Dr. Ashwin B. Parthasarathy is an Assistant Professor in the Department of Electrical Engineering at the University of South Florida. He received his M.S. (Electrical Engineering) and Ph.D. (Biomedical Engineering) degrees from The University of Texas at Austin, where he developed a novel optical technique for imaging cerebral blood flow. Prior to joining the University of South Florida in 2016, Dr. Parthasarathy was an American Heart Association Postdoctoral Fellow at the University of Pennsylvania. Dr. Parthasarathy has over 10 years of experience in optical imaging - His >10 journal publications have been cited over 400 times; he holds 1 patent and has 3 patent applications.

Research Interests:

Dr. Parthasarathy leads the *Translational Optical Imaging & Spectroscopy Laboratory*, where his research develops and applies novel optical/electrical instrumentation for the diagnosis, monitoring, and characterization of diseases – particularly of the brain. Dr. Parthasarathy's multidisciplinary research combines optics, physics, engineering, and computation principles to develop novel imaging/monitoring technology. Applications of these optical instruments include but are not limited to bedside diagnoses/monitoring of brain injuries, intraoperative imaging, and critical care monitoring, with an ultimate goal of detecting/monitoring underlying cerebral physiology – thereby developing non-invasive biomarkers of neurological conditions, such as stroke and traumatic brain injury.

Selected Publications:

1. Wang D, **Parthasarathy AB***, Baker WB, Gannon K, Kavuri V, Ko TS, Schenkel S, Li Z, Li Z, Mullen TM, Detre JA, and Yodh AG (2016), "Fast blood flow monitoring in deep tissues with real-time software correlators", *Biomedical Optics Express,* 7 (3), 776-797.
2. Baker WB, **Parthasarathy AB**, Ko T, Busch DR, Abramson K, Mesquita RC, Durduran T, Greenberg JH, Kung D and Yodh AG (2015). "Probe pressure modulation algorithm reduces extra-cerebral contamination in optical measurements of cerebral hemodynamics", *Neurophotonics,* 2 (3), 035004 PMID: 26301255 PMCID: PMC4524732.
3. Holt D, **Parthasarathy AB**, Okusanya O, Keating J, Venegas O, Yodh AG, Deshpande C, Karakousis G, Madajewski B, Durham A, Nie S, and Singhal S (2015). "Intraoperative near-infrared fluorescence imaging and spectroscopy identifies residual tumor cells in wounds", *Journal of Biomedical Optics,* 20 (7), 076002, PMID: 26160347 PMCID: PMC4497968.
4. Baker WB, **Parthasarathy AB**, Busch DR, Mesquita RC, Greenberg JH, and Yodh AG (2014). "Modified Beer-Lambert law for blood flow", *Biomedical Optics Express*, 5 (11), 4053-75 PMID: 25426330 PMCID: PMC4242038
5. S. M. Shams Kazmi, **Parthasarthy AB**, Song N. E, Jones T.A, and Dunn AK (2013), "Chronic Imaging of Cortical Blood Flow using Multi-Exposure Speckle Imaging", *Journal of Cerebral Blood Flow & Metabolism,* 33 (6), 798-808, PMID: 23571277 PMCID: PMC3677120.
6. **Parthasarathy AB,** Weber EL, Richards LM, Fox DJ, and Dunn AK, "Laser Speckle Contrast Imaging of Cerebral Blood Flow in humans during neurosurgery: A pilot

clinical study" (2012). *Journal of Biomedical Optics,* 15 (6), 066030, Pubmed PMID: 21198204.

7. **Parthasarathy AB,** Tom WJ, Gopal A, Zhang XJ, and Dunn AK (2008). "Robust flow measurement with multi-exposure speckle imaging", *Optics Express,* 16 (3), 1975-1989, PMID: 18542277

Related Links: Dr. Parthasarathy's Google Scholar Profile