Vivek Jay Srinivasan

Associate Professor of Biomedical Engineering
Associate Professor of Ophthalmology (Secondary)
University of California, Davis, Department of Biomedical Engineering
451 East Health Sciences Drive, Genome and Biomedical Sciences Facility, Room 2521
Davis, CA 95616

Telephone:	(530) 752-9277	Citizenship:	USA
Fax:	(530) 754-5739	E-mail:	vjsriniv@ucdavis.edu
Website :	http://www.bme.ucdavis.edu/srinivasanlab/		

EDUCATION

9/03-5/08 **Massachusetts Institute of Technology**, Cambridge, MA. PhD, EE&CS, Bioelectrical Engineering Area.

9/98-6/03 **Stanford University**, Stanford, CA. BS, Electrical Engineering, MS, Electrical Engineering.

PROFESSIONAL EXPERIENCE

7/16- **Associate Professor**, University of California Davis Biomedical Engineering and Ophthalmology Departments. Research focus on neuroimaging, ocular imaging, and biophotonics.

7/12-6/16 **Assistant Professor**, University of California Davis Biomedical Engineering Department. Research focus on neural engineering and biophotonics.

11/10-8/12 **Instructor**, MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging. Leading a collaborative research program investigating novel methods of optical microscopy for studying acute injury and neurovascular remodeling in stroke.

9/08-10/10 **Research Fellow**, MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging. Researching novel methods of optical microscopy for studying neurovascular coupling in the brain.

AWARDS

- ISCBFM Young Investigator Travel Bursary, 5/11.
- MGH Fund for Medical Discovery, 6/10.
- National Institutes of Health Pathway to Independence Award (K99/R00), NINDS, 9/09.
- National Eye Institute ARVO Travel Grant, 5/06.
- Finalist, Pascal Rol Award, Ophthalmic Technologies, BIOS, SPIE Photonics West, 1/06 and 1/07.
- MIT Graduate Fellowship, 4/03.
- NSF Graduate Research Fellowship, 4/03.
- 2002 California Microwave Project Award in Electrical Engineering, Stanford University, 6/02.
- Frederick Terman Award for Scholastic Achievement in Engineering, Stanford University, 4/02.
- The *President's Award* for Academic Excellence in the Freshman Year, Stanford University, 9/99.

RESEARCH INTERESTS

- Biophotonics/biomedical optics
- Neurovascular coupling
- Neuroimaging
- Non-invasive optical methods for measuring retinal function

- Brain blood flow and metabolism
- Biophysical modeling

RESEARCH SUPPORT

- **"Functional Optical Coherence Tomography for Imaging of Cortical Hemodynamics,"** 09/2009 – 10/2015, National Institutes of Health (K99/R00 Pathway to Independence Award), $930,000, Principal Investigator (ended).
- **"Optical Coherence Microscopy for deep tissue cellular imaging in animal models of ischemic stroke,"** 01/2011 – 12/2012, American Heart Association (Innovative Research Grant), $150,000, Principal Investigator (ended).
- **Catalyst for a Cure,** 02/2012 – 1/2015, Glaucoma Research Foundation, $600,000, Principal Investigator (ended).
- **Catalyst for a Cure,** 02/2015 – 1/2018, Glaucoma Research Foundation, $750,000, Principal Investigator (awarded).
- **"Imaging neuronal and capillary dysfunction deep in the rodent brain in vivo using 1700 nm Optical Coherence Microscopy and tracer-based kinetics,"** 09/2015 – 8/2020, NIH/NINDS (R01 Award), $1,250,000, Principal Investigator (awarded).

JOURNAL PUBLICATIONS (>6000 citations, h-index=37 according to Google Scholar)

1. M. Wojtkowski, **V.J. Srinivasan**, T.H. Ko, J.G. Fujimoto, J.S. Duker, and A. Kowalevicz, "Ultrahigh-resolution, high-speed, Fourier domain optical coherence tomography and methods for dispersion compensation," Opt. Exp. 12, 2402-2422, May 2004.
2. M. Wojtkowski, **V. Srinivasan**, J.G. Fujimoto, T. Ko, J.S. Schuman, A. Kowalczyk, and J.S. Duker, "Three-dimensional retinal imaging with high-speed ultrahigh-resolution optical coherence tomography," Ophthalmology 112, 1734-1746, October 2005.
3. **V.J. Srinivasan**, M. Wojtkowski, J.G. Fujimoto, and J.S. Duker, "In vivo measurement of retinal physiology with high-speed ultrahigh resolution optical coherence tomography," Opt. Lett., 31, 2308-2310, August 2006.
4. **V.J. Srinivasan**, M. Wojtkowski, A.J. Witkin, T.H. Ko, M. Carvalho, J.S. Schuman, A. Kowalczyk, J.S. Duker, and J.G. Fujimoto, "High-definition and three-dimensional imaging of macular pathologies with high-speed, ultrahigh resolution optical coherence tomography," Ophthalmology, 113, 2064.e1-2054.e14, November 2006.
5. L. Kagemann, G. Wollstein, H. Ishikawa, M.L. Gabrielle, **V.J. Srinivasan**, M. Wojtkowski, J.S. Duker, J.G. Fujimoto, and J.S. Schuman, "Persistence of Cloquet's canal in normal healthy eyes," Am. J. Ophthalmol. 142, 862-864, November 2006.
6. **V.J. Srinivasan**, T.H. Ko, M. Wojtkowski, M. Carvalho, A. Clermont, S.-E. Bursell, Q.H. Song, J. Lem, J.S. Duker, J.S. Schuman, and J.G. Fujimoto, "Noninvasive volumetric imaging and morphometry of the rodent retina with high-speed, ultrahigh resolution OCT," Invest. Ophthalmol. and Vis. Sci. 47, 5522-5528, December 2006.
7. B.K. Monson, P.B. Greenberg, E. Greenberg, J.G. Fujimoto, **V.J. Srinivasan**, and J.S. Duker, "High-speed, ultra-high-resolution optical coherence tomography of acute macular neuroretinopathy," Br. J. Ophthalmol. 91, 119-120, January 2007.
8. B.-B. Gao, A. Clermont, S. Rook, S.J. Fonda, **V.J. Srinivasan**, M. Wojtkowski, J.G. Fujimoto, R.L. Avery, P.G. Arrigg, S.-E. Bursell, L.P. Aiello, and E.P Feener, "Extracellular carbonic anhydrase mediates hemorrhagic retinal and cerebral vascular permeability through prekallikrean activation," Nature Med., 13, 181-188, February 2007.
9. **V.J. Srinivasan**, R. Huber, I. Gorczynska, J.G. Fujimoto, J.Y. Jiang, P. Riesen, and A.E. Cable,

"High-speed, high-resolution optical coherence tomography retinal imaging with a frequency-swept laser at 850nm," Opt. Lett. 32, 361-363, February 2007.

10. M.Y. Kahook, R.J. Noecker, H. Ishikawa, G. Wollstein, L. Kagemann, M. Wojtkowski, J.S. Duker, **V.J. Srinivasan**, J.G. Fujimoto, and J.S. Schuman, "Peripapillary schisis in glaucoma patients with narrow angles and increased intraocular pressure," Am. J. Ophthalmol. 143, 697-699, April 2007.

11. J.A. Rodriguez-Padilla, T.R. Hedges, III, B. Monson, **V. Srinivasan**, M. Wojtkowski, E. Reichel, J.S. Duker, J.S. Schuman, and J.G. Fujimoto, "High-speed, ultra-high-resolution optical coherence tomography findings in hydroxychloroquine retinopathy," Arch. Ophthalmol. 125, 775-780, June 2007.

12. M. Szkulmowski, M. Wojtkowski, B. Sikorski, T. Bajraszewski, **V.J. Srinivasan**, A. Szkulmoska, J.J. Kaluzny, J.G. Fujimoto, and A. Kowalczyk, "Analysis of posterior retinal layers in spectral optical coherence tomography images of the normal retina and retinal pathologies," J. Biomed. Opt. 12, 041207-1 – 11, July/August 2007.

13. L. Kagemann, G. Wollstein, M. Wojtkowski, H. Ishikawa, K.A. Townsend, M.L. Gabriele, **V.J. Srinivasan**, J.G. Fujimoto, and J.S. Schuman, "Spectral oximetry assessed with high-speed ultra-high-resolution optical coherence tomography," J. Biomed. Opt. 12, 04212-1—8, July/August 2007.

14. M.L. Gabriele, H. Ishikawa, G. Wollstein, R.A. Bilonick, L. Kagemann, M. Wojtkowski, **V.J. Srinivasan**, J.G. Fujimoto, J.S. Duker, and J.S. Schuman, "Peripapillary nerve fiber layer thickness profile determined with high speed, ultrahigh resolution optical coherence tomography high-density scanning," Invest. Ophthalmol. Vis. Sci. 48, 3154-3160, July 2007.

15. R. Huber, D.C. Adler, **V.J. Srinivasan**, I. Gorczynska, and J.G. Fujimoto, "Fourier domain mode locking at 1050 nm for ultra-high-speed optical coherence tomography of the human retina at 236,000 axial scans per second," Opt. Lett. 32, 2049-2051, July 2007.

16. V. Christopoulos, L. Kagemann, G. Wollstein, H. Ishikawa, M.L. Gabriele, M. Wojtkowski, **V. Srinivasan**, J.G. Fujimoto, J.S. Duker, D.K. Dhaliwal, and J.S. Schuman, "In vivo corneal high-speed, ultra-high-resolution optical coherence tomography," Arch. Ophthalmol. 125, 1027-1035, August 2007.

17. M.K. Yoon, R.W. Chen, T.R. Hedges, III, **V.J. Srinivasan**, I. Gorczynska, J.G. Fujimoto, M. Wojtkowski, J.S. Schuman, and J.S. Duker, "High-speed, ultrahigh resolution optical coherence tomography of the retina in Hunter syndrome," Ophthalmic Surg. Lasers Imaging 38, 423-428, September/October 2007.

18. A.J. Witkin, M. Wojtkowski, E. Reichel, **V.J. Srinivasan**, J.G. Fujimoto, J.S. Schuman, and J.S. Duker, "Photoreceptor disruption secondary to posterior vitreous detachment as visualized using high-speed ultrahigh-resolution optical coherence tomography," Arch. Ophthalmol 125, 1579-1580, November 2007.

19. R.W. Chen, I. Gorczynska, **V.J. Srinivasan**, J.G. Fujimoto, J.S. Duker, and E. Reichel, "High-speed ultrahigh-resolution optical coherence tomography findings in chronic solar retinopathy," Retin. Cases Brief Rep. 2, 103-105, Spring 2008.

20. **V.J. Srinivasan**, B.K. Monson, M. Wojtkowski, R.A. Bilonick, I. Gorczynska, R. Chen, J.S. Duker, J.S. Schuman, and J.G. Fujimoto, "Characterization of outer retinal morphology with high-speed, ultrahigh-resolution optical coherence tomography," Invest. Ophthalmol. and Vis. Sci. 49, 1571-1579, April 2008.

21. M.L. Gabriele, H. Ishikawa, G. Wollstein, R.A. Bilonick, K.A. Townsend, L. Kagemann, M. Wojtkowski, **V.J. Srinivasan**, J.G. Fujimoto, J.S. Duker, and J.S. Schuman, "Optical coherence tomography scan circle location and mean retinal nerve fiber layer measurement variability," Invest. Ophthalmol. and Vis. Sci. 49, 2315-2321, June 2008.

22. T. Mumcuoglu, G. Wollstein, M. Wojtkowski, L. Kagemann, H. Ishikawa, M.L. Gabrielle, **V. Srinivasan**, J.G. Fujimoto, J.S. Duker, and J.S. Schuman, "Improved visualization of glaucomatous retinal damage using high-speed ultrahigh-resolution optical coherence tomography,"

Ophthalmology 115, 782-789, May 2008.

23. B. Potsaid, I. Gorczynska, **V.J. Srinivasan**, Y. Chen, J. Jiang, A. Cable, and J.G. Fujimoto, "Ultrahigh speed spectral/Fourier domain optical coherence tomography ophthalmic imaging at 70,000-312,500 axial scans per second," Opt. Exp. 16, 15149-15169, September 2008.

24. B.R. Biedermann, W. Wieser, C.M. Eigenwillig, G. Palte, D.C. Adler, **V. Srinivasan**, J.G. Fujimoto, and R. Huber, "Real time en face Fourier-domain optical coherence tomography with direct hardware frequency demodulation," Opt. Lett. 33, 2556-2558, November 2008.

25. **V.J. Srinivasan**, D.C. Adler, Y. Chen, I. Gorczynska, R. Huber, J.S. Duker, J.S. Schuman, and J.G. Fujimoto, "Ultrahigh-speed optical coherence tomography for three-dimensional and en face imaging of the retina and optic nerve head," Invest. Ophthalmol. and Vis. Sci. 49, 5103-5110, November 2008.

26. Y. Chen, L.N. Vuong, J. Liu, J. Ho, **V.J. Srinivasan**, I. Gorczynska, A.J. Witkin, J.S. Duker, J. Schuman, and J.G. Fujimoto, "Three-dimensional ultrahigh resolution optical coherence tomography imaging of age-related macular degeneration," Opt. Exp. 17, 4046-4060, March 2009

27. **V.J. Srinivasan**, Y. Chen, J.S. Duker, and J.G. Fujimoto, "In vivo functional imaging of intrinsic scattering changes in the human retina with high-speed ultrahigh resolution OCT," Opt. Exp. 17, 3861-3877, March 2009.

28. I. Gorczynska, **V.J. Srinivasan**, L.N. Vuong, R.W.S. Chen, J.J. Liu, E. Reichel, M. Wojtkowski, J.S. Schuman, J.S. Duker, and J.G. Fujimoto, "Projection OCT fundus imaging for visualising outer retinal pathology in non-exudative age-related macular degeneration," Br. J. Ophthalmol. 93, 603-609, May 2009.

29. A.J. Witkin, L.N. Vuong, **V.J. Srinivasan**, I. Gorczynska, E. Reichel, C.R. Baumal, A.H. Rogers, J.S. Schuman, J.G. Fujimoto, and J.S. Duker, "High-speed ultrahigh resolution optical coherence tomography before and after ranibizumab for age-related macular degeneration," Ophthalmology 116, 956-963, May 2009.

30. A.C. Sull, L.N. Vuong, L.L. Price, **V.J. Srinivasan**, I. Gorczynska, J.G. Fujimoto, J.S. Schuman, and J.S. Duker, "Comparison of spectral Fourier domain optical coherence tomography instruments for assessment of normal macular thickness," Retin.-J. Retin. Vitr. Dis. (30), 235-245, February 2010.

31. **V.J. Srinivasan**, S. Sakadžić, I. Gorczynska, S. Ruvinskaya, W. Wu, J.G. Fujimoto, and D. Boas, "Depth-resolved microscopy of cortical hemodynamics with optical coherence tomography," Opt. Lett. 34, 3086-3088, October 2009.

32. M.A. Yaseen, **V.J. Srinivasan**, S. Sakadžić, W. Wu, S. Ruvinskaya, S.A. Vinogradov, and D.A. Boas, "Optical monitoring of oxygen tension in cortical microvessels with confocal microscopy," Opt. Exp. 17, 22341-22350, December 2009.

33. **V.J. Srinivasan**, J.Y. Jiang, M.A. Yaseen, H. Radhakrishnan, W. Wu, S. Barry, A.E. Cable, D.A. Boas, "Rapid volumetric angiography of cortical microvasculature with optical coherence tomography," Opt. Lett. 35, 43-45, January 2010.

34. **V.J. Srinivasan**, S. Sakadžić, I. Gorczynska, S. Ruvinskaya, W. Wu, J.G. Fujimoto, D.A. Boas, "Quantitative cerebral blood flow with optical coherence tomography," Opt. Exp. 18(3), 2477-2494, January 2010.

35. S. Sakadžić, E. Roussakis, M.A. Yaseen, E.T. Mandeville, **V.J. Srinivasan**, K. Arai, S. Ruvinskaya, A. Devor, E.H. Lo, S.A. Vinogradov, D.A. Boas, "Two-photon high-resolution measurement of partial pressure of oxygen in cerebral vasculature and tissue, " Nat. Methods 7, 755-U125, September 2010.

36. C.H. Judson, L.N. Vuong, I. Gorczynska, **V.J. Srinivasan**, J.G. Fujimoto, J.S. Duker, "Intact Retinal Tissue and Retinal Pigment Epithelium Identified within a Coloboma Via High-Speed, Ultrahigh Resolution Optical Coherence Tomography," Retin. Cases Brief Rep. 5(1), 46-48, Winter 2011.

37. M.A. Yaseen, **V.J. Srinivasan**, S. Sakadžić, W. Wu, S. Ruvinskaya, S.A. Vinogradov, and D.A. Boas, "Microvascular oxygen tension and flow measurements in rodent cerebral cortex during baseline conditions and functional activation," Journal of Cerebral Blood Flow and Metabolism 31, 1051-1063, April 2011.

38. **V.J. Srinivasan**, D.N. Atochin, J.Y. Jiang, H. Radhakrishnan, S. Ruvinskaya, W. Wu, S. Barry, A.E. Cable, C. Ayata, P.L. Huang, D.A. Boas, "Optical Coherence Tomography for the Quantitative Study of Cerebrovascular Physiology," Journal of Cerebral Blood Flow and Metabolism 31, 1339-1345, published online 2 March 2011.

39. S.A. Carp, N. Roche-Labarbe, M.A. Franceschini, **V.J. Srinivasan**, S. Sakadžić, and D.A. Boas, "Due to intravascular multiple sequential scattering, Diffuse Correlation Spectroscopy of tissue primarily measures relative red blood cell motion within vessels," Biomedical Opt. Express 2, 2047-2054, June 2011.

40. S. Sakadzic, E. Roussakis, M.A. Yaseen, E.T. Mandeville, **V.J. Srinivasan**, K. Arai, S. Ruvinskaya, W. Wu, A. Devor, E.H. Lo, S.A. Vinogradov, and D.A. Boas, "Cerebral Blood Oxygenation Measurement Based on Oxygen-dependent Quenching of Phosphorescence," J Vis Exp (2011).

41. A. Devor, S. Sakadzic, P.A. Saisan, M.A. Yaseen, E. Roussakis, **V.J. Srinivasan**, S.A. Vinogradov, B.R. Rosen, R.B. Buxton, A.M. Dale, and D.A. Boas, "Overshoot of o2 is required to maintain baseline tissue oxygenation at locations distal to blood vessels," J. Neurosci., 31(38) 13676-81 (2011).

42. E. Baraghis, V. Bolduc, J. Lefebvre, **V.J. Srinivasan**, C. Boudoux, E. Thorin, and F. Lesage, "Measurement of cerebral microvascular compliance in a model of atherosclerosis with optical coherence tomography," Biomed. Opt. Express 2, 3079-3093 (2011).

43. E. Baraghis, A. Devor, Q. Fang, **V.J. Srinivasan**, W. Wu, F. Lesage, C. Ayata, K. Kasischke, D.A. Boas, S. Sakadzic, J Biomed Opt. "Two-photon microscopy of cortical NADH fluorescence intensity changes: Correcting contamination from the hemodynamic response," 2011; 16(10).

44. I. Yuzawa, S. Sakadzic, **V.J. Srinivasan**, H.K. Shin, K. Eikermann-Haerter, D.A. Boas, C. Ayata, J. Cereb. Blood Flow Metab. "Cortical spreading depression impairs oxygen delivery and metabolism in mice," Journal of Cerebral Blood Flow and Metabolism, 2012 Feb;32(2):376-86.

45. **V.J. Srinivasan**, H. Radhakrishnan, J.Y. Jiang, S.E. Barry, A.E. Cable, "Optical Coherence Microscopy for deep tissue imaging of the cerebral cortex with intrinsic contrast," Opt. Express 20, 2220-2239 (2012).

46. **V.J. Srinivasan**, H. Radhakrishnan, E.T. Mandeville, E.H. Lo, J.Y. Jiang, S.E. Barry, A.E. Cable, "OCT Methods for Capillary Velocimetry," Biomed. Opt. Express 3, 612-629 (2012).

47. A. Devor, S. Sakadžic, **V.J. Srinivasan**, M.A. Yaseen, K. Nizar, P.A. Saisan, P. Tian, A.M. Dale, S.A. Vinogradov, M.A. Franceschini, D.A. Boas, "Frontiers in optical imaging of cerebral blood flow and metabolism," J Cereb Blood Flow Metab. Jan 18 (2012).

48. C.J. Goergen, H. Radhakrishnan, S. Sakadzic, E.T. Mandeville, E.H. Lo, D.E. Sosnovik, **V.J. Srinivasan**, "Optical coherence tractography of the heart and brain using intrinsic contrast," Optics Letters 37 (18), 3882-3884 (2012).

49. A.C. Chan, E.Y. Lam, **V.J. Srinivasan**, "Kasai Autocorrelation and Maximum Likelihood Estimation for Doppler Optical Coherence Tomography," IEEE Transactions on Medical Imaging, 32 (6), 1033-1042 (2013).

50. H. Radhakrishnan, **V.J. Srinivasan,** "Compartment-resolved imaging of cortical hemodynamics with OCT angiography," Biomed. Opt. Express 4, 1255-1268 (2013).

51. **V.J. Srinivasan**, H. Radhakrishnan, "Total average blood flow and angiography in the rat retina," J Biomed Opt. 18(7):076025, (2013).

52. **V.J. Srinivasan**, E.T. Mandeville, A. Can, F. Blasi, M. Climov, A. Daneshmand, J.H. Lee, E. Yu, H. Radhakrishnan, E.H. Lo, S. Sakadzic, K. Eikermann-Haerter, C. Ayata, "Multiparametric,

longitudinal optical coherence tomography reveals acute injury and chronic recovery in experimental ischemic stroke," PLoS One 8(8):871478, (2013).

53. H. Radhakrishnan, **V.J. Srinivasan**, "Multi-parametric OCT imaging of the inner retinal hemodynamic response to visual stimulation," J Biomed Opt. 18(8):086010, (2013)

54. C. Leahy, H. Radhakrishnan, **V.J. Srinivasan**, "Volumetric imaging and quantification of cytoarchitecture and myeloarchitecture with intrinsic scattering contrast," Biomed. Opt. Express 4(10): 1978-1990 (2013).

55. **V.J. Srinivasan** and H. Radhakrishnan, "Optical Coherence Tomography angiography reveals laminar microvascular hemodynamics in the rat somatosensory cortex during activation," Neuroimage 102(Pt2): 393-406 (2014).

56. A.C. Chan, **V.J. Srinivasan**, and E.Y. Lam, "Maximum Likelihood Doppler frequency estimation under decorrelation noise for quantifying flow in Optical Coherence Tomography," IEEE Trans. Med. Imaging 33(6) : 1313-1323 (2014).

57. S. Sakadzic, E.T. Mandeville, L. Gagnon, J.J. Musacchia, M,A. Yaseen, M.A. Yucel, J. Lefebvre, F. Lesage, A.M. Dale, K. Eikermann-Haerter, C. Ayata, **V.J. Srinivasan**, E.H. Lo, A. Devor, & D.A. Boas. "Large arteriolar component of oxygen delivery implies a safe margin of oxygen supply to cerebral tissue," Nature Communications 5(5734): 10.1038/ncomms6734 (2014).

58. S.P. Chong, C. Merkle, H. Radhakrishnan, C. Leahy, **V.J. Srinivasan**. "Quantitative mapping of microvascular chromophores using visible light spectroscopic Optical Coherence Tomography." Biomedical Optics Express. 6(4), 1429–1450 (2015).

59. M.A. Yaseen, **V.J. Srinivasan**, I. Gorczynska, J.G. Fujimoto, D.A. Boas, S. Sakadzic, "Multimodal optical imaging system for in vivo investigation of cerebral oxygen delivery and energy metabolism," Biomed. Opt. Express 6(12): 4994-5007 (2015).

60. S.P. Chong, C.W. Merkle, D.F. Cooke, T. Zhang, H. Radhakrishnan, L. Krubitzer, **V.J. Srinivasan**, "Non-invasive, in vivo imaging of subcortical mouse brain regions with 1.7 μm Optical Coherence Tomography," Opt Letters 40(21): 4911-4914 (2015).

61. **V.J. Srinivasan**, E. Yu, H. Radhakrishnan, A. Can, M. Climov, C. Leahy, C. Ayata, K. Eikermann-Haerter, "Micro-heterogeneity of flow in a mouse model of chronic cerebral hypoperfusion revealed by longitudinal Doppler Optical Coherence Tomography and angiography," J Cereb Blood Flow Metab. 35: 1552-1560 (2015).

62. S.P. Chong, C.W. Merkle, C. Leahy, **V.J. Srinivasan**, "Cortical Metabolic Rate of Oxygen (CMRO2) assessed using combined Doppler and spectroscopic OCT," Biomed. Opt. Express 6(10): 3941-3951 (2015).

63. C. Leahy, H. Radhakrishnan, G. Weiner, J.L. Goldberg, **V.J. Srinivasan**, "Mapping the 3-D connectivity of the rat inner retinal vascular network using OCT angiography," Invest. Opthalmol. Vis. Sci. 56(10): 5785-5793 (2015).

64. E. Shieh, R. Lee, C. Que, **V.J. Srinivasan**, R. Guo, R. DeLuna, S. Pandit, H, Simavli, R. Seevaratnam, E. Tsikata. J. de Boer. and T. Chen. "Diagnostic performance of a novel 3D neuroretinal rim parameter for glaucoma using high-density volume scans." American Journal of Ophthalmology (2016).

65. D. Borycki, O. Kholiqov, S. P. Chong, **V. J. Srinivasan**, "Interferometric Near-Infrared Spectroscopy (iNIRS) for determination of optical and dynamical properties of turbid media." Optics express 24, 329 (2016).

66. D. Borycki, O. Kholiqov, **V. J. Srinivasan**, "Interferometric near-infrared spectroscopy directly quantifies optical field dynamics in turbid media." Optica 3, 1471 (2016).

67. C. J. Goergen, H. H. Chen, S. Sakadzic, **V. J. Srinivasan**, D. E. Sosnovik, "Microstructural characterization of myocardial infarction with optical coherence tractography and two-photon microscopy." Physiological reports 4, (2016).

68. C. Leahy, H. Radhakrishnan, M. Bernucci, **V. J. Srinivasan**, "Imaging and graphing of cortical vasculature using dynamically focused optical coherence microscopy angiography." Journal of biomedical optics 21, 20502 (2016).

69. C. W. Merkle, C. Leahy, **V. J. Srinivasan**, "Dynamic contrast optical coherence tomography images transit time and quantifies microvascular plasma volume and flow in the retina and choriocapillaris." Biomedical optics express 7, 4289 (2016).

70. C. W. Merkle, **V. J. Srinivasan**, "Laminar microvascular transit time distribution in the mouse somatosensory cortex revealed by Dynamic Contrast Optical Coherence Tomography." NeuroImage 125, 350 (2016).

71. **V. J. Srinivasan**, A. Dubra, "Noninvasive imaging of the photoreceptor mosaic response to light stimulation." Proceedings of the National Academy of Sciences of the United States of America 113, 12902 (2016).

72. M. Wang, J. E. Norman, **V. J. Srinivasan**, J. C. Rutledge, "Metabolic, inflammatory, and microvascular determinants of white matter disease and cognitive decline." American journal of neurodegenerative disease 5, 171 (2016).

73. D. Borycki, O. Kholiqov, **V. J. Srinivasan**, "Reflectance-mode interferometric near-infrared spectroscopy quantifies brain absorption, scattering, and blood flow index in vivo." Optics letters 42, 591 (2017).

74. S. P. Chong, M. Bernucci, H. Radhakrishnan, **V. J. Srinivasan**, "Structural and functional human retinal imaging with a fiber-based visible light OCT ophthalmoscope." Biomedical optics express 8, 323 (2017).

BOOK CHAPTERS

1. **V.J. Srinivasan**, A.C. Chan, and E.Y. Lam, "Doppler OCT and OCT Angiography for *In Vivo* Imaging of Vascular Physiology," Optical Coherence Tomography, ISBN 978-953-307-804-5, InTech.
2. H. Radhakrishnan, M.A. Franceschini, and **V.J. Srinivasan**, "Neurovascular coupling investigated by simultaneous Optical Coherence Tomography and electrophysiology," Neurovascular Coupling Methods, Vol. 88, Springer Science, New York. pp. 21-38.
3. C.M. Leahy and **V.J. Srinivasan**: Three-Dimensional Optical Coherence Microscopy and Mapping of Angio-Architecture in the Central Nervous System, Yu Chen and Babak Kateb, (ed), The Textbook of Advanced Neurophotonics and Brain Mapping, CRC Press, Taylor & Francis Group. ISBN 9781482236859. In press.

INVITED TALKS

1. **V.J. Srinivasan**, "Applications of Spectral/Fourier domain Optical Coherence Tomography in Ophthalmology," MIT Optics and Quantum Electronics Group Seminar, Cambridge, MA, October 26, 2005.

2. **V.J. Srinivasan**, "Non-invasive in vivo measurement of retinal physiology using high-speed, ultrahigh resolution optical coherence tomography," Association for European Vision and Eye Research (EVER), Vilamoura, Portugal, October 4-7, 2006.

3. **V.J. Srinivasan**, "Novel Fourier Domain Methods for Rapid Optical Coherence Tomography Imaging of the Retina and Optic Nerve," MIT Optics and Quantum Electronics Group Seminar, Cambridge, MA, December 13, 2006.

4. **V.J. Srinivasan**, "Optical Coherence Tomography for in vivo, deep tissue imaging of the neurovascular unit," Brain mapping seminar, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, May 19, 2010.

5. **V.J. Srinivasan**, “Novel Optical Techniques for Deep Tissue Brain Imaging,” Invited Seminar, Ecole Polytechnique Montréal, Montréal, Canada, February 2011.

6. **V.J. Srinivasan**, “New Concepts for Retinal Imaging,” Guest Lecturer, Oregon Ophthalmological Alumni Association 66th Annual Meeting & Casey Eye Institute’s 20th Birthday, Portland, Oregon, June 2011.

7. **V.J. Srinivasan**, “Optical Coherence Tomography (OCT) and Optical Coherence Microscopy (OCM) for in vivo, deep tissue imaging of the neurovascular unit,” Martinos Center Annual Retreat, Emerging Faculty Talk, Rockport, MA, September 2011.

8. **V.J. Srinivasan**, “Biomarkers for Glaucoma,” Glaucoma Research Foundation Catalyst for a Cure 2 (CFC2) meeting, November 3-5 2011.

9. **V.J. Srinivasan**, “Coherent optical techniques for structural and functional neuroimaging,” UC Davis Biomedical Engineering Seminar Series, January 19 2012.

10. **V.J. Srinivasan**, "Coherent optical techniques for structural and functional neuroimaging," UC San Diego Bioengineering Seminar Series, March 9 2012.

11. **V.J. Srinivasan**, "Coherent optical techniques for structural and functional neuroimaging," Drexel University BIOMED Seminar Series, March 12 2012.

12. **V.J. Srinivasan**, "Coherent optical techniques for structural and functional neuroimaging," University of Rochester Biomedical Engineering Seminar Series, March 20 2012.

PATENTS (Licensed)

Methods and apparatus for optical coherence tomography scanning
V. Srinivasan, J. Fujimoto, T. Ko, M. Wojtkowski, and R. Huber
US Patent 7,884,945 February 8, 2011