Patrick Burke, MD

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Professional Experience

Hampton Roads Eye Associates, Newport News, VA   08/2023-Present
At Riverside Health System
Pediatric and General Ophthalmologist

ABC Children's Eye Specialists, Phoenix, AZ   08/2020-06/2023
Pediatric Ophthalmologist

Little Eyes International, Phoenix, AZ   09/2021-Present
Co-founder, Treasurer
- Non-profit organization for pediatric eye care
- Developed eye clinic in Puerto Peñasco, Sonora, Mexico

Professional Training

Children's National Hospital, Washington, DC   07/2019-07/2020
Fellow, Pediatric Ophthalmology

Georgetown University Hospital / MedStar WHC, Washington, DC   06/2016-06/2019
Resident Physician, Ophthalmology
Chief Resident 2018-2019

Cambridge Health Alliance, Cambridge, MA   06/2015-06/2016
Intern, Transitional Year Residency Training Program

Education

Arizona State University, Tempe, AZ   03/2021-Present
Master of Computer Science
        IEEE-HKN Engineering Honor Society

Tufts University School of Medicine, Boston, MA   08/2010-05/2015
Doctor of Medicine with Research Honors

Boston College, Chestnut Hill, MA   09/2004-05/2008
Bachelor of Science, summa cum laude, in Biology, minor in Computer Science
        Phi Beta Kappa Honor Society

Board Certification

Diplomate of the American Board of Ophthalmology – Certification 11/8/2020

Professional Organizations

American Academy of Ophthalmology
American Academy of Pediatric Ophthalmology and Strabismus
American Medical Association
International Strabismological Association
Costenbader Society

Medical Licensure

Arizona – Expiration 2/4/2024
Virginia – Expiration 10/31/2024

Honors, Awards & Certifications

Amazon Web Services (AWS) Machine Learning - Specialty	2022
Amazon Web Services (AWS) Certified Cloud Practitioner	2021
Ocular Innovation Award	2019

- For work on non-surgical closure of full thickness macular holes with topical nonsteroidal anti-inflammatory drops

"String of Pearls," Resident teaching award, Nominee	2017-2018

- Awarded by Georgetown University medical students

Certificate in Applied Biostatistics: Harvard Catalyst	2015-2016
Clinical Research Mentorship Grant: Doris Duke Charitable Foundation	2013-2014

Teaching Experience

Chief Resident, Georgetown University Hospital / MedStar WHC	2018-2019
Facilitator, Medical Interviewing and the Doctor Patient Relationship, Tufts University School of Medicine	Aug-Oct 2014

Volunteer Experience

Little Eyes International, recurring mission trips, Sonora, Mexico	2021-Present
Virginia Hospital Center Medical Brigade, annual mission trips Comayagua, Honduras	2018-2019
Volunteer, Hoya clinic, DC General Family Shelter	2017
Tutor, IDEAs in Medicine, Tufts University School of Medicine	2011-2012

Skills

AWS, Python, PyTorch, scikit-learn, pandas, Machine Learning, Rust, C, x86-64 Assembly, Node.js, Express.js, React, Java, MongoDB, Git, Docker, RaspberryPi, Ubuntu, Windows

Research Experience

Ragon Institute of MGH, MIT and Harvard, Cambridge, MA

Graduate Research Assistant, PI: Xu Yu, MD	**07/2013-07/2014**

Funded by the Doris Duke Charitable Foundation, studied immunosuppressive MDSC in HIV infection and surface protein signals in hematopoietic stem cells.

Research Technician, PI: Xu Yu, MD	**07/2008-07/2010**

Studied HIV integration sites, the intracellular protein p21 in HIV infection, and the effect of HLA-G on dendritic cell LILR receptors in HIV infection.

Computer Science Department, Boston College, Chestnut Hill, MA

Research Assistant, PI: David Martin, PhD   **05/2007-08/2007**
                    Explored computer vision in a bottom-up model

Oral Presentations

Burke PS, Bazemore M. Predictors of Success in Optic Nerve Sheath Fenestration for Pediatric Idiopathic Intracranial Hypertension. 6th Annual Joseph E. Robert, Jr. Academic Day Symposium, Children's National Hospital, Washington, DC. November 13, 2019

Poster Presentations

Burke PS, Bazemore M. Predictors of Success in Pediatric Optic Nerve Sheath Fenestration. Poster at the AAPOS Annual Meeting, Austin, TX. March 2020 (Accepted, but meeting cancelled due to COVID-19)

Burke PS, Parver D. The Non-Surgical Closure of Full Thickness Macular Holes in Patients Treated with Nonsteroidal Anti-Inflammatory Drugs. Poster at the ARVO Annual Meeting, Honolulu, HI. May 2, 2018

Publications

Bashirova AA, Martin-Gayo E, Jones DC, et al. LILRB2 interaction with HLA class I correlates with control of HIV-1 infection. *PLoS Genet*. 2014;10(3):e1004196.

Huang J, Yang Y, Al-Mozaini M, et al. Dendritic cell dysfunction during primary HIV-1 infection. *J Infect Dis*. 2011;204(10):1557-62.

Chen H, Li C, Huang J, et al. CD4+ T cells from elite controllers resist HIV-1 infection by selective upregulation of p21. *J Clin Invest*. 2011;121(4):1549-60.

Huang J, **Burke P**, Yang Y, et al. Soluble HLA-G inhibits myeloid dendritic cell function in HIV-1 infection by interacting with leukocyte immunoglobulin-like receptor B2. *J Virol*. 2010;84(20):10784-91.

Huang J, **Burke PS**, Cung TD, et al. Leukocyte immunoglobulin-like receptors maintain unique antigen-presenting properties of circulating myeloid dendritic cells in HIV-1-infected elite controllers. *J Virol*. 2010;84(18):9463-71.

Huang J, Goedert JJ, Sundberg EJ, et al. HLA-B*35-Px-mediated acceleration of HIV-1 infection by increased inhibitory immunoregulatory impulses. *J Exp Med*. 2009;206(13):2959-66.