Paras Vora

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Education & Training

Washington University in St. Louis — **St. Louis, MO**
BS, Biomedical Engineering and Computer Science — *Aug. 2011–May 2015*

University of Kentucky College of Medicine — **Lexington, KY**
MD — *Jul. 2015–May 2020*

University of Kentucky Department of Internal Medicine — **Lexington, KY**
Internship — *Jul. 2020–Jun. 2021*

University of Kentucky Department of Ophthalmology and Visual Sciences — **Lexington, KY**
Residency — *Jul. 2021–Exp. Jul. 2024*

Honors & Awards

Travel Grant | "Semantic Vessel and Lesion Segmentation in Diabetic Retinopathy" — **Baltimore, MD**
ARVO 2020 | Dr. Eric Higgins — *April 2020*

Development and Innovation Award | "Real-Time Stereoscopic Slit Lamp Videography" — **Lexington, KY**
University of Kentucky Global Ophthalmology | Dr. Eric Higgins — *April 2019*

Best Poster Award | "Using Artificial Intelligence to Facilitate Eye Disease Detection" — **Lexington, KY**
Markey Cancer Center Research Day | Dr. Romulo Albuquerque — *May 2018*
Clinical and Translational Science - Graduate Students Section

Outstanding Leadership & Community Service Award | University of Kentucky — **Lexington, KY**
Salvation Army Clinic — *Apr. 2017*

Research & Intellectual Contributions

Research Projects

Student Researcher — **Lexington, KY**
Advisor: Eric Higgins, MD, University of Kentucky — *Apr. 2019–Present*
Department of Ophthalmology and Visual Sciences
Project: Real-Time Stereoscopic Slit Lamp Videography

Student Researcher — **Lexington, KY**
Advisor: Eric Higgins, MD, University of Kentucky — *Apr. 2019–Jun. 2020*
Department of Ophthalmology and Visual Sciences
Project: Teaching Ophthalmology in 3D/VR

Student Researcher — **Lexington, KY**
Advisor: Eric Higgins, MD, University of Kentucky — *Dec. 2019–Jun. 2020*
Department of Ophthalmology and Visual Sciences
Project: Semantic Vessel and Lesion Segmentation in Diabetic Retinopathy

NIH TL1 Research Trainee — **Lexington, KY**
Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky — *Jun. 2018*
Department of Ophthalmology and Visual Sciences
Project: 3D-Printed Transilluminating Scleral Depressor for Vitrectomy Surgery

NIH TL1 Research Trainee **Lexington, KY**
Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky *Jun. 2017–Jun. 2019*
Department of Ophthalmology and Visual Sciences
Project: Non-Contrast Retinal Video Processing to Assess Retinal and Choroidal Perfusion

NIH TL1 Research Trainee **Lexington, KY**
Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky *Aug. 2017–Jun. 2018*
Department of Ophthalmology and Visual Sciences
Project: Development of Dry Eye Syndrome and Corneal Sensitivity after Vitreoretinal Surgery

Researcher **St. Louis, MO**
Advisors: Jennifer Silva, MD and Jonathan Silva, PhD *May 2016–Aug. 2016*
Washington University School of Medicine, Department of Pediatric Cardiology
Washington University in St. Louis, Department of Biomedical Engineering
Project: Augmented Reality Applications for Cardiac Catheterization Procedures

Student Researcher, Research in Surgery Elective **Lexington, KY**
Advisor: Romulo Albuquerque, DDS, MD/PhD, University of Kentucky *Jan. 2016–Jun. 2016*
Department of Ophthalmology and Visual Sciences
Project: Conditional Genetic Knock-out in Trigeminal Ganglia Following Corneal Nerve Injury

Student Researcher **St. Louis, MO**
Advisor: Deborah Veis (Novack), MD/PhD, Washington University School of Medicine *August 2013–May 2014*
Division of Bone and Mineral Diseases
Project: Effect of Low Dose Hydrogen Peroxide on Bone Turnover

Summer Undergraduate Research Fellow **St. Louis, MO**
Advisor: Deborah Veis (Novack), MD/PhD, Washington University School of Medicine *May 2013–August 2013*
Division of Bone and Mineral Diseases
Project: The Role of TGF-Beta in RANKL-Induced Osteoclastogenesis

Student Researcher **St. Louis, MO**
Advisor: Deborah Veis (Novack), MD/PhD, Washington University School of Medicine *Aug. 2012–May 2013*
Division of Bone and Mineral Diseases
Project: Effect of IAP Antagonists on Bone Turnover

Summer Research Fellow **Owensboro, KY**
Advisor: Uma Sankar, PhD, University of Louisville *May 2012–Aug. 2012*
Project: Lentiviral Cloning of GFER in Cancer Cell Lines

Peer-Reviewed Publications

[1] J. Cho, N. Bell, G. Botzet, **P. Vora**, B. J. Fowler, R. Donahue, H. Bush, B. K. Taylor, and R. J. C. Albuquerque. "Latent Sensitization in a Mouse Model of Ocular Neuropathic Pain". In: *Translational Vision Science & Technology* 8.2 (Mar. 2019), pp. 6–6. ISSN: 2164-2591.

[2] C. Yang, J. L. Davis, R. Zeng, **P. Vora**, X. Su, L. I. Collins, S. Vangveravong, R. H. Mach, D. Piwnica-Worms, K. N. Weilbaecher, R. Faccio, and D. V. Novack. "Antagonism of Inhibitor of Apoptosis Proteins Increases Bone Metastasis via Unexpected Osteoclast Activation". In: *Cancer Discovery* (2012). ISSN: 2159-8274.

Abstract Presentations

[1] **P. Vora** and E. Higgins. "Inexpensive Deep Learning for Semantic Vessel and Lesion Segmentation in Diabetic Retinopathy". In: *Association for Research in Vision and Ophthalmology Annual Meeting*. Baltimore, MD, June 2020.

[2] N. Fowler, R. Albuquerque, J. Cho, N. Bell, **P. Vora**, and G. Botzet. "Naltrexone as a Diagnostic Tool in Ocular Neuropathic Pain". In: *Journal of Clinical and Translational Science* 3.s1 (Mar. 2019), pp. 16–17.

[3] **P. Vora** and R. J. Albuquerque. "Using Artificial Intelligence to Facilitate Eye Disease Detection". In: *Markey Cancer Center Research Day*. Lexington, Kentucky, May 2018.

[4] **P. Vora**, N. Bell, J. Cho, G. Botzet, and R. Albuquerque. "Visualizing Retinal and Choroidal Blood Flow Noninvasively". In: *Association for Research in Vision and Ophthalmology Annual Meeting*. Honolulu, Hawaii, May 2018.

[5] R. Albuquerque, J. Cho, N. Bell, G. Botzet, **P. Vora**, and B. Taylor. "Peripheral Latent Sensitization Masks Chronic Ocular Pain". In: *Association for Research in Vision and Ophthalmology Annual Meeting*. Honolulu, Hawaii, May 2018.

[6] **P. Vora**, N. Bell, J. Cho, G. Botzet, and R. Albuquerque. "Optimizing a technique for visualizing retinal and choroidal blood flow noninvasively". In: *Journal of Clinical and Translational Science* 2.S1 (Apr. 2018), pp. 22–23.

[7] R. Patel, **P. Vora**, N. Bell, J. Cho, C. Williams, and R. Albuquerque. "Development of Dry Eye Symptoms and Corneal Sensitivity after Ocular Surgeries". In: *13th Annual Center for Clinical and Translational Science Spring Conference*. Lexington, Kentucky, Apr. 2018.

[8] **P. Vora**, N. Bell, J. Cho, G. Botzet, and R. Albuquerque. "Non-Contrast Retinal Video Processing to Reveal Hidden Changes". In: *AOA Groves Memorial Student Research Symposium*. Lexington, Kentucky, Mar. 2018.

[9] **P. Vora** and R. Albuquerque. "Eulerian Video Magnification: A Novel Approach to Assess Choroidal Blood Flow". In: *12th Annual Center for Clinical and Translational Science Spring Conference*. Lexington, Kentucky, Mar. 2017.

Oral Presentations

[1] **P. Vora**. "Visualizing Retinal Blood Flow Noninvasively". 13th Annual Center for Clinical and Translational Science Spring Conference. Apr. 2018.

Research Certification

University of Kentucky Collaborative Institutional Training Initiative
GCP for Clinical Trials Involving Medical Devices, Biomedical Investigators and Key Personnel *Jun. 2017–Present*

Funding

UK Global Ophthalmology Development & Innovation Grant *Apr. 2019–Present*
"Real-Time Stereoscopic Slit Lamp Videography"

NIH TL1 Predoctoral Clinical Research Training Fellowship *Jun. 2017–Jun. 2018*
"Novel Application of Eulerian Video Magnification for Assessment of Choroidal Perfusion"

UK Center for Clinical and Translational Science Small Grant *Oct. 2017–Oct. 2018*
"Retinal Video Processing for Non-Contrast Assessment of Retinal and Choroidal Perfusion"

Washington University Summer Undergraduate Research Fellowship *May 2013–Aug. 2013*
Howard Hughes Medical Institute - "Role of TGF-Beta in RANKL-Induced Osteoclastogenesis"

Patents

Application: US11202589B2 - "System and Method for Assessment of Retinal and Choroidal Blood Flow Noninvasively Using Color Amplification," granted December 21, 2021

Consulting Activities

Igneous, LLC **Lexington, KY**
Co-Founder *Oct 2017–Present*
Providing technical expertise for a software algorithm to assess retinal and choroidal tissue perfusion

Professional Activities, Public Service & Professional Development

Memberships

Association for Research in Vision and Ophthalmology: Member *2017–Present*

American Medical Association: Member and Former Delegate *2015–Present*

Lexington Medical Society: Member *2015–Present*

Leadership & Service

Ophthalmology Interest Group Executive Board **Lexington, KY**
Volunteer Coordinator *May 2019– May 2020*
Managed medical student volunteers, attendings, and residents at the Salvation Army Ophthalmology Clinic.

Ophthalmology Interest Group Executive Board **Lexington, KY**
President *May 2017– Jun. 2018*
Formed a free student-run ophthalmology clinic at the Lexington Salvation Army. Featured articles:
- UK Healthcare Blog: https://1n.pm/Do7GF

Ophthalmology Interest Group Executive Board **Lexington, KY**
Vice President *May 2016–May 2017*
Organized informational career and specialty meetings with various ophthalmologists

Salvation Army Student Run Clinic **Lexington, KY**
Volunteer *Jan. 2016–May 2020*
Helping provide free medical care for Lexington's indigent populations

Salvation Army Student Run Clinic **Lexington, KY**
Technology Officer *Jun. 2016–Jun. 2017*
Maintained and improved the clinic website, upgraded computers and software to improve patient documentation

Relay For Life Executive Steering Committee **St. Louis, MO**
2013-2014: Co-Chair; 2014-2015: Communications Chair *May 2013–May 2015*
Planned and implemented the annual Relay For Life event on Washington University's campus, helping raise over $600,000 to support cancer research, treatment, and awareness

Teaching Experience

Mentor, Neuroscience Course **Lexington, KY**
University of Kentucky College of Medicine *Feb. 2017–May 2017*
Held weekly one-on-one meetings in the Neuroscience course attended by all first year medical students

Other Creative Activity

Machine Learning Final Project *2017–2018*
University of Kentucky Department of Computer Science
For the Special Topics in Artificial Intelligence course. Implemented an active-learning based software tool in for training a machine learning model to grade diabetic retinopathy from fundus images

Orijinz Words & Phrases *2018–Present*
Entspire, LLC
Developed an iOS and Android game based on the original card game. Read the origin and try to guess the matching word or phrase. View the game here: https://apps.apple.com/us/app/orijinz/id1481023099

Interests

Travel Photography: View my photos at https://goo.gl/photos/Xfr3W8DyZ1yfCSRSA

Other Interests: Tennis, coffee, computers/current technology, microelectronics