023 – May 2024

- Nominated by neurosurgery faculty and elected by peers, contributing to the strategic planning and organizational success of the group.
- Coordinated meeting schedules, documented minutes, and ensured effective communication among members and faculty advisors.

- Organized educational events, facilitated peer discussions, and promoted involvement in national AANS initiatives, fostering a collaborative and informative environment.

### **American Physician Scientists Association**

Vice Chair of Existing Partnerships, Partnerships Committee

Washington, D.C.

May 2023 – May 2024

- Personally raised \$6,500 to support the APSA Annual Joint Meeting, contributing significantly to the event's financial success and enhancing the organization's ability to host key collaborative activities with industry partners.
- Initiated and maintained communication with existing partners, updating Memorandums of Understanding (MOUs) to ensure alignment with new initiatives. Successfully organized and delegated partner meetings to foster continued collaboration and meet mutual objectives.
- Collaborated with the Public Relations Committee to ensure accurate and timely placement of partner logos and promotions in essential communication channels, including emails, the official website, and Joint Meeting programs, enhancing partner satisfaction and visibility.

### **39<sup>th</sup> Annual Kentucky American Water Science Fair at Frederick Douglass High School**

Science Fair Judge - Volunteer

Lexington, KY

February 2024

- Actively participated as a judge at the KAW-FCPS District Science Fair, evaluating student projects with a focus on fairness, technical understanding, and constructive feedback to foster young scientists' development.
- Served as an ambassador for STEM professions, inspiring students through personal engagement, sharing professional experiences, and encouraging their interest in science and engineering careers.
- Employed effective communication and questioning strategies to mentor students, guiding them towards deeper understanding of their projects and encouraging further exploration and experimentation in their fields of interest.

### **Return to Learn Post-TBI Representative**

National Collegiate Athletics Association - UC Representative

Cincinnati, OH

June 2018 – 2020

- National association with the goal of standardizing a “return to learn” protocol for NCAA athletes after incurring a concussion or other TBI
- Survey NCAA affiliated athletic programs to understand their return to learn protocols and concussion management paradigms
- Using collected data to investigate effective means for assessing and managing athletes after incurring a concussion regarding return to learn practices

### **TriHealth Concussion Crew**

Lead Student Representative

Cincinnati, OH

October 2019 – April 2020

- Presented lectures to middle school and high school students on concussions and other traumatic brain injuries, their affects, symptoms, and management strategies.
- Lead interactive small groups in concussion ‘goggles’ (mimicking symptoms effects), basic neuroanatomy, and several easy to use/learn preliminary evaluation methods.

### **Sheakley Boys & Girls Club of Price Hill, Cincinnati**

Volunteer/Mentor for Underprivileged Children

Cincinnati, OH

January 2017 – April 2018

- Involved in the children’s extracurriculars, participating in their physical activities such as tag, basketball, kickball, and other sports
- Helped teach children how to read while reading aloud to the group and also coloring with the younger children
- Learned how to effectively navigate sociocultural sensitivities regarding community and underprivileged area’s issues

### **Rockdale Academy Elementary School**

Volunteer/Mentor for Underprivileged Children

Cincinnati, OH

February 2016 – April 2018

- Spent time with children in the elementary school where I was involved with many of their daily activities including reading to, helping them learn to read, coloring with them and helping them with math problems
- Learned about surrounding community issues relating to socioeconomic difficulties and underprivileged areas
- Learned how to engage with children in a productive, mentorship-like experience through using sociocultural sensitive techniques

### **Good Samaritan Hospital**

Volunteer

Cincinnati, OH

June 2013 – April 2014

- Worked with the surgicare team helping transport patients pre/post-op to their destinations, learning how to interact with patients and family members during times of uncertainty and being scared
- Helped transport pregnant women in the maternity ward to their numerous appointments, learning how to communicate with women anxious about their futures and becoming a mother
- Tended to post-op neurosurgical patients by listening to their stories, getting them blankets, food, water if allowed, and learned how to interact with patients undergoing critical, life-saving operations

## **EXTRACURRICULAR/CLUB ACTIVITIES**

Friends of NeuroVisual Training Newsletter – Publication

Cincinnati, OH



Co-Founding Author & Content Creator

June 2020 – Present

- Newsletter publication discussing NeuroVisual Training methodologies, practices, and appropriate exercise techniques.
- Co-founding member and co-editor for newsletter.

### **Sports Neuroscience Club, University of Cincinnati**

Cincinnati, OH

Co-Founder, Vice President

August 2016 – December 2018

- Co-founded a UC club that focused on expanding the knowledge of individuals interested in clinical sports neuroscience
- Held monthly meetings that included round-table discussions on current literature within the sports neuroscience field
- Organized and met with clinicians involved in UC sports medicine, Athletic trainers, and their concussion management program director

### **Neurosociety, University of Cincinnati**

Cincinnati, OH

Recruiter

August 2016 – December 2016

- As a recruiter, I set up information booths to attract new members in joining our organization who were interested in learning current neuroscience literature
- Highest recruitment class from a single recruiter, getting 7 new members within one semester and maintaining an 86% retention rate from those members

Member

August 2014 – April 2016

- As a member, I would help organize and plan presentations from industry leading Neuroscientists from the University of Cincinnati College of Medicine, UC Health, and Cincinnati Children's Hospital Medical Center
- Presented relevant neuroscience journals to the organization every 3 months

## **CAPSTONE PROJECTS/PRESENTATIONS**

### **UC Health Hospital**

Cincinnati, OH

MBA Capstone Project – Applying LEAN strategies to Patient Admission Process

January 2018 – April 2018

- Semester long consulting capstone project focused on optimizing patient flow and experience when being admitted through the Emergency department
- Collaborated with UC Health administrators and clinicians to learn standard practices and how the hospital handled operating at or over patient capacity
- Analyzed several competitors and nonmedical industry patient/"product" flow to help eliminate dead weight and nonessential values components
- Proposition improved patient flow efficiency and bed turnover rate by 33% helping to reduce the amount of "Red Rooms"

### **Rhinegeist Brewery**

Cincinnati, OH

MBA Capstone Project – Employee Value Proposition

January 2018 – April 2018

- Semester long consulting capstone project focused on the "customer value proposition" for their employees, where my team analyzed the employee practices, happiness, and turnover rate of industry leaders
- Develop an encompassing, competitive compensation package for the employees at Rhinegeist, including other "on-campus" perks to attract and retain talented employees
- Presented findings and proposal to CEO of Rhinegeist, who believed our work to be effective, full, and implemented it throughout the company

### **InfoQ**

Santiago, Chile

MBA Capstone Project – Market Expansion Opportunity & Valuation

January 2018 – April 2018

- Semester long consulting capstone project focused on market expansion of InfoQ software throughout the United States
- Analyzed opportunity costs, industry niche and needs, viability within US market system
- Develop and presented strategies and recommendations to CEO of InfoQ that outlined several steps needed to improve their product and make it viable for sustainability in US markets
- Two-week study abroad opportunity to Santiago, Chile where I was exposed to a culture different from my own as well as a language barrier that I learned to overcome

## **PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS**

### **American Association of Neurological Surgeons**

June 2023 – Present

Member

### **National Neurotrauma Society**

March 2023 – Present

Member

### **American Physician-Scientists Association**

March 2020 – Present

Member & Institutional Representative for the University of Kentucky College of Medicine MD/PhD program

<b>American Medical Association</b> Member	August 2020 – Present
<b>Kentucky Medical Association</b> Member	August 2020 – Present
<b>Lexington Medical Society</b> Member	August 2020 – Present
<b>Alpha Epsilon Delta</b> Member	August 2014 – December 2015

## CONFERENCES ATTENDED

<b>41<sup>st</sup> Annual Symposium of the National Neurotrauma Society, including the AANS/CNS Joint Section</b> National Neurotrauma Society	San Francisco, CA June 2024
<ul style="list-style-type: none"> <li>Data Blitz Presentation, Top 20 Abstract Finalist out of 450+ abstracts, Travel Support Awardee out of 500+ trainees</li> </ul>	
<b>15<sup>th</sup> Annual Trainee Research Day</b> University of Kentucky College of Medicine	Lexington, KY April 2024
<ul style="list-style-type: none"> <li>Post-doctoral &amp; Graduate student poster judge</li> </ul>	
<b>Markesbery Symposium on Aging and Dementia</b> 13 <sup>th</sup> Annual Markesbery Symposium on Aging and Dementia – Scientific Section	Lexington, KY November 2023
<ul style="list-style-type: none"> <li>One of three graduate students to win outstanding poster award out of 50+ trainees</li> </ul>	
<b>Neurotrauma 2023</b> National Neurotrauma Society	Austin, TX June 2023
<ul style="list-style-type: none"> <li>Invited abstract reviewer</li> </ul>	
<b>AAP/ASCI/APSA Annual Joint Meeting</b> American Physician Scientist Association	Chicago, IL April 2023
<ul style="list-style-type: none"> <li>\$750 travel award</li> </ul>	
<b>14<sup>th</sup> Annual Trainee Research Day</b> University of Kentucky College of Medicine	Lexington, KY April 2023
<ul style="list-style-type: none"> <li>Post-doctoral poster judge</li> </ul>	
<b>ASN 2023 Annual Meeting</b> American Society for Neurochemistry	Lexington, KY March 2023
<b>Markesbery Symposium on Aging and Dementia</b> 12 <sup>th</sup> Annual Markesbery Symposium on Aging and Dementia – Scientific Section	Lexington, KY November 2022
<b>6<sup>th</sup> Annual Chronic Traumatic Encephalopathy Conference</b> Boston Chobanian & Avedisian School of Medicine	Virtual – Zoom October 2022
<b>NCTRS 5<sup>th</sup> Annual Conference</b> Neuroscience Clinical-Translational Research Symposium	Lexington, KY September 2022
<b>ASNI 4<sup>th</sup> Bi-Annual Conference</b> International Society of Neuroimmunology	Columbus, OH July 2022
<b>AAP/ASCI/APSA Annual Joint Meeting</b> American Physician Scientists Association	Virtual – Zoom April 2021
<b>NCAA-DoD 2019 Sports Concussion Conference</b> American Academy of Neurology	Indianapolis, IN July 2019
<b>UC 2019 Concussion Conference</b> UC Health Department of Sports Medicine and Orthopedics	Cincinnati, OH June 2019
<b>UC 2019 Neurotrauma Symposium</b> UC Health Center for Neurotrauma	Cincinnati, OH May 2019

## REFERENCES

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Akron, OH

## HOBBIES & EXTRACURRICULAR INTERESTS

### "Fun" Reading

- Favorite book (as of 4/10/2024): Talking with Strangers by Malcom Gladwell
- Last book read (2/23/2024): Elon Musk by Walter Isaacson

### Movies

- Favorite genre: psychological thrillers
- Top five favorite movies: (1) Good Will Hunting, (2) Dune Part 2, (3) Arrival, (4) Patch Adams, (5) Accepted

### Sports & Fitness

- Football fan of NCAA & NFL (favorite teams: University of Cincinnati and Cincinnati Bengals), and really enjoy playing recreational Pickleball, Volleyball, Softball, Golf (ehhh), etc.

### Gardening

- Started gardening in 2022 and have continued with seasonal growing

### Coding & Programming

- Teaching myself how to code in Python and working on DIY coding projects.

### **Chess & Strategy Games**

- Learning chess and love playing Catan, Risk, and other strategy games