

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Jeremy Liu, MD

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Heed Fellowship

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
The University of Texas at Dallas, Richardson, TX	BS	08/2012	05/2017	Healthcare Management
University of Hawaii John A. Burns School of Medicine, Honolulu, HI	MD	07/2017	12/2022	Doctor of Medicine
Bascom Palmer Eye Institute, Miami, FL		05/2021	06/2022	OCT Research Fellowship
Yale New Haven Hospital, New Haven, CT		06/2023		Ophthalmology Residency

A. Personal Statement

- Completed an **OCT Research Fellowship** with Philip J. Rosenfeld, MD, PhD at the Bascom Palmer Eye Institute.
 - Created a **clinical trial endpoint** (i.e. hypertransmission defect) that is currently being used to investigate novel therapies for geographic atrophy in AMD.
 - Was the **first to characterize calcified drusen** on *en face* OCT and identify it as a risk factor for geographic atrophy formation.
- Published **over 30 peer-reviewed research articles**, including **5 first author** publications, all of which have **Pubmed IDs**.
- Completed **8 first-author podium and poster presentations** at national ophthalmology conferences (as well as over **40 coauthored** poster and oral presentations).
- Have over **550 citations** per google scholar (Link: <https://scholar.google.com/citations?user=W7sOTUIAAAAJ&hl=en>)

B. Positions, Scientific Appointments and Honors

- Sigma Xi, The Scientific Research Honor Society** (September 2025 – Present)
 - Elected as a full member to the world's largest general research honor society for demonstrating noteworthy achievements in research that have advanced the field of ophthalmology.
- Alpha Omega Alpha Honor Medical Society** (September 2020 – Present)
 - Awarded to the top 15% of the class based on scholastic achievement, leadership, ethical standards, professionalism, and service.

C. Contributions to Science

OCT Research Fellowship (May 2021 – June 2022)

Bascom Palmer Eye Institute – University of Miami Health System

PI: Philip J. Rosenfeld, MD, PhD

- Spearheaded projects and protocols involving clinical research using swept source optical coherence tomography angiography (SS-OCTA) to investigate disease progression in age-related macular degeneration.
- Developed new algorithms and clinical trial end points that can be used to test novel therapies.
- Involved in ongoing clinical trials and was responsible for reading and quantifying images obtained from patients in these trials.
- Proficiently trained in interpreting retinal imaging especially OCT and OCTA

Peer Reviewer

- ***British Journal of Medicine Case Report*** (September 2025 – Present)
- ***BMC Ophthalmology*** (December 2025 – Present)
- ***Scientific Reports*** (January 2026 – Present)
- ***International Journal of Retina and Vitreous*** (March 2026 – Present)
- ***Journal of Ophthalmology*** (April 2026 – Present)

D. Publications

Berni A, Shen M, **Liu J**, Kastner JD, El-Mulki OS, Beqiri S, Herrera G, Trivizki O, Waheed NK, Usner DW, Levy B, O'Brien R, Gregori G, Rosenfeld PJ. Novel Clinical Trial Designs for Intermediate AMD, *Ophthalmology Science* (2026), doi: <https://doi.org/10.1016/j.xops.2026.101179>.

Shen M, Berni A, **Liu J**, Hiya F, Herrera G, El-Mulki OS, Beqiri S, Cheng Y, Kastner J, Trivizki O, O'Brien RC, Di Nicola M, Yehoshua Z, Dubovy SR, Wang RK, Gregori G, Rosenfeld PJ. Real-World Experience with Intravitreal Pegcetacoplan for the Treatment of Geographic Atrophy in AMD. *Am J Ophthalmol*. Published online September 5, 2025. doi:10.1016/j.ajo.2025.09.006

Berni A, Kastner JD, Shen M, Cheng Y, Herrera G, Hiya F, **Liu J**, Wang L, Li J, El-Mulki OS, Beqiri S, Trivizki O, Waheed NK, O'Brien R, Gregori G, Wang RK, Rosenfeld PJ. Hyperreflective Foci Along the Retinal Pigment Epithelium Predict the Onset of Large Choroidal Hypertransmission Defects in Age-Related Macular Degeneration. *Am J Ophthalmol*. 2025;274:76-90. doi:10.1016/j.ajo.2025.02.021

Shen LL, Kaiser PK, **Liu J**, Stewart JM, Heyang M, Keenan TDL, Sunness JS, Rosenfeld PJ, Chew EY, Del Priore LV. Determinants of Four-Year Visual Acuity Loss in Geographic Atrophy: An Analysis of Age-Related Eye Disease Study and Age-Related Eye Disease Study 2. *Ophthalmology*. Published online February 5, 2025. doi:10.1016/j.ophtha.2025.01.028

Rohowetz L, Iyer PG, Ashkenazy N, Fan KC, Laiginhas R, Shi Y, **Liu J**, Rosenfeld PJ, Flynn HW. Tractional Retinoschisis in Proliferative Diabetic Retinopathy Imaged With Swept-Source Optical Coherence Tomography Angiography. *Ophthalmic Surg Lasers Imaging Retina*. Published online January 1, 2025. doi:10.3928/23258160-20241101-04.

Herrera G, Cheng Y, Attiku Y, Hiya FE, Shen M, **Liu J**, Lu J, Berni A, Trivizki O, Li J, O'Brien RC, Gregori G, Wang RK, Rosenfeld PJ. Comparison Between Spectral-Domain and Swept-Source OCT Angiography Scans for the Measurement of Hyperreflective Foci in AMD. *Ophthalmol Sci*. 2024;5(2):100633. Published 2024 Oct 21. doi:10.1016/j.xops.2024.100633

Beqiri S, Herrera G, **Liu J**, Shen M, Berni A, El-Mulki OS, Cheng Y, O'Brien RC, Gregori G, Wang RK, Rosenfeld PJ. Evaluating the persistence of large choroidal hypertransmission defects using SS-OCT imaging. *Exp Eye Res*. 2024;248:110117. doi:10.1016/j.exer.2024.110117

Herrera G, Shen M, Trivizki O, **Liu J**, Shi Y, Hiya FE, Li J, Cheng Y, Lu J, Zhang Q, O'Brien R, Gregori G, Wang RK, Rosenfeld PJ. Comparison Between Spectral-Domain and Swept-Source OCT Angiographic Scans for the Detection of Persistent Hypertransmission Defects in AMD. *Ophthalmol Science*. 2024 Aug 7;5(1):100593. doi: 10.1016/j.xops.2024.100593. PMID: 39318709; PMCID: PMC11417529.

Shen M, Iyer PG, Zhou H, Cheng Y, **Liu J**, Trivizki O, Wang RK, Gregori G, Rosenfeld PJ. Longitudinal SS-OCT Choroidal Imaging Following Thrombosis of the Superior Ophthalmic Vein. *Am J Ophthalmol Case Rep*. 2024;36:102130. Published 2024 Jul 25. doi:10.1016/j.ajoc.2024.102130

Berni A, Shen M, Cheng Y, Herrera G, Hiya F, **Liu J**, Wang L, Li J, Zhou SW, Trivizki O, Waheed NK, O'Brien R, Gregori G, Wang RK, Rosenfeld PJ. The Total Macular Burden of Hyperreflective Foci and the Onset of Persistent Choroidal Hypertransmission Defects in Intermediate AMD. *Am J Ophthalmol*. 2024;267:61-75. doi:10.1016/j.ajo.2024.06.023

Cheng Y, Hiya FE, Li J, Lu J, Shen M, **Liu J**, Herrera G, Berni A, Gregori G, Rosenfeld PJ, Wang RK. Calcified drusen prevent the detection of the underlying choriocapillaris using swept-source optical coherence tomography angiography. *Invest. Ophthalmol. Vis. Sci*. 2024 Jun 3;65(6):26. doi: 10.1167/iovs.65.6.26. PMID: 38884553; PMCID: PMC11185265.

Rosenfeld PJ, Shen M, Trivizki O, **Liu J**, Herrera G, Hiya FE, Li J, Berni A, Cheng Y, Lu J, Zhang Q, O'Brien R, Wang L, El-Mulki OS, Gregori G, Wang RK. Rediscovering AMD with Swept-Source OCT Imaging: The 2022 Charles L. Schepens, MD, Lecture. *Ophthalmol Retina*. 2024 Apr 18:S2468-6530(24)00187-8. doi: 10.1016/j.oret.2024.04.012. Epub ahead of print. PMID: 38641006.

Liu J, Rosenfeld PJ, Dubovy SR. Phentermine Associated Branch Retinal Artery Occlusion in a 49-Year-Old Woman. *Am J Ophthalmol Case Rep*. 2024 Feb 15;35:102013. doi: 10.1016/j.ajoc.2024.102013. PMID: 38884112; PMCID: PMC11179534.

Hiya F, **Liu J**, Shen M, Herrera G, Li J, Zhang Q, Sisternes L, Rosenfeld PJ, Gregori G. Spectral-Domain and Swept-Source OCT Angiographic Scans Yield Similar Drusen Measurements When Processed with the Same Algorithm. *Ophthalmol Science*. 2023;4(3):100424. Published 2023 Nov 4. doi:10.1016/j.xops.2023.100424

Shen M, Zhou H, Lu J, Li J, Jiang X, Trivizki O, Laiginhas R, **Liu J**, Zhang Q, Sisternes L, Feuer W, Gregori G, Wang RK, Rosenfeld PJ. Choroidal Changes After Anti-VEGF Therapy in AMD Eyes With Different Types of Macular Neovascularization Using Swept-Source OCT Angiography. *Invest. Ophthalmol. Vis. Sci*. 2023;64(13):16. <https://doi.org/10.1167/iovs.64.13.16>.

Corvi F, Corradetti G, Laiginhas R, **Liu J**, Gregori G, Rosenfeld PJ, Sadda SR. Comparison Between B-Scan and En Face Images for Incomplete and Complete Retinal Pigment Epithelium And Outer Retinal Atrophy. Submitted to *Ophthalmol Retina*. 2023 Jul 10:S2468-6530(23)00305-6. doi: 10.1016/j.oret.2023.07.003. Epub ahead of print. PMID: 37437713.

Shen M, Li J, Shi Y, Zhang Q, Liu Z, Zhou H, Lu J, Cheng Y, Chu Z, Zhou X, **Liu J**, Jiang X, Wang L, Laiginhas R, Sisternes L, Vanner EA, Feuer WJ, Wang RK, Gregori G, Rosenfeld PJ. Decreased Central Macular Choriocapillaris Perfusion Correlates with Increased Low Luminance Visual Acuity Deficits. *Am J Ophthalmol*. 2023;253:1-11. doi:10.1016/j.ajo.2023.04.011

Li J, Shen M, Cheng Y, Zhang Q, **Liu J**, Sisternes L, Wang RK, Gregori G, Rosenfeld PJ. The Impact of Cataracts on the Measurement of Macular Choriocapillaris Flow Deficits using Swept-Source OCT Angiography. *Trans. Vis. Sci. Tech*. 2023;12(6):7. doi: <https://doi.org/10.1167/tvst.12.6.7>.

Liu J, Shen M, Laiginhas R, Herrera G, Li J, Shi Y, Hiya F, Trivizki O, Waheed NK, Chung CY, Moulton EM, Fujimoto JG, Gregori G, Rosenfeld PJ. Onset and Progression of Persistent Choroidal Hypertransmission Defects in Intermediate AMD: A Novel Clinical Trial Endpoint. *Am J Ophthalmol*. 2023;254:11-22. doi:10.1016/j.ajo.2023.03.012

Li J, Liu Z, Lu J, Shen M, Cheng Y, Siddiqui N, Zhou H, Zhang Q, **Liu J**, Herrera G, Hiya F, Gregori G, Wang RK, Rosenfeld PJ. Decreased Macular Choriocapillaris Perfusion in Eyes With Macular Reticular Pseudodrusen Imaged With Swept-Source OCT Angiography. *Invest. Ophthalmol. Vis. Sci.* 2023;64(4):15. doi: <https://doi.org/10.1167/iovs.64.4.15>.

Li J, Wu CY, Shen M, Bynoe L, Nezgoda J, **Liu J**, Cheng Y, Sporysheva A, Albin T, Wang RK, Gregori G, Rosenfeld PJ. Longitudinal quantification of choriocapillaris flow deficits in persistent placoid maculopathy: a case report. *BMC Ophthalmol.* 2023;23(1):161. Published 2023 Apr 18. doi:10.1186/s12886-023-02894-5

Lu J, Cheng Y, Li J, Liu Z, Shen M, Zhang Q, **Liu J**, Herrera G, Hiya FE, Gregori G, Rosenfeld PJ, Wang RK, Morin R, Joseph J. "Automated segmentation and quantification of calcified drusen in 3D swept source OCT imaging," *Biomed. Opt. Express* 14, 1292-1306 (2023)

Iyer PG, Ashkenazy N, **Liu J**, Laura D, Marquez M, Albin T. Monitoring Delayed Toxoplasmosis-Related Branch Retinal Artery Occlusion Using Widefield *En Face* Optical Coherence Tomography and Multimodal Imaging. *Case Rep Ophthalmol* 20 January 2023; 14 (1): 369–375. <https://doi.org/10.1159/000528787>

Liu J, Laiginhas R, Corvi F, Ferris FL, Lim TH, Sadda SR, Waheed NK, Iyer PG, Shen M, Shi, Y, Trivizki O, Wang L, Vanner, EA, Feuer WJ, Gregori G, Rosenfeld PJ. Diagnosing Persistent Hypertransmission Defects on *En Face* OCT Imaging of Age-Related Macular Degeneration. *Ophthalmol Retina.* 2022;S2468-6530(22)00033-1. doi:10.1016/j.oret.2022.01.011

Liu J, Laiginhas R, Shen M, Shi Y, Li J, Trivizki O, Waheed NK, Gregori G, Rosenfeld PJ. Multimodal Imaging and *En Face* OCT Detection of Calcified Drusen in Eyes with Age-Related Macular Degeneration. *Ophthalmol Science* (2022), <https://doi.org/10.1016/j.xops.2022.100162>.

Liu J, Shen M, Rosenfeld PJ. OCT Angiography Imaging of Macular Neovascularization in AMD. *Moran CORE.* 2022. <https://morancore.utah.edu/section-12-retina-and-vitreous/oct-angiography-imaging-of-macular-neovascularization-in-amd/>

Zhou H, **Liu J**, Laiginhas R, Zhang Q, Cheng Y, Zhang Y, Shi Y, Shen M, Gregori G, Rosenfeld PJ, Wang R. Depth-resolved visualization and automated quantification of hyperreflective foci on OCT scans using optical attenuation coefficients. *Biomed. Opt. Express* 13, 4175-4189 (2022)

Laiginhas R, **Liu J**, Shen M, Shi Y, Trivizki O, Waheed NK, Gregori G, Rosenfeld PJ. Multimodal Imaging, OCT B-Scan Localization, and *En Face* OCT Detection of Macular Hyperpigmentation in Eyes with Intermediate AMD. *Ophthalmol Science.* 2022;100116. <https://doi.org/10.1016/j.xops.2022.100116>.

Kihara Y, Shen M, Shi Y, Jiang X, Wang L, Laighinhas R, Lyu C, Yang J, **Liu J**, Morin R, Lu R, Fujiyoshi H, Feuer WJ, Gregori G, Rosenfeld PJ, Lee AY. Detection of Nonexudative Macular Neovascularization on Structural Optical Coherence Tomography Images using Vision Transformers. *Ophthalmol Science.* (2022), doi: <https://doi.org/10.1016/j.xops.2022.100197>

Iyer PG, Fan J, Diaz D, **Liu J**, Trivizki O, Shen M, Fan KC, Flynn HW. Recurrent, Bilateral Endogenous Candida Endophthalmitis with Multiple Focal Chorioretinal Lesions: Management with Pars Plana Vitrectomy and Focal Endolaser. *J Ophthalmic Inflamm Infect.* 2022;12(1):24. Published 2022 Jul 11. doi:10.1186/s12348-022-00301-6

Iyer PG, Zhou H, Zhang Q, Chu Z, Shen M, Shi Y, **Liu J**, Trivizki O, Lam B, Wang RK, Gregori G, Rosenfeld PJ. Swept-Source Optical Coherence Tomography Detection of Bruch's Membrane and Choriocapillaris Abnormalities in Sorsby Macular Dystrophy. *Retina:* April 22, 2022 - Volume - Issue - 10.1097/IAE.0000000000003515 doi: 10.1097/IAE.0000000000003515.

Liu M, **Liu J**, Weitzel EK, Chen PG. The predictive utility of the 22-item sino-nasal outcome test (SNOT-22): A scoping review. *Int Forum Allergy Rhinol.* 2022;12(1):83-102. doi:10.1002/alr.22888

Liu J, Situmeang J, Takahashi D, Harada R. Forearm brachial artery to brachial vein looped arteriovenous grafts: A single center, single surgeon observational study. *J Vasc Access.* 2021;11297298211015095. doi:10.1177/11297298211015095

Harada HA, **Liu J**, Shortell JD, Beesley SJ. A 20-Year-Old Man with e-Cigarette or Vaping Product Use-Associated Lung Injury (EVALI) and Thrombotic Coagulopathy. *Am J Case Rep.* 2021;22:e929915. Published 2021 Apr 15. doi:10.12659/AJCR.929915.

E. Scholastic Performance

Yale Ophthalmology Surgical Skills Competition Winner (August 2025)

Yale New Haven Hospital – New Haven, CT

- Awarded to one ophthalmology resident from each class who displays the best surgical skills, including suturing and intraocular surgery techniques

Yale Ophthalmology Academic Excellence Award (June 2025 and June 2026)

Yale New Haven Hospital – New Haven, CT

- Awarded to ophthalmology residents scoring $\geq 90^{\text{th}}$ percentile on OKAPs within their respective class nationwide

Yale New Haven Hospital ED Consultant of the Month (August 2024)

Yale New Haven Hospital – New Haven, CT

- Awarded to a resident on a consulting service who renders excellent and timely patient care, while providing education for staff in the Yale New Haven Hospital Emergency Department.

Knights Templar Eye Foundation Travel Grant (April 2023)

ARVO 2023 Annual Meeting – New Orleans, LA

- Awarded \$750 for travel support to attend and present at the ARVO 2023 Annual Meeting