

Yannis Mantas Paulus, M.D.

Assistant Professor
Department of Ophthalmology and Visual Sciences
Department of Biomedical Engineering
University of Michigan, Kellogg Eye Center
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Education and Training

- 08/2001 – 06/2005 **Harvard University**, Cambridge, MA
A.B. cum laude in Chemistry and Physics
- 09/2005 – 06/2009 **Stanford University School of Medicine**, Stanford, CA
M.D. Bioengineering Scholarly Concentration
- 06/2009 – 06/2010 **Memorial Sloan Kettering Cancer Center**, New York, NY
Transitional Year Internship
- 07/2010 – 06/2013 **Stanford University School of Medicine**, Stanford, CA
Ophthalmology Resident
- 07/2012 - 06/2013 **Stanford University School of Medicine**, Stanford, CA
Chief Resident Physician, Department of Ophthalmology
- 07/2013 – 06/2015 **Johns Hopkins University, Wilmer Eye Institute**, Baltimore,MD
Medical & Surgical Vitreoretinal Fellow

Certification and Licensure

- 10/18/2015 – 12/31/2025 Diplomate, Certified, American Board of Ophthalmology
- 12/10/2010 – 09/30/2018 State of California Physician & Surgeon License
- 12/15/2010 – 03/31/2020 Drug Enforcement Administration Controlled Substance License
- 02/21/2013 – 09/30/2015 State of Maryland Board of Physicians License
- 12/26/2014 – 01/31/2019 State of Michigan Medical Doctor License
- 12/26/2014 – 01/31/2019 State of Michigan Controlled Substance License

Academic, Administrative, and Clinical Appointments

- 07/2013 - 06/2015 **Johns Hopkins University, Wilmer Eye Institute**, Baltimore,MD
Assistant Faculty in Ophthalmology, ASTP
- 07/2015 - present **University of Michigan, Kellogg Eye Center**, Ann Arbor, MI
Assistant Professor, Tenure Track, Department of Ophthalmology

Research Interests

I am interested in applying physics, bioengineering, and mathematical modeling to develop novel retinal imaging systems and laser therapies. I have co-developed a novel, inexpensive system for providing tele-ultrasound, co-founded a retinal imaging company, and investigate pattern scanning laser photocoagulation, laser-tissue interactions, and restorative retinal laser therapy to create minimally traumatic retinal laser therapy. I am studying photoacoustic and molecular imaging of the retina and choroid for retinal ischemic diseases, including diabetic retinopathy, vein occlusions, sickle cell retinopathy, and macular degeneration.

Grants

Stanford University Medical Scholars Research Fellowship (PI) 08/2006 - 06/2007
Stanford University. "Establishing and Optimizing Low-Energy Semi-Automated Patterned Retinal Photocoagulation".

The goal of this project was to establish and optimize the use of low-energy semi-automated patterned panretinal photocoagulation by optimizing the compromise between laser pulse duration and safety factor, develop a new protocol in which the PRP treatment is given in bursts of laser pulses, and establish the range of treatment settings at which retinal photoreceptor migration occurs.

Role: PI.

Leonidas Lantzounis Research Grant (PI) 12/2007 - 08/2008
Hellenic Medical Society of New York. "Establish and Optimize Patterned Scanning Laser Photocoagulation: A New Approach to Retinal Treatment"

The goal of this project was to develop a mathematical model of retinal laser burns and to use these models for optimization of the pulse duration, repetition rate, laser power, and laser spatial and temporal modulation.

Role: PI.

Dr. Frederick E.G. Valergakis Research Grant (PI) 10/2008 - 06/2009
The Hellenic University Club of New York. "Retinal Regeneration and Its Implications for Ocular Laser Therapy"

This project established the range of energies over which retinal migration occurs after laser photocoagulation to prevent permanent retinal scarring through histologic analysis and multi-electrode arrays.

Role: PI.

Wilmer Eye Institute Research Grant (PI) 07/2013 - 06/2014
Johns Hopkins University "Novel imaging strategies using fundus autofluorescence to identify plaques and diagnose and follow retinal artery occlusions"

This project prospectively evaluated patients for unique autofluorescence characteristics of retinal artery occlusions and followed patients over time.
Role: PI.

University of Michigan Center for Entrepreneurship (co-PI) 01/2016 – 01/2017
Dean's Engineering Translational Prototype Research Fund "CellScope
Smartphone-based Retina"
This project is to build a novel, non-mydiatric high-quality smartphone-based
retinal fundus imaging camera.
Role: Co-PI.

University of Michigan MTRAC N021025 (co-PI) 01/01/2016 – 04/30/2017
University of Michigan Translational Research and Commercialization for Life
Sciences "Smartphone-based Retinal Imaging for Screening of Eye Disease"
This project is to build a novel, non-mydiatric high-quality smartphone-based
retinal fundus imaging camera.
Role: co-PI.

National Eye Institute 4K12EY022299-4 (Gardner PI) 05/2016 – 04/2018
Michigan Vision Clinician-Scientist Development Program "Real-time In Vivo
Visualization of the Molecular Processes in Choroidal Neovascularization." This
project is to develop a novel molecular imaging system to detect wet AMD based
on the photoacoustic technique and contrast agents to visualize $\alpha\beta3$ integrin in
neovascularization. Role: Scholar.

Fight for Sight Grant-in-Aid FFSGIA16002 (PI) 07/2016 – 12/2017
Fight for Sight – International Retinal Research Foundation "Realtime In Vivo
Visualization of the Molecular Processes in Retinal and Choroidal
Neovascularization." Role: PI.

Research to Prevent Blindness (Lee PI) 1/2016 – 12/2016
Unrestricted Research to Prevent Blindness Grant to Paul Lee. "Novel Laser-
Ultrasound Therapy for Macular Degeneration and Diabetic Retinopathy."

Alliance for Vision Research (Paulus PI) 03/2017 – 02/2018
"Photo-mediated Ultrasound Therapy as a Novel Adjunct Therapy for Macular
Degeneration." This project is to develop a novel therapy using concurrent
nanosecond pulse duration laser with ultrasound to selective treat
neovascularization in wet macular degeneration. Role: PI.

Knights Templar Eye Foundation Inc (Patel PI) 07/2017 – 06/2018
Career-Starter Research Grant. "Smartphone-based wide-field fundus
photography for diagnosis and telemedicine in pediatric retinal diseases." This
project is to develop a novel high-quality smartphone-based retinal imaging
camera designed for children and retinopathy of prematurity. Role: Preceptor.

Grant Reviewer

- 2015 International Retinal Research Foundation
2017 Great Ormond Street Hospital Children's Charity Grant, United Kingdom

Honors and Awards

- 2005 Harvard University Senior Award for Excellence in Promoting Intercultural and Race Relations Recipient
2007 Hellenic American Professional Society Academic Scholarship Recipient
2007 Dr. Leonidas C. Contos Graduate Fellowship Recipient
2007, 2008 Dr. Anthony P. Bagatelos Medical Scholarship Recipient
2008 Vamvas Scholarship Recipient of the Hellenic American Medical & Dental Society of Southern California
2008 AHEPA Education Foundation P.A. Margaronis Scholarship Recipient
2009 Stanford Bio-X Travel Grant Recipient
2009 Stanford University Scholarly Concentration Travel Grant Recipient
2009 Stanford Medical Student Association Travel Grant Recipient
2009 National Eye Institute Travel Grant Recipient for ARVO
2009 Finalist in the Stanford E-Challenge Competition for Entrepreneurs
2009 Placed 3rd of 60 groups in the HYSTA 5th Annual Entrepreneur Competition
2010 - 2013 Selected to the Board of Councilors of the California Academy of Eye Physicians and Surgeons
2010 Selected as Greek America's Forty Under Forty recognizing 40 leaders in the USA
2011 Selected as Alternate Delegate to California Medical Association House of Delegates
2011 Selected as clinical advisor to Stanford University Biodesign Graduate Course
2011 Received a citation for clinical excellence from the Director of the Veterans Administration Palo Alto Health Care System
2012 International Society for Eye Research (ISER) Travel Fellowship Recipient
2012 Attended the 7th Annual Heed Ophthalmic Foundation Residents Retreat
2012 Selected as Delegate to the California Medical Association House of Delegates
2012 Article Paulus *et al* "Healing of Retinal Photocoagulation Lesions" is #1 IOVS Most-Read Articles during April 2012
2013 Selected as Starr E. Shulman MPA Fellow by the California Academy of Eye Physicians & Surgeons
2013 Winner of the ASCRS Foundation Resident Excellence Award
2013 One of 4 residents selected for oral presentation at the AUPO/RPB Research Forum
2013 Received Certificate of Honor from the Hellenic American Professional Society

- 2013 - 2014 Selected as a Heed Ophthalmic Foundation Fellow
- 2014 Awarded the Fellows Scholarship Program for the Cole Eye Institute Retina Summit
- 2015 Recipient of the 2015 Evangelos S. Gragoudas Award by the Macula Society
- 2016 – 2019 Selected to FIRST (Fostering Innovative Retina Stars of Tomorrow)
- 2016 ARVO abstract selected as “Hot Topic”, awarded to only 2% of abstracts
- 2016 Kellogg Eye Center Grand Blanc April 2016 Employee of the Month
- 2016 *Retinal Pharmacotherapeutics* book was first author in chapter won the British Medical Association Medical Book Award 2016 'highly commended' in the category internal medicine
- 2016 Selected as a Leading Physician of the World
- 2017 Biomedical Engineering 599 Team iSurgery selected from University of Michigan for BMEidea national competition
- 2017 Won Michigan Growth Capital Symposia Innovators Cup Champion for CellScope Retina
- 2017 Selected as a Top Doctor
- 2017 Selected as America’s Top Ophthalmologists
- 2017 Selected to Marquis’ Who’s Who

Memberships in Professional Societies

- American Medical Association, 2005 - present
- American Medical Student Association, 2005 - 2009
- California Medical Association, 2005 – 2013
- Santa Clara County Medical Association, 2005 – 2013
- Santa Clara County Medical Association Alliance, 2005 – 2013
- Hellenic American Professional Society of California, 2006 - present
- Harvard Club of San Francisco, 2006 – 2013
- Harvard Club of Silicon Valley, 2006 – 2013
- American College of Physicians, 2006 – 2013
- Medical Volunteers for Disaster Response, 2006 – 2013
- Optical Society of America, 09/2007 - present
- SPIE (International Society of Photo-Optical Instrumentation Engineers), 09/2007 - present
- American Association for the Advancement of Science , 10/2007 - present
- Association for Research in Vision and Ophthalmology (ARVO), 10/2007 - present
- American Physical Society, 11/2007 - present
- Hellenic Business Network, 11/2009 - 06/2013
- Stanford Alumni Association, 2009 - present
- California Academy of Eye Physicians and Surgeons, 2010 - 2013
- Hellenic Bioscientific Association USA, 03/2010 - present
- Fellow, American Academy of Ophthalmology, 07/2010 - present
- Stanford Club of Palo Alto, 2010 - 2013
- American Society of Cataract and Refractive Surgery, 2011 - 2013
- International Society for Eye Research, 2012 - present

Ophthalmology Innovation Network, 8/2012 - present
The Maryland State Medical Society, 2014 - present
American Society of Retina Specialists, 10/2014 - present
Michigan Society of Eye Physicians and Surgeons, 08/2015 - present
Michigan State Medical Society, 08/2015 - present
Genesee County Medical Society, 08/2015 - present
Society of Heed Fellows, 08/2015 – present
Associate Fellow, Initiate, American College of Surgeons, 06/2016 – present

Editorial Positions, Boards, and Peer-Review Service

Case Reports in Clinical Medicine, Editorial Board Member, 2013 - present
BMC Ophthalmology, Associate Editor, 2014 - 2016
International Journal of Ophthalmic Research, Editorial Board, 2014 - present
International Journal of Ophthalmic & Eye Science, Editorial Board, 2015 - present
SM Ophthalmology Journal, Editorial Board, 2015 - present

Peer Review

Archives of Ophthalmology, 2009
A Complete Guide to Eye Diseases and Disorders, 2013
BMC Endocrine Disorders, 2016
BMC Infectious Diseases, 2016
BMC Ophthalmology, 2016
BMC Pediatrics, 2017
BMJ Case Reports, 2016 – 2017
British Journal of Ophthalmology, 2016
Case Reports in Clinical Medicine, 2013 - 2014
Clinical Ophthalmology, 2011, 2014
Clinical & Experimental Ophthalmology, 2013 - 2014
Computers in Biology and Medicine, 2017
European Ophthalmic Review, 2013, 2016
Health and Quality of Life Outcomes, 2016
International Journal of Ophthalmic Research, 2015
JAMA Ophthalmology, 2015 - 2016
Journal of Biomedical Optics, 2012, 2016, 2017
Journal of Health Care for the Poor and Underserved, 2010, 2011, 2013
Journal of Medical Imaging, 2017
Journal of Ophthalmology, 2015
Journal of the National Medical Association, 2017
Ocular Immunology and Inflammation, 2011
Ophthalmic Surgery, Lasers & Imaging Retina, 2013 – 2015, 2017
Ophthalmology, 2017
Ophthalmology Retina, 2017
Optical Engineering, 2015
Reports in Medical Imaging, 2013

RETINA, 2016, 2017
Scientific Reports, 2017
Survey of Ophthalmology, 2017
Translational Vision Science & Technology, 2015 - 2017
US Ophthalmic Review, 2013 - 2014
PLOS ONE, 2015

Teaching

Undergraduate advisees

- 1) Liberty Reforma, 2007 – 2008, Stanford University undergraduate
- 2) Hillary Lin, 2008, Stanford University undergraduate
- 3) Alexander Chen, 2011 – 2013, Stanford University undergraduate
- 4) Alexander Addiego, 2015 – 2016, University of Michigan senior physics undergraduate
- 5) Anji Li, 2016 – present, University of Michigan Biomedical Engineering masters student, BIOMEDE 590-192 (35777) Dir Research (Independent Study)
- 6) Madison Tarnowski, 2016 – present, University of Michigan undergraduate chemical engineering, UROP
- 7) Arjun Ponduri, 2016 – present, University of Michigan undergraduate biomolecular sciences, Bio200 Independent Study
- 8) Rachel Levenson, 2016 – present, University of Michigan undergraduate materials science and engineering
- 9) Anna John, 2016 – 2017, University of Michigan undergraduate biomedical engineering, BIOMEDE 490 Dir Research

Doctoral candidate advisees

- 1) Zizhong Hu, 2015 – 2016, University of Michigan, visiting graduate student in lab
- 2) Haonan Zhang, 2016 – present, University of Michigan, graduate student in lab
- 3) Jia Li, 2016 – 2017, University of Michigan, visiting graduate student in lab
- 4) Jose Davila, 2015 – 2016, University of Michigan, medical student
- 5) Patrick Li, 2016 – present, University of Michigan, medical student
- 6) Gina Yu, 2016 – present, University of Michigan, medical student
- 7) Wei Zhang, 2016 – present, University of Michigan, visiting graduate student in lab
- 8) Yanxiu Li, 2017 – present, University of Michigan, visiting graduate student in lab
- 9) Ziyi Huang, 2017 – present, University of Michigan, graduate student in lab
- 10) Xinyi Xie, 2017 – present, University of Michigan, visiting graduate student in lab

Postdoctoral fellow advisees

- 1) Aghapi Mordovanakis, PhD, 2015 – 2017, UM Paulus Lab Assistant Research Scientist
- 2) Chao Tian, PhD, 2016 – present, UM Paulus Lab postdoctoral research fellow

- 3) Ahmed Almazroa, PhD, 2016 - present, UM Paulus Lab postdoctoral research fellow with Sy Moroi and Hakan Demirci
- 4) Alexander Butterwick, PhD, 2016 - present, UM Paulus Lab postdoctoral research fellow
- 5) Van Phuc Nguyen, PhD, 2017 - present, UM Paulus Lab postdoctoral research fellow

Resident advisees

- 1) Lingmin (Lisa) He, MD, 2011 - 2013. Previous: Surgical Vitreoretinal Fellow, Wilmer Eye Institute. Current position: Retinal Diagnostic Center, Atherton, CA
- 2) Christopher Sales, MD, MPH, 2011 - 2013. Current position: Cornea attending surgeon, Weill Cornell Medicine. Previous: Cornea and External Disease Fellowship, Devers Eye Institute
- 3) Charles Yu, MD, 2011 - 2013. Current position: Cornea attending surgeon, Illinois Eye and Ear Infirmary. Previous: Cornea Fellow, Weill Cornell Medical College
- 4) Daniel Choi, MD, 2012 - 2013. Current position: Resident Stanford
- 5) Jennifer Kung, MD, 2012 - 2013. Current position: Resident Stanford
- 6) David Myung, MD, PhD, 2012 - 2013. Previous: Resident Stanford
- 7) Pavle Doroslovacki, MD, 2013 - 2014. Current position: Neuro-ophthalmology Fellow, University of Pennsylvania Scheie Eye Institute
- 8) Ron Gutmark, MD, 2013 - 2014. Current position: University of Michigan Clinical Instructor, Previous: Johns Hopkins Residency, Cornea & Refractive surgery Fellow, University of California San Diego, Shiley Eye Institute
- 9) Amanda Kiely, MD, 2013 - 2014. Current position: Glaucoma Fellow, Duke University
- 10) Fang Ko, MD, 2013 - 2014. Current position: Glaucoma Fellow, Moorfields Eye Hospital
- 11) David Poon, MD, 2013 - 2014. Current position: Surgical Retina Fellow, Wilmer Eye Institute, Johns Hopkins University
- 12) Mira Sachdeva, MD, PhD, 2013 - 2014. Current position: Surgical Retina Fellow, Massachusetts Eye and Ear Infirmary, Harvard University
- 13) Surajit Saha, MD, 2013 - 2014. Current position: Cornea, External Disease, & Refractive Surgery Fellow, Cleveland Clinic, Cole Eye Institute
- 14) Shannon Shan, MD, MSc, 2013 - 2014. Current position: Oculoplastics Fellow, University of Michigan, Kellogg Eye Center
- 15) Sumayya Ahmad, 2013 - 2015. Wilmer Resident
- 16) Jessica Chang, MD, 2013 - 2015. Wilmer Resident
- 17) Roomasa Channa, MD, 2013 - 2015. Wilmer Resident
- 18) Farhan Merali, MD, MBA, 2013 - 2015. Wilmer Resident
- 19) Meraf Wolle, MD, MPH, 2013 - 2015. Wilmer Resident
- 20) Aaron Wang, MD, PhD, 2013 - 2015. Wilmer Resident
- 21) Tin Yan (Alvin) Liu, MD, 2013 - 2015. Wilmer Resident
- 22) Sherveen Salek, MD, 2013 - 2015. Wilmer Resident
- 23) Craig See, MD, 2013 - 2015. Wilmer Resident
- 24) Sonya Thomas, MD, MHS, 2013 - 2015. Wilmer Resident

- 25) Guadalupe Villarreal, Jr, MD, 2013 - 2015. Wilmer Resident
- 26) Bradley Barnett, MD, PhD, 2014 - 2015. Wilmer Resident
- 27) Jefferson Doyle, MD, MHS, 2014 - 2015. Wilmer Resident
- 28) Suzanne van Landingham, MD, 2014 - 2015. Wilmer Resident
- 29) Jithin Yohannan, MD, MPH, 2014 - 2015. Wilmer Resident
- 30) Nazlee Zebardest, MD, MSc, 2014 - 2015. Wilmer Resident
- 31) Maxwell Stem, MD, 2015 – 2016, Current position: Retina fellow, Beaumont
- 32) Stephen J. Smith, MD, 2015 – 2016, Current position: Retina fellow, Stanford University
- 33) Matthew Manry, MD, 2015 – 2016, Current position: Retina fellow, Cincinnati Eye Institute
- 34) Neil Farbman, MD, JD, 2015 – 2016, Current position: Cornea fellow, University of California, Davis
- 35) David L De Mill, MD, 2015 – 2016, Current position: Cornea fellow, Devers Eye Institute, Portland, OR
- 36) Lee Kiang, MD, PhD, 2015 – 2016, Current position: Retina fellow, Casey Eye Institute, Portland, OR
- 37) Kevin Tozer, MD, 2015 – 2016, Current position: Cornea fellow, Minnesota Eye Consultants
- 38) Grace M. Wang, MD, PhD, 2015 – 2016, Current position: Pediatrics fellow, University of Michigan
- 39) Daniel L. Albertus, MD, 2015 – 2017, UM ophthalmology resident. Current position: Comprehensive private practice
- 40) Karen L. Christopher, MD, 2015 – 2017, UM ophthalmology resident. Current position: Cornea fellow, Colorado
- 41) Daniel S. Kasprick, MD, 2015 – 2017, UM ophthalmology resident. Current position: Graduate Chief Resident University of Michigan.
- 42) Krista J. Stewart, MD, 2015 – 2017, UM ophthalmology resident. Current position: Oculoplastics fellow, Mayo Clinic.
- 43) Marius A. Tijunelis, MD, MBA, 2015 – 2017, UM ophthalmology resident. Current position: Comprehensive private practice, Ypsilanti, Michigan
- 44) Sophia Y. Wang, MD, 2015 – 2017, UM ophthalmology resident. Current position: Glaucoma fellow, Stanford University
- 45) Thomas J. Wubben, MD, PhD, 2015 – 2017, UM ophthalmology resident. Current position: Retina fellow, University of Michigan
- 46) Tatiana Deveney, MD, 2015 – present, UM ophthalmology resident
- 47) Joseph Grubbs, MD, MPH, 2015 – present, UM ophthalmology resident
- 48) Sean Hansen, MD, MPH, 2015 – present, UM ophthalmology resident
- 49) Tyson Kim, MD, PhD, 2015 – present, UM ophthalmology resident
- 50) Lev Presov, MD, PhD, 2015 – present, UM ophthalmology resident
- 51) David Sanders, MD, MPH, 2015 – present, UM ophthalmology resident
- 52) Nakhul Shekhawat, MD, MPH, 2015 – present, UM ophthalmology resident
- 53) Stephen Armenti, MD, PhD, 2016 – present, UM ophthalmology resident
- 54) Kate Davis, MD, 2016 – present, UM ophthalmology resident
- 55) Michael Huvad, MD, 2016 – present, UM ophthalmology resident
- 56) Nathan Liles, MD, MPH, 2016 – present, UM ophthalmology resident

- 57) Jason Miller, MD, PhD, 2016 – present, UM ophthalmology resident
- 58) Tapan P. Patel, MD, PhD, 2016 – present, UM ophthalmology resident
- 59) Peter Zhao, MD, 2016 – present, UM ophthalmology resident
- 60) Philip Garza, MD, MSc, 2017 – present, UM ophthalmology resident
- 61) Ryan Lange, MD, 2017 – present, UM ophthalmology resident
- 62) Sarah Michelson, MD, 2017 – present, UM ophthalmology resident
- 63) Rohan Jalalizadeh, MD, 2017 – present, UM ophthalmology resident
- 64) Erik Sweet, MD, 2017 – present, UM ophthalmology resident
- 65) Megan Tuohy, MD, 2017 – present, UM ophthalmology resident
- 66) Eric Weinlander, MD, 2017 – present, UM ophthalmology resident

Retina Fellow advisees

- 1) Devon Ghodasra, MD, 2015 – 2016. UM surgical vitreoretinal fellow. Current position: Southeastern Retina Associates, Chattanooga, Tennessee
- 2) Vaidehi Dedania, MD, 2015 – 2017. UM surgical vitreoretinal fellow. Current position: New York University, New York
- 3) Metasebia Munie, MD, 2015 – 2016. UM medical vitreoretinal fellow. Current position: Kaiser Permanente Mid-Atlantic
- 4) Merina Thomas, MD, 2016 – present. UM surgical vitreoretinal fellow
- 5) Abigail T. Fahim, MD, PhD, 2016 – 2017. UM medical vitreoretinal fellow. Current position: University of Michigan
- 6) Thomas Wubben, MD, PhD, 2017 – present. UM surgical vitreoretinal fellow
- 7) Therese Sassalos, MD, 2017 – present. UM medical vitreoretinal fellow

Course Instruction

- | | |
|-------------------|--|
| 06/2004 - 08/2005 | Proctor , Harvard College and Harvard Summer School |
| 2004 | MCAT Physical Sciences Instructor , Harvard Bureau of Study Counsel |
| 09/2006 - 12/2007 | Teaching Assistant , Stanford University, Medicine 227: Bedside Ultrasound |
| 01/2011 – 03/2011 | Clinical Advisor , Stanford University, Biodesign Innovation: Needs Finding and Concept Creation, BioE374A, Med272A, ME368A, OIT384 |
| 04/2011 - 06/2011 | Clinical Advisor , Stanford University, Biodesign Innovation: Concept Development and Implementation, BioE374B, Med272B, ME368B, OIT385 |
| 4/1/2016 | Led discussion of retina service journal club on “Randomized Trial of a Home Monitoring System for Early Detection of Choroidal Neovascularization- Home Monitoring of the Eye (HOME) Study” |

- 10/2016 – present **Clinical Speaker & Advisor**, University of Michigan, BME 599: Graduate Innovative Design in Biomedical Engineering, 2016 - 2017, to group Thai-Son Nguyen, Brian Downey, Andrew Hartman, Richard Nakkula, Jordan Sykes. The team I advised, iSurgery, was selected from the entire University of Michigan to represent UM at the BMEidea national competition
- 12/12/2016 Led discussion of resident and fellow journal club on “Prospective Trial of Endogenous Fungal Endophthalmitis and Chorioretinitis Rates, Clinical Course, and Outcomes in Patients with Fungemia” by Paulus *et al.* RETINA 2016 and article “Development and Validation of a Deep Learning Algorithm for Detection of Diabetic Retinopathy in Retinal Fundus Photographs” by Gulshan *et al.* JAMA 2016.
- 9/2016 – present Bio200 Independent Study Project Faculty Sponsor with Pamela Raymond for Arjun Ponduri
- 9/2016 – present BioMedE 590-192 Directed Research (Independent Study) Faculty Sponsor for Anji Li
- 9/2016 - present BioMedE 490-192 Directed Research (Independent Study) Faculty Sponsor for Anna John
- 1/12/2017 Faculty Discussant for Kellogg Eye Center Grand Rounds “An Atypical Presentation of a Typical Disease: HLA-B27-Associated Uveitis” with Joseph Grubbs, Jr., MD, MPH
- 2/17/2017 Hour presentation “Retinal imaging” to Kellogg ophthalmology residents
- 2/2017 Created online powerpoint presentation overview of Retinal OCT interpretation for comprehensive ophthalmologists and allied health providers
- 4/12/2017 Faculty Guest Lecturer for University of Michigan BME 350: Introduction to Biomedical Engineering Design

Committee, Organizational, and Volunteer Service

Institutional

2001 – 2005 **Director**, Harvard Hippocratic Society

2002 – 2005 **Director**, Harvard Community Health Initiative

- 2003 – 2005 **Member**, Harvard Sexual Assault Working Group
- 2003 – 2005 **Co-Chair Student Advisory Council**, Harvard Foundation for Intercultural and Race Relations: Co-chair uniting 60 cultural organizations in festivals & conferences.
- 2005 **Computer Assistant**, Harvard Faculty of Arts and Sciences Computer Services
- 2005 – 2007 **Medical Manager and Trip Leader**, Stanford Wilderness Orientation Trip: Created wilderness medicine training for trip leaders.
- 2005 – 2007 **Vice-President of Community Development**, Stanford Chapter of American Medical Association: Planned discussion & service events on health policy.
- 2006 – 2009 **Mentor**, Stanford Premedical Association Mentoring Program
- 2007 – 2008 **Stanford School of Medicine, Committee on Admissions**, Member: Selected as one of two students to the School of Medicine Admissions Committee.
- 2008 – 2009 **Co-Founder and Clinical Vice-President**, Vision and Ophthalmology Interest Group (VOIG): Seeks to increase awareness and provides resources for students.
- 2009 – 2010 **Transitional Year Education Committee**, Memorial Sloan-Kettering Cancer Center. Selected by co-interns to represent them on Education Committee.
- 2009 – 2010 **Patient Safety Committee**, Memorial Sloan-Kettering Cancer Center
- 2011 – 2013 **Member**, Physicianship and Leadership Working Group, Stanford University
- 2015 – 2016 **Member**, Retina Faculty Position Recruitment Committee, University of Michigan
- 2015 – present **Translational Retina Research Consultant**
- 2016 – 2017 **Steering Committee**, Clinical, Strategic Planning Retreat Think Tank, University of Michigan
- 2016 – 2019 **Faculty Senate Assembly**, Information Technology Committee, Member

2016 – present **Search Chair**, Imaging Faculty University of Michigan, Department of Ophthalmology and Visual Sciences

2016 – present **Director**, Michigan Advanced Retinal Imaging Center

2016 – present **Director**, Michigan Advanced Retinal Laser Therapeutics

2016 – 2017 **Team Leader**, Think Tank Operating Room Improvement Project

2017 – present **Member**, University of Michigan Department of Ophthalmology and Visual Sciences Continuing Education Committee (DCEC)

2017 – present **Member**, University of Michigan Department of Ophthalmology and Visual Sciences Operating Room Committee

2017 – present **Member**, University of Michigan Department of Ophthalmology and Visual Sciences Research Website Committee

2017 – present **Member**, University of Michigan Department of Ophthalmology and Visual Sciences Faculty Recruitment Committee

2017 – present **Member**, University of Michigan Department of Ophthalmology and Visual Sciences Faculty Development Committee

Regional

2005 – 2007 **Manager of Administration**, Pacific Free Clinic:
Served as manager of a student-run free clinic providing medical care to over 2,100 uninsured patients. Oversaw fundraising and finance of a \$120,000 annual budget, public relations, technology, equipment, and free clinic consortium.

2005 – 2006 **Co-Founder of Peer Health Counselor Program, San Quentin Prison**
Develop a peer counselor training program at San Quentin State Prison.

2008 – 2013 **Co-founder**, OcuBell, novel photoacoustic ophthalmic imaging company

2009 – 2013 **President**, Hellenic American Professional Society of Northern California

2010 – 2013 **Board of Councilors**, California Academy of Eye Physicians and Surgeons

2011 – 2013 **House of Delegates**, California Medical Association, representing all residency and fellowship programs at Stanford Hospital and Clinics

Consulting Positions

OcuBell Inc 12/2008 - 06/2013
Oraya Therapeutics 10/2010
Quattro Consulting Inc 10/2012 - 12/2012
Sonify Biosciences, LLC 11/2013 - 06/2015
Allergan, DME Management Regional Advisory Board, 5/2016
Putnam Associated Consulting, 2016
Roda Consulting, 2016
MediBeacon Inc, 2017 - present

Visiting Professorships, Seminars, and Extramural Invited Presentations

- 9/19/2006** **Stanford Photonic Research Center Annual Symposium** *Stanford, CA*,
Fifteen minute presentation titled “Patterned Scanning Laser Photocoagulation”
- 2/13/2007** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*,
Hour talk titled “Patterned Retinal Photocoagulation and Healing of Minimally Destructive Retinal Burns”
- 4/15/2007** **Unite for Sight 4th Annual International Health Conference**, *Stanford, CA*,
Hour panel talk titled “Patterned Scanning Laser Photocoagulation: A New Approach to Retinal Treatment”
- 5/15/2007** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*,
Hour talk titled “Healing of Retinal Burns and its implications for minimally destructive PRP”
- 5/24/2007** **Medical Free Electron Laser Research Seminar** *Stanford, CA*,
Hour talk titled “Patterned Scanning Laser Photocoagulation: A New Approach to Retinal Laser Therapy”
- 9/15/2007** **Stanford Photonic Research Center Annual Symposium** *Stanford, CA*,
Technical report titled “Rapid and Confined Retinal Photocoagulation Using Millisecond Pulses”
- 1/29/2008** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*,
Hour talk titled “Minimally Traumatic Retinal Laser Therapy”
- 4/13/2008** **Unite for Sight 5th Annual International Health Conference** *New Haven, CT*,
Hour panel talk titled “The Healing of Retinal Photocoagulation Lesions”
- 4/15/2008** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*,
Hour talk titled “The Healing of Retinal Photocoagulation Lesions in the

Milli- and Micro-second Domain and Its Implications on Retinal Plasticity”

- 6/18/2008** **California Health Information Association State Convention** *San Jose, CA*, General session hour presentation titled “Net-Gen Perspectives on Technology and Its Implications in Medical Practice”
- 11/18/2008** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*, Hour talk titled “Retinal Remodeling Following Photocoagulation and Modulators of Remodeling”
- 2/24/2009** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*, Hour talk titled “Immunohistochemistry to Characterize the Healing of Retinal Photocoagulation Lesions”
- 4/19/2009** **Unite for Sight 6th Annual Global Health & Innovation Summit** *New Haven, CT*, Hour panel talk titled “Healing of Retinal Photocoagulation Lesions and its Pharmaceutical Modulation”
- 5/19/2009** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*, Hour talk titled “Multi-Electrode Array Recording of the Rabbit Retina after Retinal Photocoagulation”
- 1/24/2010** **SPIE Photonics West BiOS: Biomedical Optics** *San Francisco, CA*, Fifteen minute oral presentation titled “Selective retinal therapy with a continuous line scanning laser”
- 5/1/2010** **ARVO – ISIE (International Society for Imaging of the Eye) 2010** *Ft. Lauderdale, FL*, Fifteen minute oral presentation titled “Photoacoustic Imaging of the Eye”
- 5/5/2011** **ARVO (Association for Research in Vision and Ophthalmology)** *Ft. Lauderdale, FL*, Fifteen minute oral presentation titled “Ophthalmic Photoacoustic Imaging for Blood Distribution Evaluation”
- 6/25/2011** **Stanford University Fifth Annual Stanford Ophthalmology Day** *Stanford, CA*, Fifteen minute oral presentation titled "Plasticity and Restoration of Retinal Function Following Photocoagulation
- 3/17/2012** **Western Retina Study Club** *San Francisco, CA*, Ten minute oral presentation titled "Acute idiopathic maculopathy"
- 6/23/2012** **Stanford University Sixth Annual Stanford Ophthalmology Day** *Stanford, CA*, Fifteen minute oral presentation titled "Oral Niacin Improves Visual Acuity in Nonischemic Central and Hemi Retinal Vein Occlusions"

- 7/25/2012** **XX Biennial Meeting of the International Society for Eye Research**
Berlin, Germany, Twenty minute oral presentation titled "Photoacoustic Imaging for Functional Evaluation of Ophthalmic Circulation"
- 2/1/2013** **Association of University Professors of Ophthalmology(AUPO) 47th Annual Meeting**, *San Diego, CA*,
Eight minute oral presentation titled "Oral Niacin as a Treatment for Retinal Vein Occlusions"
- 5/7/2013** **ARVO (Association for Research in Vision and Ophthalmology)**
Seattle, WA, Fifteen minute oral presentation titled "Serum Autoantibody Evaluation after Retinal Laser Injury in Mice"
- 5/16/2013** **Stanford Dept of Ophthalmology Research Seminar** *Stanford, CA*,
Hour talk titled "Serum Autoantibody Evaluation after Retinal Laser"
- 6/1/2013** **Stanford University Seventh Annual Stanford Ophthalmology Day**
Stanford, CA, Fifteen minute oral presentation titled "Endogenous Fungal Endophthalmitis Rates, Clinical Course, and Outcomes"
- 9/26/2013** **Wilmer Eye Institute, Johns Hopkins University, Grand Rounds**
Baltimore, MD, Half hour talk titled "Life at the Interface: Vitreomacular Traction & Macular Holes"
- 6/13/2014** **The Seventy-Third Wilmer Residents Association Clinical Meeting.**
Baltimore, MD, Fifteen minute talk titled "Fundus Autofluorescence to Identify Plaques and Diagnose and Follow Retinal Artery Occlusions"
- 9/22/2014** **Flaum Eye Institute, University of Rochester** *Rochester, NY*,
Hour talk titled "See no evil, Hear no evil: Selective Laser Therapy & Photoacoustic Molecular Imaging for Retinal Ischemic Disease"
- 10/24/2014** **Yale University, Ophthalmology Grand Rounds** *New Haven, CT*,
Hour talk titled "The Magic 8-ball: Discerning Systemic Mysteries Peering Into the Fundus"
- 11/6/2014** **University of Washington, Ophthalmology Grand Rounds**,*Seattle, WA*,
Grand rounds titled "The Best of Light & Sound: Selective Laser Therapy & Photoacoustic Molecular Imaging"
- 1/9/2015** **Atlantic Coast Retina Club Conference** *Boston, MA*,
Ten minute presentation titled "Posterior Ophthalmomyiasis Interna"
- 2/28/2015** **The Macula Society 38th Annual Meeting** *Scottsdale, AZ*,

Ten minute oral presentation "Serum Inflammatory Markers after Rupture Retinal Laser Injury in Mice"

- 9/9/2015** **Genesys Regional Medical Center Congdon Lecture** *Grand Blanc, MI,*
Hour oral presentation "Macular Degeneration"
- 1/15/2016** **University of Michigan, Kellogg Eye Center** *Ann Arbor, MI,*
Hour oral presentation "Antiangiogenic Medications in the Management of Neovascular Age-Related Macular Degeneration"
- 3/13/2016** **Tri-City Regional Update Conference** *Freeland, MI,*
Forty-five minute presentation "The Future of Retinal Laser Therapy"
- 5/4/2016** **Association for Research in Vision and Ophthalmology** *Seattle, WA,*
Fifteen minute oral presentation titled "Photo-mediated ultrasound therapy as a novel method to selectively treat small blood vessels"
- 6/9/2016** **Photonics for Ophthalmology**
Fifteen minute oral presentation in digital conference titled "Photo-mediated ultrasound therapy as a novel method to selectively treat small blood vessels"
- 9/15/2016** **Retina Society Annual Meeting** *San Diego, CA,*
Oral presentation titled "Oral Niacin as a Modulator for Central Retinal Vein Occlusions"
- 11/4/2016** **Henry Ford Visiting Professor Systemwide Grand Rounds** *Detroit, MI*
Systemwide grand rounds and visiting professor on "Frontiers in Retinal Laser Therapy" and "Photo-mediated Ultrasound Therapy (PUT) as a Novel Method to Selectively Treat Microvasculature"
- 1/21/2017** **Mid-Winter Retina Symposium** *Ann Arbor, MI,*
Invited to give presentation on "What's New in Retinal Imaging"
- 5/17/2017** **Photonics for Ophthalmology Webinar**
Hour webinar "Biophotonic tools for diagnosing and treating eye disease"
- 8/5/2017** **MiSEPS (Michigan Society of Eye Physicians and Surgeons) 49th Annual Conference** *Grand Rapids, MI,*
Invited to give 15 minute lecture "Cataract surgery and progression of AMD - Fact or Fiction?"

Patents

- 5/2/2017** Xinmai Yang, Xueding Wang, Yannis M. Paulus patent number 15/584,317 "Method and Apparatus for removing microvessels"

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Peer-Reviewed Publications

1. Palanker D, Jain A, **Paulus YM**, Andersen D, Blumenkranz M. Patterned Retinal Coagulation with a Scanning Laser. In *Ophthalmic Technologies XVII*, Ed Fabrice Manns, Per G. Söderberg, Arthur Ho, *Proceedings of SPIE* 2007; Vol. 6426 (SPIE, Bellingham, WA), 6426-1E.
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3. **Paulus YM**, Jain A, Gariano RF, Stanzel BV, Marmor M, Blumenkranz MS, Palanker D. Healing of Retinal Photocoagulation Lesions. *Investigative Ophthalmology & Visual Science (IOVS)* 2008; 49(12): 5540-5545.
4. Jain A, Blumenkranz MS, **Paulus YM**, Wiltberger MW, Andersen DE, Huie P, Palanker D. Effect of Pulse Duration on Size and Character of the Lesion in Retinal Photocoagulation. *Archives of Ophthalmology* 2008; 126 (1): 78-85.
5. Palanker D, **Paulus YM**, Jain A, Huie P, Andersen D, Stanzel BV, Marmor MF, Blumenkranz MS. Minimally-traumatic Retinal Photocoagulation. In *Ophthalmic Technologies XVIII*, Ed Fabrice Manns, Per G. Söderberg, Arthur Ho, *Proceedings of SPIE*; 2008, Vol. 6844 (SPIE, Bellingham, WA), 6844-A31.
6. **Paulus YM**, Jain A, Moshfeghi DM. Resolution of Persistent Exudative Retinal Detachment in a case of Sturge-Weber Due with Anti-VEGF Administration. *Ocular Immunology and Inflammation* 2009; 17(4): 292-294.
7. Sramek C, **Paulus YM**, Nomoto H, Huie P, Brown J, Palanker D. Dynamics of retinal photocoagulation and rupture. *Journal of Biomedical Optics* 2009 4(3): 034007.
8. **Paulus YM**, Gariano RF. Diabetic Retinopathy: A Growing Concern in an Aging Population. *Geriatrics* 2009; 64(2): 16-20.
9. **Paulus YM**, T. Sanger. Cerebral Aspergillosis in a Pediatric Case of Systemic Lupus Erythematosus. *H&P: The Stanford Medical Student Journal* 2009; 13(3): 4-7.
10. Sramek C, **Paulus YM**, Nomoto H, Huie P, Palanker D. Finite Element Model of Thermal Processes in Retinal Photocoagulation. In *Optical Interactions with Tissue and Cells XX*, Ed Steven L. Jacques, E. Duco Jansen, William P. Roach, *Proceedings of SPIE* 2009; Vol. 7175 (SPIE, Bellingham, WA) 7175-1F.

11. Sramek C, **Paulus YM**, Nomoto H, Huie P, Palanker D. Computational Model of Retinal Photocoagulation and Rupture. In *Ophthalmic Technologies XIX*, Ed Fabrice Manns, Per G. Söderberg, Arthur Ho, *Proceedings of SPIE 2009*; Vol. 7163 (SPIE, Bellingham, WA), 7163-0T
12. **Paulus YM**, Wong AE, Chen B, Jacobson MT. Preputial Epidermoid Cyst: An Atypical Case of Acquired Pseudoclitromegaly. *Journal of Lower Genital Tract Disease* 2010; 14(4), 382-386.
13. **Paulus YM**, Palanker D, Blumenkranz MS. Short-Pulse Laser Treatment: Redefining Retinal Therapy. *Retinal Physician* 2010; 7(1): 54, 56-59.
14. **Paulus YM**, Jain A, Gariano RF, Nomoto H, Schuele G, Sramek C, Charalel R, Palanker D. Selective Retinal Therapy with a Continuous Line Scanning Laser. In *Ophthalmic Technologies XX*, Ed Fabrice Manns, Per G. Söderberg, Arthur Ho, *Proceedings of SPIE 2010*; Vol. 7550 (SPIE, Bellingham, WA), 7550-0W-1 – 11.
15. de la Zerda A, **Paulus YM**, Teed R, Bodapati S, Dollberg Y, Khuri-Yakub, BT, Blumenkranz, MS, Moshfeghi DM, Gambhir SS. Photoacoustic Ocular Imaging. *Optics Letters* 2010; 35(3): 270 – 272.
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17. **Paulus YM**, Jain A, Nomoto H, Sramek C, Gariano RF, Andersen D, Schuele G, Leung L, Leng T, Palanker D. Selective Retinal Therapy with Microsecond Exposures using a Continuous Line Scanning Laser. *Retina* 2011; 31(2): 380-8.
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19. **Paulus YM**, Sramek C, Blumenkranz MS, Palanker D. New Horizons in Retinal Laser Treatment: Sublethal Retinal Laser Therapy. *Retinal Physician* 2011; 8(2): 23 – 27.
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27. **Paulus YM**, Kaur K, Egbert PR, Blumenkranz MS, Moshfeghi DM. Human Histopathology of PASCAL Laser Burns. *Eye* 2013; 27(8): 995-6.
28. **Paulus YM**, Moshfeghi DM. Persistent Plus Disease after Laser in Retinopathy of Prematurity with Tetralogy of Fallot. *European Journal of Ophthalmology* 2013; 23(5): 764-6.
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41. **Paulus YM**. New Frontiers in Selective Retinal Lasers. *International Journal of Ophthalmic Research* 2015; 1(1):1-4.
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44. Hu Z, Wang X, Liu Q, **Paulus YM**. Photoacoustic Imaging in Ophthalmology. *International Journal of Ophthalmology & Eye Science* 2015; 3(8): 126-132.
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61. Li Y, Xia X, **Paulus YM**. Novel Retinal Imaging Technologies. Accepted in International Journal of Ophthalmology & Eye Science IJOES-17-06-092 (2017).

Non Peer-Reviewed Publications

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2. **Paulus YM**, Schroeder S. Working up Pediatric Hypoglycemia: A Case of Ketotic Hypoglycemia. *H&P: The Stanford Medical Student Journal*. 12 (1): 8-11 (2007).
3. **Paulus YM**. Novel Laser Therapies of the Eye. *My City Wellness*. Summer 2017: 29.

Book Chapters

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Other Media

1. **Paulus YM**. Pellucid Marginal Corneal Degeneration. Eyewiki Article (2011).
2. **Paulus YM**. Medical and surgical retina editor & author, EyeHandbook application (2013).
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Abstracts

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10. **Paulus YM**, Gariano RF, Jain A, Schuele G, Nomoto H, Sramek C, Blumenkranz MS, Palanker D. Selective Retinal Photocoagulation with Microsecond Exposures Using a Continuous Line Scanning Laser. Stanford Photonics Research Center Annual Symposium, Abstract and poster (2008).
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 - = equal contribution as first authors

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23. **Paulus YM**, de la Zerda A, Teed R, Bodapati S, Dollberg Y, Khuri-Yakub, BT, Blumenkranz, MS, Moshfeghi DM, Gambhir SS. Ophthalmic Photoacoustic Imaging for Blood Distribution Evaluation. ARVO, Abstract and paper presentation (2011).
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