Ashwin B. Parthasarathy

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POSITIONS

2023 – current	**Associate Professor**, Department of Electrical Engineering *(Primary)* Department of Medical Engineering *(Affiliate appointment)* University of South Florida, Tampa, FL
2020 – current	**Founder & President,** SPKL LLC Tampa, FL
2021 – 2023	**Assistant Professor,** Department of Medical Engineering University of South Florida, Tampa, FL *(Affiliate/Courtesy appointment)*
2016 – 2023	**Assistant Professor**, Department of Electrical Engineering *(Primary)* University of South Florida, Tampa, FL
2014 – 2016	**Postdoctoral Fellow**, Physics and Astronomy, University of Pennsylvania, Philadelphia, PA Mentors: Dr. Arjun Yodh (Physics), Dr. John Detre (Neurology)
2012 – 2014	**Postdoctoral associate**, Physics and Astronomy, University of Pennsylvania, Philadelphia, PA Mentors: Dr. Arjun Yodh (Physics), Dr. John Detre (Neurology)
2010 – 2012	**Postdoctoral associate,** Biomedical Engineering, Boston University, Boston, MA Mentor: Dr. Jerome Mertz

EDUCATION AND TRAINING

2007 – 2010	**Ph.D.** in Biomedical Engineering, The University of Texas at Austin, Austin, TX Mentor: Dr. Andrew Dunn
2005 – 2007	**M.S.** in Electrical and Computer Engineering, The University of Texas at Austin, Austin, TX Mentor: Dr. Andrew Dunn
2001 – 2005	**B.E.** in Electrical and Electronics Engineering, Anna University, Chennai, India

AWARDS AND HONORS

2024	USF Excellence in Innovation Award
2023	NSF CAREER Award
2021	Cade Prize for Innovation (1st Place), Cade Museum for Creativity and Innovation, Gainesville, FL

2021	IEEE Senior Member
2021	Optica Senior Member (formerly Optical Society of America)
2020	Sigma Xi Scientific Honor Society Inducted as member
2020, 2022	USF NSF iCORPS Fellow
2018	Research Initiation Award Southeastern Conference for Electrical Engineering Education
2014 - 2016	Postdoctoral Fellowship, American Heart Association, Great Rivers Affiliate
2014	Biomedical Postdoctoral Program travel award, University of Pennsylvania
2012	Best Poster Award, Gordon Research Conference on Lasers in Surgery and Medicine
2010	Best Student Poster Award, Optical Society of America BIOMED Topical Meeting
2010	Professional Development Award, Graduate School, The University of Texas at Austin
2009	Finalist, Emil Wolf Best Student Paper Competition, Optical Society of America Frontiers in Optics
2007	Professional Development Award, Graduate School, The University of Texas at Austin
2007	Student Travel grant, Engineering Conferences International
2004	Academic Merit Scholarship, SSN Institutions, Anna University, India
2003	Academic Merit Scholarship, SSN Institutions, Anna University, India

ARTICLES IN PRESS, TV, OR SOCIAL MEDIA

1. June 2023: University of South Florida Health News – "USF professors focus diverse skills into life-saving stroke device".
2. March 2023: University of South Florida College of Engineering – "NSF CAREER Awardee Spotlight: Ashwin Parthasarathy PhD".
3. July 2022: University of Texas Biomedical Engineering – "Alum wins Cade Prize for Promising Blood Flow Measuring Device".
4. March 2022: 83 Degrees Media – "Tampa Bay's CADE winners develop innovative technologies".
5. December 2021: First Coast News Jacksonville – "New invention changes the way medical professionals monitor blood flow".
6. October 2021: USF Research and Innovation – "USF Medical Technology Startup SPKL wins Coveted Cade Prize".
7. October 2021: Mirage News - "USF Medical Technology Startup SPKL wins Coveted Cade Prize".
8. October 2021: Gainesville Sun – "Cade Prize winners announced".
9. October 2021: Mainstreet Daily News – "Cade Museum announces award winners"

10. September 2021: USF Research and Innovation – "Meet USF's Cade Prize Candidate: Startup SPKL unites old friends in a quest to develop new medical technology"
11. July 2020: USF College of Engineering News – "NIH Grant Funds New Optical Biosensor Technology"
12. August 2017: INTO@USF Profile – "USF - Meet Dr. Ashwin Parthasarathy – Assistant Professor of Electrical Engineering"

RESEARCH SUPPORT

CURRENT

R01NS135077	Principal Investigator (MPI)	12/12/23 – 11/30/28	$2,561,712

National Institutes of Health (NIH), National Institute of Neurological Disorders and Stroke (NINDS)

Noninvasive monitoring of cerebrovascular regulation during subarachnoid hemorrhage

2239675	Principal Investigator	05/01/23 – 04/31/28	$512,945

National Science Foundation (NSF)

CAREER: Wearable opto-electronic sensor for quantitative, noninvasive imaging of cerebral blood flow in humans

R21NS130495	Principal Investigator (MPI, Contact PI)	02/01/23 – 01/31/25	$401,471

National Institutes of Health (NIH), National Institute of Neurological Disorders and Stroke (NINDS)

Noninvasive monitoring of cerebrovascular autoregulation during and after endovascular therapy for acute ischemic stroke

COMPLETED

R21GM137209	Principal Investigator	05/01/20 – 04/30/23	$368,786

National Institutes of Health (NIH), National Institute of General Medical Sciences (NIGMS)

Noninvasive optical monitoring of tissue with Frequency Domain Diffuse Correlation Spectroscopy

NSF I-Corps – USF site	Sub Account Principal Investigator	02/12/20 – 05/01/20	$3,000

National Science Foundation

Low-cost point-of-care blood testing (Part of USF iCorps site; PI: Sudeep Sarkar)

Strategic Investment Pool	Sub-Project Principal Investigator	04/01/19 – 30/01/21	$40,000

University of South Florida Research and Innovation

Backpack phacolysis of cataracts (Part of Center for Bioinnovation Research and Vision Enterprise; PI: Ramesh Ayyala)

Research Grant	Principal Investigator	01/01/19 – 12/31/19	$22,988

Community Foundation of Tampa Bay

Bedside Optical Monitoring of Stroke

Research Initiation Award	Principal Investigator	07/01/18 – 06/30/19	$49,820

Southeastern Center for Electrical Engineering (SCEEE)

Noninvasive blood flow monitoring with compressed, embedded diffuse correlation spectroscopy.

New Researcher Grant	Principal Investigator	05/01/18 – 04/30/19	$9,981

University of South Florida Research and Innovation

Depth resolved wide-field imaging of flow with laser speckle contrast imaging

Industry Contract	Principal Investigator	11/08/17 – 04/01/18	$12,625

Phoinix Holdings

System for non-invasive optical measurement of muscle blood flow

14POST20460161	Principal Investigator	07/01/14 – 06/30/16	$97,000

American Heart Association

Noninvasive measurement of cerebrovascular regulation in brain injured patients with Diffuse Correlation Spectroscopy

PATENTS

Issued

1. Mertz J, Chu KK, **Parthasarathy AB**. “Partitioned Aperture Wavefront Imaging Method and System”, US Patent 9,091,862.
2. Baker WB, Yodh AG, Busch DR, **Parthasarathy AB**, Mesquita RC, Chandra M. “Probes and Pressure Modulation Algorithms for Reducing Extratissue Contamination in Hemodynamic Measurement”, US Patent 10,342,488.
3. Busch DR, **Parthasarathy AB**, Baker WB, Chandra M, Mesquita RC, Licht DJ, Yodh AG, Abramson K. “Pressure Modulation, Motion Detection, Individualized Geometry, and Improved Optic-Skin Coupling to Improve Long Term Clinical Monitoring with Diffuse Optics”, US Patent 10,827,976.
4. **Parthasarathy AB**, Biswas A, Takshi A, “Integrated detection scheme for fast blood flow measurement”, US Patent 11,487,255. US Patent 11,846,920 B2, International Application PCT/US2021/013273.

5. **Parthasarathy AB**, Biswas A, and Buffone D, "Lossless data compression for sensors", US Patent 11,489,543.

Pending

6. **Parthasarathy AB,** Harrah MR, Safi AM, Moka S, Ayyala RS, "Laser phacolysis with portable laser diode", US Provisional Application 63/611,953.

7. **Parthasarathy AB**, Moka S, Safi AM, "Systems, Methods, and Media for Frequency Domain Diffuse Correlation Spectroscopy", US Provisional Application 63/265,626, International Application PCT/US22/53417

8. **Parthasarathy AB**, Safi AM, "Interferometer-based Synthetic Multi-Exposure Speckle Imaging (SyMESI) Method and System", US Provisional Application 63/265,312, International Application PCT/US22/52512

9. **Parthasarathy AB**, Safi AM, "Synthetic Multi-Exposure Speckle Imaging (SYMESI) Method and System", US Provisional Application 63/200,914. International Application PCT/US22/22734

10. **Parthasarathy AB**, Safi AM, Moka S, "Pathlength resolved CW-Light source based Diffuse Correlation Spectroscopy", US Provisional Application 63/198,181. International Application PCT/US2021/052419

11. Baker WB, **Parthasarathy AB**, Kofke WA, Kavuri VC, Busch DR, Licht DJ, Detre JA, Balu R, and Yodh AG, "Noninvasive optical monitoring of critical closing pressure and arteriole compliance", US Provisional Application 62/673,195

12. Dunn AK, **Parthasarathy AB**, Tom WJ. "Quantitative Imaging with Multi-Exposure Speckle Imaging (MESI), US Patent Application, 13/211,962,2011

PEER-REVIEWED JOURNAL ARTICLES

*Total citations per Google Scholar: **2062**, h-index: 15, i-10 index: 21,*
7 articles with >100 citations, 1 article with >300 citations (as of 08/13/2024).

Manuscripts in preparation

1. Safi AM, Mohammad PPS, Moka S, and **Parthasarathy AB**. "Quantitative measurement of static and dynamic tissue optical properties with continuous wave pathlength resolved Diffuse Correlation Spectroscopy."

2. Moka S, Mohammad PPS, Safi AM, Eddins AC, and **Parthasarathy AB**, "Frequency Domain Diffuse Correlation Spectroscopy." *To be submitted to Optica.*

3. Safi AM, Isidro-Hernandez C, Passaglia C, and **Parthasarathy AB**. "Quantitative Blood Flow Imaging at shot noise limit with Heterodyne Synthetic Multi-Exposure Laser Speckle Imaging." *To be submitted to Optics Letters.*

Manuscripts in review

4. Safi AM, Isidro-Hernandez C, Cini S, Moka S, Harrah M, Passaglia C, and **Parthasarathy AB**. "Quantitative cerebral blood flow imaging with synthetic single-shot Multi-Exposure Speckle Imaging." *Biomedical Optics Express, Under revision.*

5. Harrah M, Safi AM, Moka S, Ayyala R, and **Parthasarathy AB**. "Low-cost optical system for laser phacoemulsification of cataracts." *Lasers in Surgery and Medicine, Under revision.*

Published

6. Thanki S, Pressman E, Jones KM, Skanes R, Armouti A, Guerrero WR, Vakharia K, **Parthasarathy AB**, Fargen K, Mistry EA, Nimjee SM, Hassan AE and Mokin M. (2024) "Patients' perception on outcomes after mechanical thrombectomy in acute ischemic stroke." *Interventional Neuroradiology, Published Online 1/23/2024.*

7. Biswas A, Mohammad PPS, Moka S, Takshi A, and **Parthasarathy AB**. (2024) "Noninvasive low-cost deep tissue blood flow measurement with integrated Diffuse Speckle Contrast Spectroscopy." *Frontiers in Neuroergonomics Neurotechnology and Systems Neuroscience, Vol. 4 Published Online12/19/2023.*

8. Mokin M, Thanki S, Mohammad PPS, Sheehy S, Jones KM, Peto I, Guerrero WR, Vakharia K, Burgin WS and **Parthasarathy AB**. (2023) "Preliminary experience with diffuse correlation spectroscopy in acute ischemic stroke neurointerventional procedures." *Journal of Neurointerventional Surgery, Published Online 05/17/2023. PMID: 3719731*

9. Favilla CG, Mullen MT, Kahn F, Rasheed I, Messé SR, **Parthasarathy AB**, and Yodh AG. (2023) "Dynamic cerebral autoregulation measured by diffuse correlation spectroscopy." *Journal of Cerebral Blood Flow and Metabolism, 43 (8) 1217-1327. PMID: 36703572*

10. Biswas A, and **Parthasarathy AB**. (2022) "Lossless compressed sensing of photon counts for fast Diffuse Correlation Spectroscopy." *IEEE Access, 11 129754-129762.* PMID: 36644002 PMCID: PMC9835098 NIHMSID:NIHMS1859480.

11. Chong SH, Ong YH, El Khatib M, Allu SR, **Parthasarathy AB**, Greenberg JH, Yodh AG, and Vinogrodov SA. (2022) "Real-time tracking of brain oxygen gradients and blood flow during functional activation." *Neurophotonics,* 9 (4) 045006, PMID: 36457848 PMCID: PMC9704417.

12. Chong SH, Markel VA, **Parthasarathy AB**, Ong YH, Abramson K, Moscatelli FA, and Yodh AG. (2022) "Algorithms and instrumentation for rapid spatial-frequency-domain fluorescence diffuse optical imaging." *Journal of Biomedical Optics,* 27 (7) 116002, PMID: 36348511 PMCID: PMC9641268.

13. Mohammad PPS, Isarangura S, Eddins AC, and **Parthasarathy AB**. (2021) "Comparison of functional activation responses from the auditory cortex derived using multi-distance frequency domain and continuous wave near-infrared spectroscopy." *Neurophotonics, 8 (4) 045004.* PMID: 34926716 PMCID: PMC8673635.

14. Biswas A, Moka S, Muller A, and **Parthasarathy AB**. (2021) "Fast Diffuse Correlation Spectroscopy with a low-cost, fiber-less embedded diode laser." *Biomedical Optics Express, 12 (11) 6686-6700.* PMID: 34858674 PMCID: PMC80606156.

15. Mullen MT, **Parthasarathy AB**, Baker WB, Zandieh A, Mesquita R, Looomis C, Torres J, Guo W, Favilla CG, Messé SR, Yodh AG, Detre JA, and Kasner SE. (2019) "Changes in cerebral blood flow during normal saline infusion after ischemic stroke", *Journal of Stroke and Cerebrovascular Diseases*, 28 (11) 104294, PMID 31417659, PMCID: PMC6823150, NIHMSID: NIHMS1535633.

16. Busch DR, Davis J, Kogler A, Galler RM, **Parthasarathy AB**, Yodh AG, and Floyd TF (2018), "Laser safety in fiber-optic monitoring of spinal cord hemodynamics: a preclinical evaluation", *Journal of Biomedical Optics,* 23 (6) 065003. PMID: 29923371 PMCID: PMC8357330.

17. **Parthasarathy AB***, Gannon KP*, Baker WB, Favilla C, Balu R, Kasner SE, Yodh AG, Detre JA, and Mullen MT (2018), "Dynamic autoregulation of cerebral blood flow measured non-invasively with Fast

Diffuse Correlation Spectroscopy", *Journal of Cerebral Blood Flow and Metabolism,* 38 (2) 230-240. PMID: 29231781 PMCID: PMC5951022.

- *Equal contribution, Corresponding author

18. Baker WB*, **Parthasarathy AB***,Gannon KP, Kavuri VC, Busch DR, Abramson K, He L, Mesquita RC, Mullen MT, Detre JA, Greenberg JH, Licht DJ, Balu R, Kofke WA, and Yodh AG (2017), "Noninvasive optical monitoring of critical closing pressure and arteriole compliance in humans subjects", *Journal of Cerebral Blood Flow and Metabolism,* 37(8) 2691-2705. PMID: 28541158 PMCID: PMC5536813.

    - *Equal contribution

19. Favilla C, **Parthasarathy AB**, Detre JA, Mullen M, Yodh AG, Kasner S, Gannon K, and Messé S (2017), "Non-invasive Respiratory Impedance Enhances Cerebral Perfusion in Healthy Adults", *Frontiers in Neurology,* 8 (45), PMID: 28261153, PMCID: PMC5311047.

20. 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. PMID: 27231588 PMCID: PMC4866455.

    - *Corresponding, lead author.

21. Li Z, Baker WB, **Parthasarathy AB**, Ko TS, Wang D, Schenkel S, Durduran T, Li G, and Yodh AG (2015). "Calibration of diffuse correlation spectroscopy blood flow index with venous-occlusion diffuse optical spectroscopy in skeletal muscle", *Journal of Biomedical Optics*, 20 (12), 125005. PMID: 26720870 PMCID: PMC4688416

22. 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.

23. 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.

24. 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.

    - Top 10 downloaded Nov 2014.
    - 271 citations as of 08/2024.

25. Buckley EM, **Parthasarathy AB**, P Ellen Grant, Yodh AG, and Franceschini MA (2014). "Diffuse correlation spectroscopy for measurement of cerebral blood flow: future prospects", *Neurophotonics,* 1 (1), 011009, PMID: 25593978 PMCID: PMC4292799.

    - Special section on the BRAIN initiative.
    - 231 citations as of 08/2024.

26. S. M. Shams Kazmi, **Parthasarathy 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.
    - Featured cover article on Journal of Cerebral Blood Flow & Metabolism.
27. **Parthasarathy AB**, Chu KK, Ford TN, and Mertz J (2012). "Quantitative phase imaging using a partitioned detection aperture", *Optics Letters,* 37 (19), 4062-4064, PMID: 23027279.
28. **Parthasarathy AB,** Weber EL, Richards LM, Fox DJ, and Dunn AK (2010), "Laser Speckle Contrast Imaging of Cerebral Blood Flow in humans during neurosurgery: A pilot clinical study". *Journal of Biomedical Optics,* 15 (6), 066030, PMID: 21198204.
    - 163 citations as of 08/2024.
    - First label-free CBF imaging during human neurosurgery in the US.
29. **Parthasarathy AB,** S.M. Shams Kazmi, and Dunn AK (2010). "Quantitative imaging of ischemic stroke through thinned skull in mice with Multi Exposure Speckle Imaging", *Biomedical Optics Express,* 1 (1), 246-259, PMID: 21258462 PMCID: PMC3005179
30. Zaman RT, **Parthasarathy AB,** Vargas G, Chen B, Dunn AK, Rylander III HG, and Welch AJ (2009). "Perfusion in hamster skin treated with glycerol", *Lasers in Surgery and Medicine,* 41 (7), 492-503, PMID: 19670326
31. **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
    - 398 citations as of 08/2024.

PEER-REVIEWED CONFERENCE PROCEEDINGS AND ABSTRACTS

*(*student authors/mentees) All papers are in international conferences unless otherwise noted*

2 – Best student presentation awards in international conferences.
1 – Finalist for Best student presentation award in international conferences.

1. Raghu V, Mohammad PPS, Letavay AA, Amin SW, Mokin A, and **Parthasarathy AB** (2024), "Cerebral perfusion monitoring during acute stroke therapy with Diffuse Correlation Spectroscopy," *in Optica Biophotonics Congress: Biomedical Optics 2024 (Translational, Microscopy, OCT, OTS, Brain), Technical Digest Series, JM4A.54*
2. Mokin M, Thanki S, Mohammad P, Sheehy S, Jones K, Peto I, Guerrero W, Vakharia K, Burgin W, and **Parthasarathy AB** (2023), "Diffuse correlation spectroscopy in acute ischemic stroke neurointerventional procedures; initial experience and preliminary results," *Society for Neuorointerventional surgery 20th annual meeting. Journal of NeuroInterventional Surgery;15:A71-A72.*
3. Chong SH, Markel VA, **Parthasarathy AB**, Ong YH, Abramson K, Moscatelli FA and Yodh AG (2023), "Fast reconstruction algorithms and instrumentation for spatial frequency domain fluorescence diffuse optical imaging", *Proc. SPIE PC12361, Molecular-Guided Surgery: Molecules, Devices, and Applications IX, PC1236109 (17 March 2023).*
4. *Moka S, Mohammad PPS, Safi AM, Eddins AC, and **Parthasarathy AB** (2022), "Estimation of static and dynamic tissue optical properties using Frequency Domain Diffuse Correlation Spectroscopy," *in*

Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series, OM4D.2.

- Finalist, Best Student Presentation Award by Optica Foundation

5. *Biswas A, Takshi A, and **Parthasarathy AB** (2022), "Towards a low-cost portable deep tissue blood flow monitor utilizing Integrated Diffuse Speckle Contrast Spectroscopy," *in Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series OS4D.6.*

6. *Safi AM, and **Parthasarathy AB** (2022), "Quantitative blood flow imaging at photon shot noise limit with Heterodyne Synthetic Multi-Exposure Laser Speckle Imaging," *in Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series OM3D.5.*

7. *Moka S, Safi AM, Mohammad PPS, Eddins A, and **Parthasarathy AB** (2022), "Frequency domain diffuse correlation spectroscopy: a new method for simultaneous estimation of static and dynamic tissue optical properties," *Proc. SPIE 11944, Multiscale Imaging and Spectroscopy III, 1194409 (4 March 2022).*

   - Best Student Paper Award @ SPIE Photonics West, Multiscale Imaging and Spectroscopy conference

8. *Biswas A, Takshi A, and **Parthasarathy AB** (2021), "A method for improving the dynamic range of integrated diffuse speckle contrast spectroscopy", *in Biophotonics Congress 2021, OSA Technical Digest, BTh1B.4.*

9. *Safi AM, Moka S, Harrah M, Cini S, and **Parthasarathy AB** (2021), "Quantitative measurement of static and dynamic tissue optical properties with continuous wave pathlength resolved diffuse correlation spectroscopy", *in Biophotonics Congress 2021, OSA Technical Digest, BTh1B.6.*

10. *Safi AM, Hernandex-Isidro C, Cini S, Moka S, Harrah M, Passaglia CL, and **Parthasarathy AB** (2021), "Quantitative cerebral blood flow imaging with synthetic single-shot multi-exposure laser speckle imaging", *in Biophotonics Congress 2021, OSA Technical Digest, BW3B.4.*

11. Chong SH, Ong YH, El Khatib M, Allu SR, **Parthasarathy AB**, Greenberg JH, Yodh AG and Vinogradov SA (2021), "Real-time measurements of pO2 gradients, CBF, and CMRO2 in the rat brain during functional activation," *Proc. SPIE 11629, Optical Techniques in Neurosurgery, Neurophotonics, and Optogenetics, 116291Z.*

12. *Biswas A, **Parthasarathy AB** (2020), "An integrated detection scheme for fast, embedded measurement of deep tissue blood flow with Diffuse Correlation Spectroscopy", *in Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN), OSA Technical Digest*, *paper SM3D.5.*

13. *Biswas A, **Parthasarathy AB** (2020), "Fast Diffuse Correlation Spectroscopy with a low-cost, fiber-less embedded diode laser", *in Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN), OSA Technical Digest*, *paper JW3A.7.*

   - Best Student Poster Award by OSA Technical groups

14. Chong S, Ong YH, El Khatib M, Allu SR, **Parthasarathy AB**, Greenberg JH, Yodh AG and Vinogradov SA (2020), "Real-time measurements of cerebral blood flow, intra- and extravascular oxygen tension

during functional activation." *in Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN), OSA Technical Digest*, *paper Btu4C.4.*

15. *Moka S, Safi AM, Mohammad PPS, **Parthasarathy AB** (2020), "Broadband Frequency Domain Diffuse Optical Spectroscopy with Heterodyne Demodulation", *in Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN), OSA Technical Digest*, *paper JW3A.16.*

16. *Mohammmad PPS, Moka S, **Parthasarathy AB** (2020), "Comparison of Continuous Wave and Frequency Domain functional Near Infrared Spectroscopy estimates of focal hemodynamic changes with finite-element simulations", *in Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN), OSA Technical Digest*, *paper JW3A.38.*

17. *Biswas A, **Parthasarathy AB** (2020), "Fast, compact measurement of deep tissue blood flow with integrated Diffuse Correlation Spectroscopy", *Proc. SPIE 11253, Biomedical Applications of Light Scattering X, 112530W*.

18. *Biswas A, Buffone D, and **Parthasarathy AB** (2018), "Fast Diffuse Correlation Spectroscopy with Low-Cost Microcontroller", *in Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS), OSA Technical Digest, JW3A.20.*

19. Wang L, Ko T, He L, Kavuri VC, **Parthasarathy AB**, Baker WB, Schwartz N, and Yodh AG (2018), "Optical Quantification of Placenta Oxygenation with Ultrasound Integrated Frequency-Domain NIRS", *in Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS), OSA Technical Digest, CF3B.2.*

20. Baker WB, **Parthasarathy AB**, He L, Kavuri VC, Diop M, Milej DF, Busch DR, Gannon KP, Mullen MT, Detre JA, Licht DJ, St. Lawerence K, Balu R, W Andrew Kofke, and Yodh AG (2018), "Noninvasive Optical Monitoring of Cerebral Blood Flow, Critical Closing Pressure, and Arteriole Compliance in Adult Human Subjects", *in Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS), OSA Technical Digest, OF4D.1.*

21. Chong S, Markel VA, **Parthasarathy AB**, Ong Y, Moscatelli FA, and Yodh AG (2018), "Novel Approach to Spatial Frequency Domain Fluorescence Diffuse Optical Tomography for Tumor Imaging", *in Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS), OSA Technical Digest, JW3A.25*

22. Chong S, Ong Y, Khatib ME, Esipova TV, **Parthasarathy AB**, Greenberg JH, Yodh AG, and Vinogradov SA (2018), "Simultaneous monitoring of intravascular and extravascular oxygen tension and cerebral blood flow in rat brain during forepaw stimulation", *in Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS), OSA Technical Digest, JW3A.63.*

23. Baker WB, Wan Q, Yaden D, Wang L, Wong M, **Parthasarathy AB**, Abramson K, Yodh AG, and Hamilton R (2017), "Concurrent Stimulation and Measurement: Noninvasive Monitoring of Cerebral Blood Flow and Cerebral Oxygen Metabolism with Near-infrared Light during Transcranial Direct Current Stimulation", *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation , Volume 10 , Issue 4 , e43.*

24. Favilla CG, **Parthasarathy AB**, Detre JA, Mullen MT, Kasner SE, Yodh AG, Gannon K, and Messé SR, "Non-invasive respiratory impedance enhances cerebral perfusion" (2017) *Stroke **48** (Sup. Iss. 1), Session – Vascular Biology in Health and Disease Posters I***,** Abstract WP432.

25. Chong SH, **Parthasarathy AB**, Kavuri VC, Moscatelli FA, Singhal S, and Yodh AG, "Intraoperative spatial frequency domain diffuse optical tomography with indo-cyanine green (ICG) fluorescence

contrast (Conference Presentation)," *Proc. SPIE 10049, Molecular-Guided Surgery: Molecules, Devices, and Applications III, 1004904.*

26. Chong SH, **Parthasarathy AB**, Kavuri VC, Moscatelli FA, Singhal S, and Yodh AG (2017), "Intraoperative NIR diffuse optical tomography system based on spatially modulated illumination using the DLP4500 evaluation module," *Proc. SPIE 10117, Emerging Digital Micromirror Device Based Systems and Applications IX, 101170D.*

27. **Parthasarathy AB**, Baker WB, Gannon K, Mullen MT, Detre JA, and Yodh AG (2017), "Clinical applications of high-speed blood flow measurements with diffuse correlation spectroscopy", *Proc. SPIE 10059, Optical Tomography and Spectroscopy of Tissue XII, 1005905*

28. **Parthasarathy AB**, Yodh AG, W. Andrew Kofke, Detre JA, Mullen MT, Balu R, Gannon K, and Baker WB, "Bedside measurement of hemodynamic biomarkers with fast diffuse correlation spectroscopy," (2017) "*Advances in Optics for Biotechnology, Medicine and Surgery XV*", *ECI Symposium Series.*

29. Ko T, He L, Kavuri VC, **Parthasarathy AB**, Morano VC, Cochran JC, Baker WB, Seigal J, Yodh AG, Licht DJ, and Schwartz N (2017), "Quantifying placental oxygenation using ultrasound guided frequency-domain near-infrared spectroscopy (FD-NIRS)," *American Journal of Obstetrics & Gynecology, Paper 283, Vol. 216, Issue 1, S172, January 2017 (supplement)*

30. **Parthasarathy AB**, Gannon K, Baker WB, Kavuri VC, Mullen M, Detre JA, and Yodh AG (2016), "Cerebral Autoregulation Dynamics with High-Speed Diffuse Correlation Spectroscopy," in *Biomedical Optics 2016, OSA Technical Digest (online), Optical Society of America, Paper BTh4D.7.*

31. Chong S, **Parthasarathy AB**, Kavuri V, de Kernier IL, Moscatelli FA, Singhal S, and Yodh AG (2016), "Intraoperative Spatial Frequency Domain Diffuse Optical Tomography with Indocyanine Green (ICG) Fluorescence Contrast," in *Biomedical Optics 2016, OSA Technical Digest (online), Optical Society of America, paper OTh2C.2.*

32. Kavuri VC, Baker WB, **Parthasarathy AB**, Balu R, Yodh AG, and Kofke A (2016), "A Combined Diffuse Correlation and Time-Resolved Spectroscopy Instrument for Continuous monitoring of Absolute Cerebral Blood Flow," *in Biomedical Optics 2016, OSA Technical Digest (online), Optical Society of America, paper JW3A.8.*

33. Baker WB, Ko TS, Xiao W, **Parthasarathy AB**, Busch DR, Licht DJ and Yodh AG (2016), "Pressure Modulation Algorithm to Separate Cerebral Hemodynamic Signals from Extracerebral Artifacts," *in Biomedical Optics 2016, OSA Technical Digest (online), paper OTh1D.5.*

34. **Parthasarathy AB**, Gannon K, Baker WB, Kavuri V, Mullen MT, Detre JA and Yodh AG (2016), "Functional monitoring of blood flow dynamics in brain with photon correlation techniques", *Proc. Of SPIE 9707, Dynamics and Fluctuations in Biomedical Photonics XII, 97070H*

35. Mullen MT, **Parthasarathy AB**, Zandieh A, Baker, W, Kasner SE, Yodh AG and Detre JA (2016), "Cerebral Blood Flow Response to Bolus Normal Saline", *Stroke **47** (Sup. Iss. 1), Session – In-Hospital Treatment Posters I***,** Abstract WP339.

36. **Parthasarathy AB**, Chong SH, Moscatelli FA, Singhal S and Yodh AG (2015) "Intraoperative imaging of tumors with Indo-cyanine Green fluorescence with an endoscope", *Proc. SPIE 9311, Molecular-Guided Surgery: Molecules, Devices, and Applications, 93110X.*

37. Baker WB, **Parthasarathy AB**, Busch DR, Mesquita RC, Greenberg JH and Yodh AG (2015), “Modified Beer-Lambert law for blood flow”, *Proc. SPIE 9319, Optical Tomography and Spectroscopy of Tissue XI, 931919.*

38. **Parthasarathy AB**, Schenkel S, Busch DR, Abramson K, Menko J, Baker W, Chandra M, Mullen M, Detre J, and Yodh AG (2014). "Optical Monitoring of Cerebral Blood Flow in Patients with Acute Ischemic Stroke during Intravenous Administration of Normal Saline," in *Biomedical Optics 2014, OSA Technical Digest (online) Optical Society of America, Paper BW2B.5.*

39. Baker W, Busch DR, **Parthasarathy AB**, Mesquita RC, Chandra M and Yodh AG (2014). “Probe pressure modulation algorithm reduces extracerebral contamination in optical measurements of cerebral blood flow” in *Biomedical Optics 2014, OSA Technical Digest (online), Optical Society of America, Paper BS3A.52*

40. Richards LM, Weber EL, **Parthasarathy AB**, Kappeler KL, Fox DJ and Dunn AK (2012). "Intraoperative laser speckle contrast imaging for monitoring cerebral blood flow: results from a 10-patient pilot study", *Proc. SPIE 8207, Photonic Therapeutics and Diagnostics VIII, 82074L.*

41. **Parthasarathy AB**, S. M. Shams Kazmi, Salvaggio A and Dunn AK (2010). “Quantitative cerebral blood flow measurement of ischemic stroke in mice with Multi Exposure Speckle Imaging,” in *Biomedical Optics, OSA Technical Digest (CD), Optical Society of America, Paper BWA5.*

42. **Parthasarathy AB**, Weber EL, Richards LM, Burnett MG, Fox DJ, and Dunn AK (2010). “Cerebral Blood Flow Imaging during Neurosurgery with Laser Speckle Contrast Imaging,” in *Biomedical Optics and 3-D Imaging, OSA Technical Digest (CD), Optical Society of America, Paper JMA99.*

43. **Parthasarathy AB**, Ponticorvo A, S. M. Shams Kazmi, and Dunn AK (2009). “Quantitative Cerebral Blood Flow Measurement through Thinned Skull with Multi Exposure Speckle Imaging,” in *Frontiers in Optics 2009/Laser Science XXV/Fall 2009 OSA Optics & Photonics Technical Digest, OSA Technical Digest (CD), Optical Society of America, Paper FME2.*

44. Dunn AK and **Parthasarathy AB** (2008), "Quantitative Blood Flow Measurements with Multi-Exposure Speckle Contrast Imaging," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference and Photonic Applications Systems Technologies, OSA Technical Digest (CD), Paper CThG2*.

45. Zaman RT, Chen B, **Parthasarathy AB**, Estrada Jr. AD, Ponticorvo A, Rylander III HG, Dunn AK and Welch AJ (2008). "Enhancement of light in tissue using hyper-osmotic agents", *Proc. SPIE 6854, Optical Interactions with Tissues and Cells XIX, 68541F.*

46. **Parthasarathy AB**, Shin WG, Zhang XJ and Dunn AK (2007). "Laser speckle contrast imaging of flow in a microfluidic device", *Proc. SPIE 6446, Biomedical Applications of Light Scattering, 644604.*

47. **Parthasarathy AB**, Srinivasan D, Ramaswamy SA, and Thyagarajan S (2004). “Parametric simulation of Heart Rate Variability”, *IEEE National Conference on Biosignal, Communication and Networking.*

48. **Parthasarathy AB**, Srinivasan D, Ramaswamy SA, and Rao MM (2004). “A Binasal airflow monitor”, *National Conference on Biomedical Engineering, NCBME, Biomedical Engineering Society of India.*

INVITED TALKS

1. **Parthasarathy AB**, “Quantitative, non-invasive monitoring of cerebral blood perfusion with Diffuse Correlation Spectroscopy,” *Optica Biophotonics Congress 2024: Biomedical Optics, Clinical Translation, Ft Lauderdale, FL, 8 April 2024.*

2. **Parthasarathy AB**, “Low-cost approaches to quantitative imaging and monitoring of tissue perfusion”, *IEEE EMBS Florida West Coast Chapter, Tampa, FL, 11 December 2023.*

3. **Parthasarathy AB**, “Towards wearable blood flow measurements with integrated Diffuse Speckle Contrast Spectroscopy”, *IEEE Photonics Conference 2023, Orlando, FL, 15 November 2023.*

4. **Parthasarathy AB**, “Quantitative imaging and monitoring of the brain with optical spectroscopy”, *University of Central Florida – Electrical and Computer Engineering Seminar, Orlando, FL, 07 April 2023.*

5. **Parthasarathy AB**, “Noninvasive optical measurement of cerebral blood flow – bench to bedside”, *USF Health Neurology Grand Rounds, Tampa, FL, 31 March 2023.*

6. **Parthasarathy AB**, “New approaches to quantitative blood flow measurement with Diffuse Correlation Spectroscopy”, *fNIRS 2022, Boston, MA, 11 October 2022.*

7. **Parthasarathy AB**, “Quantitative imaging of blood flow with optics”, *IEEE Research and Applications of Photonics in Defense 2022, Miramar Beach, FL, 13 September 2022.*

8. **Parthasarathy AB**, “Low-cost Approaches for Quantitative Optical Measurement of Cerebral Blood Flow”, *Optica Biophotonics Congress 2022: Biomedical Optics, Optical and the Brain, Ft. Lauderdale, FL, 26 April 2022.*

9. **Parthasarathy AB**, “Optical methods for measurement of cerebral blood flow”, *USF Medical Engineering, Tampa, FL, 21 January 2021.*

10. **Parthasarathy AB**, “Recent Advances to Quantitative, Robust Measurement of Blood Flow with Diffuse Correlation Spectroscopy”, *USF Electrical Engineering Graduate Seminar, Tampa, FL, 7 February 2020*.

11. **Parthasarathy AB**, “Recent Advances to Quantitative, Noninvasive Measurement of Cerebral Blood Flow with Diffuse Correlation Spectroscopy”, *IEEE EMBS Seminar, Florida West Coast Chapter, Tampa, FL, 2 December 2019.*

12. **Parthasarathy AB**, “Noninvasive, bedside estimation of cerebral hemodynamic biomarkers with fast Diffuse Correlation Spectroscopy”, *University of Pennsylvania Center for Magnetic Resonance and Optical Imaging Workshop on Imaging Biomarkers, Philadelphia, PA, 30 March 2018.*

13. **Parthasarathy AB**, Baker WB, Gannon K, Balu R, Mullen MT, Detre JA, Kofke WA, and Yodh AG, “Bedside measurement of cerebral hemodynamic biomarkers with fast diffuse correlation spectroscopy”, *Engineering Conferences International – Advances in Optics for Biotechnology, Medicine and Surgery XV, Snowmass Village, CO, 23-26 July 2017.*

14. **Parthasarathy AB**, “Novel strategies for biomedical imaging”, *University of South Florida, Seminars in Computer Vision, Tampa, FL, 21 October 2016.*

15. **Parthasarathy AB**, “Optical imaging and monitoring of cerebral blood flow”. *USF Electrical Engineering Graduate Seminar, Tampa, FL, 9 September 2016.*

16. **Parthasarathy AB**, "Optical monitoring of cerebral blood flow at the bedside and in critical care". *Children's Hospital of Philadelphia CME symposium; The Fetus and Newborn: Advancing Neurologic Care to Improve Outcomes, Philadelphia, PA, 23 June 2016.*

17. **Parthasarathy AB**, "Functional optical imaging and monitoring of cerebral hemodynamics", *University of South Florida – Electrical Engineering Seminar, Tampa, FL, 31 March 2016.*

18. **Parthasarathy AB**, "Optical measurement of cerebral blood flow: from pre-clinical to clinical models", *Children's Hospital of Philadelphia, Clinical Neuroscience Conference, Philadelphia, PA, 14 May 2015.*

CONTRIBUTED PRESENTATIONS

*(*student authors/mentees) All presentations are in international conferences unless otherwise noted*

2 – Best student presentation awards in international conferences.
1 – Finalist for Best student presentation award in international conferences.

1. Letavay A, Amin S, Guerrero W, Vakharia K, Raghu V, Mohammad PPS, **Parthasarathy AB**, and Mokin M (2024), "E-285 Continous blood flow measurement with diffuse correlation spectroscopy during carotid artery stenting", *in Society for Neuorointerventional surgery 20th annual meeting. Journal of NeuroInterventional Surgery;16:A259-260.*

2. Raghu V, Mohammad PPS, Letavay AA, Amin SW, Mokin A, and **Parthasarathy AB** (2024), "Cerebral perfusion monitoring during acute stroke therapy with Diffuse Correlation Spectroscopy," *in Optica Biophotonics Congress: Biomedical Optics 2024 (Translational, Microscopy, OCT, OTS, Brain), Technical Digest Series, Ft. Lauderdale, FL 7-10 April 2024.*

3. Mokin M, Thanki S, Mohammad P, Sheehy S, Jones K, Peto I, Guerrero W, Vakharia K, Burgin W, and **Parthasarathy AB** (2023), "Diffuse correlation spectroscopy in acute ischemic stroke neurointerventional procedures; initial experience and preliminary results," *Society for Neuorointerventional surgery 20th annual meeting. Journal of NeuroInterventional Surgery;15:A71-A72.*

4. *Mohammad PPS, Moka S, Apolo S, Baker WB and **Parthasarathy AB** (2022), "Calibration of Diffuse Correlation Spectroscopy blood flow index with baseline frequency domain Diffuse Optical Spectroscopy", *Biennial meeting of Society for Functional Near Infrared Spectroscopy, Boston, MA, October 9-12, 2022.*

5. *Harrah M, Safi AM, Cini S, Moka S, **Parthasarathy AB**, and Ayyala R (2022), "Low-Cost Phacolysis Utilizing a Laser Diode," *USF Health Department of Ophthalmology Research Conference. Tampa, FL, June 3, 2022. (Local conference)*

6. *Moka S, Mohammad PPS, Safi AM, Eddins AC, and **Parthasarathy AB** (2022), "Estimation of static and dynamic tissue optical properties using Frequency Domain Diffuse Correlation Spectroscopy," *Optica Biophotonics Congress: Biomedical Optics, Optical Tomography and Spectroscopy, Ft. Lauderdale, FL, 24-27 April 2022.*

   - Finalist, Best Student Presentation Award by Optica Foundation

7. *Biswas A, Takshi A, and **Parthasarathy AB** (2022), "Towards a low-cost portable deep tissue blood flow monitor utilizing Integrated Diffuse Speckle Contrast Spectroscopy," *Optica Biophotonics Congress: Biomedical Optics, Optical Tomography and Spectroscopy, Ft. Lauderdale, FL, 24-27 April 2022.*

8. *Safi AM, and **Parthasarathy AB** (2022), “Quantitative blood flow imaging at photon shot noise limit with Heterodyne Synthetic Multi-Exposure Laser Speckle Imaging,” *Optica Biophotonics Congress: Biomedical Optics, Optical Tomography and Spectroscopy, Ft. Lauderdale, FL, 24-27 April 2022.*

9. *Moka S, Safi AM, Mohammad PPS, Eddins A, and **Parthasarathy AB**, "Frequency domain diffuse correlation spectroscopy: a new method for simultaneous estimation of static and dynamic tissue optical properties," *Multiscale Imaging and Spectroscopy III, SPIE Photonics West, San Francisco, CA, January 22-27, 2022.*

   - Best Student Paper Award

10. *Harrah M, Safi AM, Cini S, Moka S, **Parthasarathy AB**, and Ayyala R (2021), “Phacolysis of Cataracts with Low-cost Diode Laser,” *USF Health Department of Opthamology Research Conference, Tampa, FL, June 4, 2021. (Local conference)*

11. *Biswas A, Takshi A, and **Parthasarathy AB**, “A method for improving the dynamic range of integrated diffuse speckle contrast spectroscopy”, in *Optica Biophotonics Congress: Optics in the Life Sciences, Optics and the Brain, Washington, DC, 12-16 April 2021.*

12. *Safi AM, Moka S, Harrah M, Cini S, and **Parthasarathy AB**, “Quantitative measurement of static and dynamic tissue optical properties with continuous wave pathlength resolved diffuse correlation spectroscopy”, in *Optica Biophotonics Congress: Optics in the Life Sciences, Optics and the Brain, Washington, DC, 12-16 April 2021.*

13. *Safi AM, Hernandex-Isidro C, Cini S, Moka S, Harrah M, Passaglia CL, and **Parthasarathy AB** “Quantitative cerebral blood flow imaging with synthetic single-shot multi-exposure laser speckle imaging”, in *Optica Biophotonics Congress: Optics in the Life Sciences, Optics and the Brain, Washington, DC, 12-16 April 2021.*

14. *Safi AM, Moka S, Harrah M, Cini S, and **Parthasarathy AB,** “Continuous Wave Path-resolved Diffuse Correlation Spectroscopy System for Quantifying Deep Tissue Physiology”, in *USF Graduate Research Symposium, Tampa, FL, 9 April 2021. (Local Conference)*

15. *Safi AM, Hernandex-Isidro C, Cini S, Moka S, Harrah M, Passaglia CL, and **Parthasarathy AB** “Synthetic Single-Shot Multi-Exposure Laser Speckle Imaging of Cerebral Blood Flow”, in *USF Graduate Research Symposium, Tampa, FL, 9 April 2021. (Local Conference)*

16. *Biswas A, **Parthasarathy AB**, “An integrated detection scheme for fast, embedded measurement of deep tissue blood flow with Diffuse Correlation Spectroscopy”, *in OSA Biophotonics Congress: Biomedical Optics, Optical Tomography and Spectroscopy, Washington, DC, 20-23 April 2020.*

17. *Biswas A, **Parthasarathy AB**, “Fast Diffuse Correlation Spectroscopy with a low-cost, fiber-less embedded diode laser”, *in OSA Biophotonics Congress: Biomedical Optics, Optical Tomography and Spectroscopy, Washington, DC, 20-23 April 2020.*

   - Best Student Poster Award

18. Chong S, Ong YH, El Khatib M, Allu SR, **Parthasarathy AB**, Greenberg JH, Yodh AG and Vinogradov SA, “Real-time measurements of cerebral blood flow, intra- and extravascular oxygen tension during functional activation.” *in OSA Biophotonics Congress: Biomedical Optics, Optics and the Brain, Washington, DC, 20-23 April 2020.*

19. *Moka S, Safi AM, Mohammad PPS, **Parthasarathy AB**, "Broadband Frequency Domain Diffuse Optical Spectroscopy with Heterodyne Demodulation", *in OSA Biophotonics Congress: Biomedical Optics, Optical Tomography and Spectroscopy, Washington, DC, 20-23 April 2020.*

20. *Mohammmad PPS, Moka S, **Parthasarathy AB**, "Comparison of Continuous Wave and Frequency Domain functional Near Infrared Spectroscopy estimates of focal hemodynamic changes with finite-element simulations", *in OSA Biophotonics Congress: Biomedical Optics, Optical Tomography and Spectroscopy, Washington, DC, 20-23 April 2020.*

21. *Biswas A, **Parthasarathy AB**, "Fast, compact measurement of deep tissue blood flow with integrated Diffuse Correlation Spectroscopy", *in Biomedical Applications of Light Scattering X, SPIE Photonics West, San Francisco, CA, February 1-6, 2020*.

22. Anand S, **Parthasarathy AB**, Buffone D and Tsalatsanis A, "Timed limb-motor and speech-motor evaluation in Parkinson's disease", *in Annual Convention of the American Speech, Language and Hearing Association (ASHA), Orlando, FL, November 21-23, 2019.*

23. *Moka S, Mohammad PPS, Safi AM, and **Parthasarathy AB** (2019) "Heterodyne Demodulation System for Multi-Frequency Frequency-Domain Diffuse Optics Spectroscopy", *USF IEEE Wireless and Microwave Information Systems Forum, Tampa, FL, October 25, 2019. (Local Conference)*

24. *Biswas A, Buffone D, and **Parthasarathy AB** (2018), "Fast Diffuse Correlation Spectroscopy with Low-Cost Microcontroller", *in Clinical and Translational Biophotonics (Translational) 2018, OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL, March 3-6, 2018.*

25. Wang L, Ko T, He L, Kavuri VC, **Parthasarathy AB**, Baker WB, Schwartz N, and Yodh AG (2018), "Optical Quantification of Placenta Oxygenation with Ultrasound Integrated Frequency-Domain NIRS", *in Clinical and Translational Biophotonics (Translational) 2018, OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL, March 3-6, 2018.*

26. Baker WB, **Parthasarathy AB**, He L, Kavuri VC, Diop M, Milej DF, Busch DR, Gannon KP, Mullen MT, Detre JA, Licht DJ, St. Lawerence K, Balu R, W Andrew Kofke, and Yodh AG (2018), "Noninvasive Optical Monitoring of Cerebral Blood Flow, Critical Closing Pressure, and Arteriole Compliance in Adult Human Subjects", *in Optical Tomography and Spectroscopy, OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL, March 3-6, 2018.*

27. Chong S, Markel VA, **Parthasarathy AB**, Ong Y, Moscatelli FA, and Yodh AG, "Novel Approach to Spatial Frequency Domain Fluorescence Diffuse Optical Tomography for Tumor Imaging", *in Clinical and Translational Biophotonics (Translational), OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL, March 3-6 2018.*

28. Chong S, Ong Y, Khatib ME, Esipova TV, **Parthasarathy AB**, Greenberg JH, Yodh AG, and Vinogradov SA, "Simultaneous monitoring of intravascular and extravascular oxygen tension and cerebral blood flow in rat brain during forepaw stimulation", *in Clinical and Translational Biophotonics (Translational), OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL, March 3-6 2018.*

29. *Moka S, Mohammad PPS, Buffone D, and **Parthasarathy AB** (2017), "Multi Frequency Frequency Domain Diffuse Optical Spectroscopy". *Poster presented at: Siegman International School of Lasers, Leon, Mexico, Aug 6-11, 2017.*

30. Favilla CG, **Parthasarathy AB**, Detre JA, Mullen MT, Kasner SE, Yodh AG, Gannon K, and Messé SR, "Non-invasive respiratory impedance enhances cerebral perfusion" (2017) *American Heart Association, International Stroke Conference, Vascular Biology in Health and Disease Posters I, Houston, TX, February 21-24, 2017.*

31. **Parthasarathy AB**, Baker WB, Gannon K, Mullen MT, Detre JA, and Yodh AG, “Clinical applications of high-speed blood flow measurements with Diffuse Correlation Spectroscopy”, *Optical Tomography and Spectroscopy of Tissue XII, SPIE Photonics West, San Francisco, CA, January 28 - February 2, 2017.*

32. Chong SH, **Parthasarathy AB**, Kavuri VC, Moscatelli FA, Singhal S, and Yodh AG, "Intraoperative NIR diffuse optical tomography system based on spatially modulated illumination using the DLP4500 evaluation module,” *in Emerging Digital Micromirror Device Based Systems and Applications IX, 101170D, SPIE Photonics West, San San Francisco, CA, January 28 - February 2, 2017.*

33. Ko T, He L, Kavuri VC, **Parthasarathy AB**, Morano V, Cochran JC, Baker WB, Seigal J, Yodh AG, Licht DL, and Schwartz N, ”Quantitative placental oxygenation measurements with ultrasound-guided non-invasive frequency-domain near-infrared spectroscopy (FD-NIRS)” *in Annual Meeting of the Society for Maternal Fetal Medicine, Las Vegas, NV, January 23 – 29, 2017.*

34. Baker WB, Wan Q, Yaden D, Wang L, Wong M, **Parthasarathy AB**, Abramson K, Yodh AG, and Hamilton R (2017), “Concurrent Stimulation and Measurement: Noninvasive Monitoring of Cerebral Blood Flow and Cerebral Oxygen Metabolism with Near-infrared Light during Transcranial Direct Current Stimulation”, *NYC Neuromodulation 2017, New York, NY, January 13-15, 2017.*

35. Busch DR, Gregori-Pla C, Blanco I, Giovannella M, Favilla C, Baker WB, **Parthasarathy AB**, Lynch JM, Winters ME, Mensah-Brown KB, McCarthy AL, Detre JA, Yodh AG, Licht DL, Mesquita RC, and Durduran T, “The impact of posture on cerebral blood flow”, in *Biennial meeting of Society for Functional Near Infrared Spectroscopy, Paris, France, October 13-16, 2016.*

36. Baker WB, **Parthasarathy AB,** Gannon KP, Kavuri VC, Mullen MT, Busch DR, Yodh AG, Balu R, and W. Andrew Kofke, “Noninvasive monitoring of critical closing pressure with near infrared light”, *in Annual Meeting of Neurocritical Care Society, National Harbor, MD, September 15-18, 2016.*

37. Chong S, **Parthasarathy AB**, Kavuri V, de Kernier IL, Moscatelli FA, Singhal S, and Yodh AG, "Intraoperative Spatial Frequency Domain Diffuse Optical Tomography with Indocyanine Green (ICG) Fluorescence Contrast," in *OSA Biomedical Optics Congress, Hollywood FL, April 25-28, 2016.*

38. Kavuri VC, Baker WB, **Parthasarathy AB**, Balu R, Yodh AG, and Kofke A, "A Combined Diffuse Correlation and Time-Resolved Spectroscopy Instrument for Continuous monitoring of Absolute Cerebral Blood Flow," *in Optics and the Brain: Optical Imaging of the Human Brain, OSA Biomedical Optics Congress, Hollywood FL, April 25-28, 2016.*

39. **Parthasarathy AB**, Gannon K, Baker WB, Kavuri V, Mullen MT, Detre JA, and Yodh AG, “Cerebral Autoregulation Dynamics with High-Speed Diffuse Correlation Spectroscopy”, *Optics and the Brain: Optical Imaging of the Human Brain, OSA Biomedical Optics Congress, Hollywood FL, April 25-28, 2016.*

40. Baker WB, Ko TS, Xiao W, **Parthasarathy AB**, Busch DR, Licht DJ and Yodh AG, “Pressure modulation algorithm to separate cerebral hemodynamic signals from extracerebral artifacts”, *Optics and the Brain: Optical Imaging of the Human Brain, OSA Biomedical Optics Congress, Hollywood FL, April 25-28, 2016.*

41. Mullen MT, **Parthasarathy AB**, Zandieh A, Baker, W, Kasner SE, Yodh AG and Detre JA, “Cerebral Blood Flow Response to Bolus Normal Saline”, *in American Heart Association, International Stroke Conference, In-Hospital Treatment Posters I, Los Angeles, CA, February 17-19, 2016.*

42. **Parthasarathy AB**, Gannon K, Baker WB, Kavuri V, Mullen MT, Detre JA and Yodh AG, “Functional monitoring of blood flow dynamics in brain with photon correlation techniques”, *Dynamics and*

Fluctuations in Biomedical Photonics XII, 97070H, SPIE Photonics West, San Francisco, CA, February 13-18, 2016.

43. **Parthasarathy AB**, Chong SH, Moscatelli FA, Singhal S, and Yodh AG, "Intraoperative imaging of tumors with Indo-cyanine Green fluorescence with an endoscope", *Molecular-Guided Surgery: Molecules, Devices, and Applications, SPIE Photonics West, San Francisco, CA, February 7-12, 2015.*

44. Baker WB, **Parthasarathy AB**, Busch DR, Mesquita RC, Greenberg JH and Yodh AG, "Modified Beer-Lambert law for blood flow", *Optical Tomography and Spectroscopy of Tissue XI, SPIE Photonics West, San Francisco, CA, February 7-12, 2015.*

45. Wang D, Baker WB, **Parthasarathy AB**, Kavuri VC and Yodh AG, "Non-invasive optical monitoring of blood flow with a software correlator", *Optical Tomography and Spectroscopy of Tissue XI, SPIE Photonics West, San Francisco, CA, February 7-12, 2015.*

46. Li Z, Baker WB, **Parthasarathy AB**, Busch DR, Wang D, Schenkel S, and Yodh AG, "Diffuse Correlation Spectroscopy (DCS) and Diffuse Optical Spectroscopy (DOS) measurements of blood flow changes from arm cuff ischemia: a comparison study", *Optical Tomography and Spectroscopy of Tissue XI, SPIE Photonics West, February 7-12, 2015.*

47. Baker WB, **Parthasarathy AB**, Busch DR, Mesquita RC, Durduran T, Abramson K, Greenberg JH and Yodh AG, "Probe pressure modulation algorithm reduces extra-cerebral contamination in optical measurements of cerebral blood flow," *in Biennial meeting of Society for Functional Near Infrared Spectroscopy, Boston, MA, October 10, 2014.*

48. **Parthasarathy AB**, Schenkel SS, Busch DR, Abramson K, Menko J, Baker WB, Chandra M, Mullen M, Detre J, and Yodh AG, "Optical Monitoring of Cerebral Blood Flow in Patients with Acute Ischemic Stroke During Intravenous Administration of Normal Saline," in *OSA Biomedical Optics Topical Meeting, Miami FL, April 26-30 2014.*

49. Baker WB, Busch DR, **Parthasarathy AB,** Mesquita RC, Chandra M and Yodh AG, "Probe pressure modulation algorithm reduces extracerebral contamination in optical measurements of cerebral blood flow", in *OSA Biomedical Optics Topical Meeting, Miami FL, April 26-30 2014.*

50. Li Z, Baker WB, **Parthasarathy AB**, Busch DR, Wang D, Schenkel S, and Yodh AG, "Diffuse Correlation Spectroscopy (DCS) and Diffuse Optical Spectroscopy (DOS) measurements of blood flow changes from arm cuff ischemia: a comparison study", *4th Annual Center for Magnetic Resonance and Optical Imaging (CMROI) Workshop on Imaging Biomarkers, University of Pennsylvania, Philadelphia, PA, March 18, 2014.*

51. **Parthasarathy AB**, Schenkel SS, Busch DR, Abramson K, Menko J, Baker WB, Chandra M, Mullen M, Detre JA, and Yodh AG, "Optical Monitoring of Cerebral Blood Flow in Patients with Acute Ischemic Stroke during Intravenous Administration of Normal Saline", in *4th Annual Center for Magnetic Resonance and Optical Imaging (CMROI) Workshop on Imaging Biomarkers, University of Pennsylvania, Philadelphia, PA, March 18, 2014.*

52. **Parthasarathy AB,** Chu KK, Chan CR, Ford TN and Mertz J, "High speed quantitative phase imaging using a partitioned detection aperture", *Gordon Research Conferences – Lasers in Medicine and Biology, Holderness, NH, July 22-27, 2012.*

    - Best Poster Award

53. **Parthasarathy AB**, S. M. Shams Kazmi, Salvaggio A, and Dunn AK, "Quantitative cerebral blood flow measurement of ischemic stroke in mice with Multi Exposure Speckle Imaging", *OSA Biomedical Optics and 3D Imaging (BIOMED) Topical meeting, Miami, FL, April 11-14, 2010.*

54. **Parthasarathy AB**, Weber EL, Richards LM, Burnett MG, Fox DJ, and Dunn AK, "Cerebral blood flow imaging during neurosurgery with Laser Speckle Contrast Imaging", *OSA Biomedical Optics and 3D Imaging (BIOMED) Topical meeting, Miami, FL, April 11-14, 2010.*

    - Best Poster Award

55. **Parthasarathy AB**, Ponticorvo A, S. M. Shams Kazmi, and Dunn AK, "Quantitative cerebral blood flow measurement through thinned Skull with Multi Exposure Speckle Imaging", *Frontiers in Optics, OSA Annual Meeting, San Jose, CA, October 11-15, 2009.*

    - Finalist, Emil Wolf Best paper Award

56. **Parthasarathy AB**, Tom WJ, Gopal A, Zhang XJ, and Dunn AK, "Quantitative imaging of flow with Multi Exposure Speckle Contrast Imaging", *Gordon Research Conferences – Lasers in Medicine and Biology, Holderness, NH, July 20-25, 2008.*

57. **Parthasarathy AB,** Tom WJ, Gopal A, Zhang XJ, and Dunn AK, "Quantification of flow with Laser Speckle Contrast Imaging", *Engineering Conferences International – Advances in optics for biotechnology medicine and surgery, Naples, FL, June 10-14, 2007.*

58. **Parthasarathy AB,** Shin WG, Zhang XJ, and Dunn AK, "Laser speckle contrast imaging of flow in a micro fluidic device", *Biomedical applications of light scattering, SPIE Photonics West, San Francisco, CA,* 2007.

59. Rao MM, **Parthasarathy AB**, Srinivasan D, Ramaswamy SA, "A Binasal airflow monitor", National Conference on Biomedical Engineering, NCBME, Biomedical Engineering Society of India, Vishakapatnam, India, Dec 23-35, 2004.

60. **Parthasarathy AB**, Srinivasan D, Ramaswamy SA, Thyagarajan S, "Parametric simulation of Heart Rate Variability", *IEEE National Conference on Biosignal, Communication and Networking, Chennai, India, 2004.*

61. **Parthasarathy AB**, Srinivasan D, Ramaswamy SA, Swaminathan V, Rao MM, "A real-time breathing monitoring system", *Indo-French workshop on brain asymmetries and vegetative states, Chennai, India, Apr 5, 2004.*

62. Ravindran N, **Parthasarathy AB**, "Quantifying fingerprints with fractal theory", *IEEE All India Students Congress, Sivakasi, India, Feb 5-7,* 2004.

RESEARCH EXPERIENCE

07/2014 – 08/2016	**American Heart Association Postdoctoral Fellow**, Dept. of Physics and Astronomy, University of Pennsylvania, Philadelphia, PA
08/2012 – 08/2016	**Postdoctoral Associate,** Dept. of Physics and Astronomy, University of Pennsylvania, Philadelphia, PA
08/2010 – 07/2012	**Postdoctoral Associate**, Dept. of Biomedical Engineering, Boston University, Boston, MA
06/2010 – 07/2010	**Postdoctoral Associate**, Dept. of Biomedical Engineering, The University of Texas at Austin, Austin, TX

10/2005 – 05/2010	**Graduate Research Assistant**, Dept. of Biomedical Engineering, The University of Texas at Austin, Austin, TX
05/2005	**Research Assistant**, International Institute of Information Technology, Pune, India
01/2004 – 01/2005	**Undergraduate Research Assistant**, Sri Ramachandra Medical College and Hospital, Chennai, India

TEACHING

@ University of South Florida, Tampa

2022 -	EEE 6217/EEL 4935: Biomedical Optical Spectroscopy and Imaging Electrical Engineering
2018 -	EEL 3116L: Laboratory II – Electronics Laboratory Electrical Engineering
2017 -	EEL 3472C: EE Science II – Electromagnetics Electrical Engineering
2017 – 2018	EEL 6935/4935: Biomedical Optical Imaging and Spectroscopy Electrical Engineering

@ University of Pennsylvania

2015, 2016	Guest lecture & Lab on "Diffuse Optical Spectroscopy", BE 547: Fundamental Techniques of Imaging II, Bioengineering, (Instructor: Dr. Andrew Tsourkas)

@ The University of Teas at Austin

2009 – 2010	Graduate Teaching Assistant, BME355: "Probability and Statistics" (Recitation and Lab) Biomedical Engineering, (Instructor: Dr. Andrew Dunn)

MENTORING

@ University of South Florida

Postdoctoral Researcher

Vishnu Kumar Raghu	Diffuse Correlation Spectroscopy in acute stroke care	2024 –

PhD Students (current)

Penaz Parveen Sultana Mohammad	Measuring and Monitoring Cerebral Autoregulation in Stroke. *PhD Electrical Engineering* 1 conference presentation, 1 journal article in preparation *Expected Graduation: Summer 2024.*	2018 –
Mitchel Harrah	Laser phacolysis of cataracts *PhD Medical Engineering* 1 conference presentation, 1 patent application, 1 journal article in preparation *Co-advised with Dr. Sylvia Thomas and Dr. Max Mokin*	2021 –
Md. Nahidul Haque Bhuiyan	Diffuse optics instrumentation *PhD Electrical Engineering*	2023 –

Sean Aleman	Low-cost tissue perfusion imaging *PhD Medical Engineering*	2024 –
Mrinmoy Sarkar Turja	Diffuse optics instrumentation *PhD Electrical Engineering*	2024 –

PhD Students (completed)

Abdul Mohaimen Safi	Finding Signal in the Noise: High-Fidelity, Quantitative, Optical Blood Perfusion Imaging with interference *PhD Electrical Engineering* 4 Conference presentations, 5 Patent applications, 1 Journal articles in review, 4 Journal articles in preparation. *Current Position: Qualcomm*	2018 – 2022
Arindam Biswas	Low-cost approaches for Diffuse Correlation Spectroscopy *PhD Electrical Engineering* 4 Conference presentations, 2 US Patents 2 Journal articles, 1 Journal article in review, Best Student Poster award (Optica Technical Groups) Dissertation Completion Fellowship (USF) *Current Position: Ocean Insight*	2017 – 2022
Sadhu Moka	Frequency Domain Instruments for Diffuse Optical Spectroscopy *PhD Electrical Engineering* 3 Conference presentations, 3 Patent applications, 2 Journal articles in preparation Best Student Paper award (SPIE) Finalist, Best Student paper award (Optica Foundation) Dissertation Completion Fellowship (USF) *Current Position: Onicon*	2016 – 2022

Master's Thesis Students (current)

Mumtaz Hassan	Diffuse Optics instrumentation and calibration *MS Medical Engineering*	2023 –

Master's Thesis Students (completed)

Donny Stiner*	Development of Small-Scale Power Supplies for Wearable Medical Diagnostic Devices *MS Electrical Engineering* **as Co-Major Professor; co-advised with Dr. Arash Takshi*	2020 – 2021
Yva Luc*	Application of Gold Nanoshells for Photothermal therapy of Lung Cancer Cells *MS Pharmaceutical Nanotechnology* **as Co-Major Professor; co-advised with Dr. Allen-Gipson*	2020 – 2021
Mitchel Harrah	Low-Cost Device for Laser Phacoemulsification: A Preliminary Study, *MS Biomedical Engineering* *2 Conference presentations*	2020 – 2021
Penaz Parveen Sultana Mohammad	Quantitative measurement of cerebral hemodynamics during activation of auditory cortex with single- and multi-distance near infrared spectroscopy.	2016 – 2018

	MS Electrical Engineering *1 Journal article, 1 Conference presentation*	

Master's Students, Non-thesis (completed)

Paul Long	Intraoperative imaging of cerebral blood flow during neurosurgery *MS Electrical Engineering* *Current Position: Draper*	2019
Dillon Buffone	Diffuse Correlation Spectroscopy instruments for monitoring Cerebral Autoregulation. 1 patent *MS Electrical Engineering* *Current Position: Raytheon*	2017 – 2019
Dheeraj Prasad Yellama	Development of novel Diffuse Optical and Correlation Spectroscopy instruments *MS Electrical Engineering*	2022
Satish Chowdary Neppalli	Biomedical instrumentation *MS Biomedical Engineering*	2023 – 2024

Undergraduate Students (current)

Tristan Valenzuela	fNIRS instrumentation *BS Electrical Engineering*	2023 –
Shovan Shakya	Biomedical Instrumentation *BS Electrical Engineering*	2023 –

Undergraduate Students (completed)

Abhishek Kandukuru	Clinical Research Assistant *BA Interdisciplinary Social Sciences*	2023 – 2024
Ayisha Necholi	Diffuse Optics Instrumentation *BS Electrical Engineering*	2023
Steve Sheehy	Diffuse Optical Instruments – development *BS Electrical Engineering*	2022 – 2023
Gabriel Anderson	Biomedical Instrumentation *BS Electrical Engineering*	2023
Roshell Joseph	Biomedical Instrumentation *BS Medical Engineering*	2023
Henri Ramadani	Biomedical Instrumentation - computing *BS Computer Science & Engineering*	2022
Stephanie Apolo	Calibrating Diffuse Correlation Spectroscopy blood flow index *BS Biomedical Engineering (REU)*	2022
Stephen Cini	Tissue phantoms for diffuse optical and correlation spectroscopies *BS Chemical, Biological and Materials Engineering* *Current Position: PhD student in Chemical Engineering @ University of Notre Dame*	2020 – 2022
Onidamola Teniola	Development of optical probes for diffuse optical instruments	2019 – 2020

	BS Biomedical Engineering *Current Position: PhD student in Biomedical Engineering @ University of Connecticut*	
Abdallah Attalah	Electronic circuit design for diffuse optical spectroscopy *BS Electrical Engineering* *Current Position: Jabil Healthcare*	2019
Yehia Helwa	Laser systems for diffuse correlation spectroscopy *BS Electrical Engineering* *Current Position: MS Student in Electrical Engineering @ University of South Florida*	2019
Lance Landrum	Senior Design Project: Pico projector illumination systems *BS Electrical Engineering* *Current Position: NASA*	2019 - 2020
Nikola Otic	Senior Design Project: Motion artifact correction for Diffuse Correlation Spectroscopy *BS Electrical Engineering* *Current Position: PhD Student in Biomedical Engineering @ Boston University*	2017 – 2019
Moksheta Chellani	Tissue phantoms for Diffuse Correlation Spectroscopy *BS Electrical Engineering* *Current Position: MiRus*	2017 – 2018
Jordon Miller	Computer simulations of light transport *BS Computer Science* *Current Position: Carver Edison*	2016 – 2018
Kaleb Marroquin	Laser Speckle Contrast Imaging. - instrumentation *BS Electrical Engineering* *Current Position: Intel*	2018
Kelly Stukbauer	Laser Speckle Contrast Imaging. - instrumentation *BS Electrical Engineering* *Current Position: Paragon Space*	2018

@ University of Pennsylvania

Sanghoon Chong	Graduate Student Intraoperative 3D imaging of tumor with Indo-Cyanine Green fluorescence	2014 – 2016
Boping Xu	Graduate Student Quantitative measurement of cerebral oxygen gradients in rats during functional activation	2015 – 2016
Isaure de Kernier	Summer REU exchange student Intraoperative 3D imaging of tumor with Indo-Cyanine Green fluorescence	2015
Ross Gunderson	Summer RET exchange program Removal of motion artifacts from diffuse optical data	2015
Zhe Li	Visiting Graduate student Calibration of Diffuse Correlation Spectroscopy with	2014 – 2015

	venous occlusion Diffuse Optical Spectroscopy for skeletal muscle blood flow *(Manuscript published)*	
Detian Wang	Visiting Graduate Student Single tau software correlator for flow measurements with Diffuse Correlation Spectroscopy *(Manuscript published)*	2014 – 2015
Matthias Raba	Summer REU exchange student Monte Carlo simulation of Diffuse Correlation Spectroscopy in curved and layered geometries	2014
Anna Yesypenko	Summer High School research 3D computer aided modeling of fiber optic probes for cerebral monitoring	2013

DISSERTATION AND THESIS COMMITTEES

Tiffany Miller	PhD Electrical Engineering	Committee Member
Shraddha Pandey	PhD Electrical Engineering	Committee Member
Alex Otten	PhD Electrical Engineering	Committee Member
Cesar Hernandez Isidro	PhD Biomedical Engineering	Committee Member
Chih-Yun Pai	PhD Computer Science and Engineering	Committee Member
Rahul Paul	PhD Computer Science and Engineering	Committee Member
Dmitry Cherezov	PhD Computer Science and Engineering	Committee Member
Samuel Hawkins	PhD Computer Science and Engineering	Committee Member
Palak Dave	PhD Computer Science and Engineering	Committee Member
Hunter Morera	PhD Computer Science and Engineering	Committee Member
Kaoutar Ben Ahmed	PhD Computer Science and Engineering	Committee Member
Md Sirajus Salekin	PhD Computer Science and Engineering	Committee Member
Md Imran Hossain	PhD Computer Science and Engineering	Committee Member
Minh Pam	PhD Computer Science and Engineering	Committee Member
Arup Barua	PhD Applied Physics	Committee Member
Hengzhou Liu	PhD Applied Physics	Committee Member
Christopher Stevens	PhD Applied Physics	Committee Member
Mary Pyfrom	PhD Communication Sciences and Disorders	Committee Member
Tamoghna Banerjee	MS Electrical Engineering	Committee Member
Nestor Marquez Rios	MS Electrical Engineering	Committee Member
Anthony Windman	PhD Computer Science and Engineering	Chair
Bharti Goel	PhD Computer Science and Engineering	Chair
Adel Alshehri	PhD Computer Science and Engineering	Chair
Peter Hutchison	PhD Communication Sciences and Disorders	Chair
Sittiprapa Isarangura	PhD Communication Sciences and Disorders	Chair
Jitpakorn Pichaitanaporn	PhD Communication Sciences and Disorders	Chair

PROFESSIONAL SERVICE AND MEMBERSHIPS

Conference & Professional Service

2024	Program Committee, Session Chair, Optical Tomography and Spectroscopy, Optics & the Brain Optica Biophotonics Congress: Biomedical Optics, Ft. Lauderdale, FL
2024	NIH NIBIB Career Development and Conference Support Review Panel
2023	NSF Electrical, Communications and Cyber Systems (ECCS) CAREER panel
2023	NIH NIBIB Career Development and Conference Support Review Panel
2022	Program Committee, Session Chair, Optical Tomography and Spectroscopy, Optica Biophotonics Congress: Biomedical Optics, Ft. Lauderdale, FL
2022	NIH Brain Disorders & Clinical Neuroscience (BDCN) Review Panel
2021	Scientific Advisory Board, Brain Optical Devices for Measuring Cerebral Health, Children's Hospital of Philadelphia, Philadelphia, PA
2021	NIH Instrument Technology Development (ITD) Review Panel
2020	Program Committee, Session Chair, Optical Spectroscopy and Tomography, OSA Biophotonics Congress: Biomedical Optics, Ft. Lauderdale, FL
2019	NSF Engineering of Biomedical Systems (EBMS) panel
2018	Session Chair, Diffuse Correlation Spectroscopy: Blood Flow Measurements, OSA Biophotonics Congress: Biomedical Optics, Miami, FL
2018	IEEE SoutheastCon 2018 – Poster sessions, St. Petersburg, FL
2015	Session Chair, Optical Tomography and Spectroscopy of Tissue XI, SPIE Photonics West, BIOS, San Francisco, CA
2009 - 2010	Secretary, Optical Society of America Student Chapter, The University of Texas at Austin, Austin, TX
2009 - 2010	Secretary, Society of Optical Engineers (SPIE), Student Chapter, The University of Texas at Austin, Austin, TX
2009 - 2010	Founding member and Secretary, Biomedical Optics Graduates Organization, The University of Texas at Austin, Austin, TX

Professional Membership

Optica (formerly Optical Society of America – OSA, since 2005), Optical Society of America Young Professionals program (2013-2016), Society of Optical Engineers - SPIE (since 2005), Institute of Electrical and Electronics Engineers - IEEE (since 2013), American Heart Association - AHA (since 2013), Sigma Xi (since 2020)

Grant & Journal Review

Grant review	NSF Electrical, Communications and Cyber Systems (ECCS) CAREER panel NIH NIBIB Career development and Conference support NIH Brain Disorders and Clinical Neuroscience (BDCN) NIH Instrument Technology Development (ITD) NSF Engineering of Biomedical Systems (EBMS)

	Medical Research Council of UK (*ad-hoc*) NSF US-Israel Binational Science Foundation (*ad-hoc*) Israel Science Foundation (*ad-hoc*) Philadelphia Pediatric Medical Device Consortium (*ad-hoc*) Optical Society of America (OSA) - worldwide student and section activities, OSA Foundation Fellowships.
Associate Editor	SPIE Biophotonics Discovery (2023 –)
Review Editor	Frontiers in Neurology Brain Imaging methods, Frontiers in Neuroscience & Neurology.
Guest Editor	Frontiers in Physics, Special Section, Clinical and Translational Neurophotonics: Diffuse Optics, Fluorescence, Polarimetry and Beyond
	Journal of Visual Experiments (JoVE), Phantoms for Biophotonics
Journal Review	Optics Letters, Optics Express, Journal of Biomedical Optics, Biomedical Optics Express, Neurophotonics, IEEE Transactions in Biomedical Engineering, Physics in Medicine and Biology, Medical & Biological Engineering & Computing, Journal of Neural Engineering, Scientific Reports, Plos One, Scientific Data, Frontiers in Physics, Journal of American Heart Association, Neuroimage, Open Journal of Biomedical Engineering, Journal of Applied Physiology.

UNIVERSITY SERVICE

University Service

Member	USF Center for Advanced Imaging USF Translational Eye Research Core
Review activities	New Investigator Research Grant, USF Sponsored Research (2019) Chih Foundation Research & Publication Award, USF Graduate Studies (2019) Graduate Student Research Symposium, poster judging, USF Graduate Studies

College of Engineering Service

Review activities	Engineering Research Day posters (2016)
IEEE	Panelist, IEEE Future Skills Forum (2018) Organizer, IEEE SoutheastCon 2018 (poster sessions only)
Other	COE Research in Focus – participant Medical Engineering Faculty Search evaluations

Electrical Engineering Service

Positions	Research Experience for Undergraduates (REU) Coordinator (2022 – current)
Committees	EE Diversity and Inclusion working group (2022 – current) Bioelectric Systems Graduate Committee (2016 – current) ABET Direct Measures Committee (2017 – current) ABET Lab Safety Committee (2017 – current) Design Committee (2016-2017)

Course Development	Curricular redevelopment of EE Science II (lecture and lab) Curricular redevelopment of Lab II (electronics lab) New course development – Biomedical Optical Spectroscopy and Imaging
Mentoring	Senior Design teams (4 teams)