ANURADHA GODAVARTY

Curriculum Vitae

This document contains an executive summary (page 1) of Dr. Anuradha Godavarty's curriculum vitae and her detailed curriculum vitae (in pages 2-70).

ANURADHA GODAVARTY (EXECUTIVE SUMMARY)

Dr. Godavarty graduated with a PhD in Chemical Engineering from Texas A&M University in 2003. She worked as a Post-Doc at University of Vermont's Department of Computer Science in 2003-2004. In Aug 2004, Dr. Godavarty joined FIU as an Assistant Professor in Biomedical Engineering. In Aug 2010, she was tenured and promoted to Associate Professor in Biomedical Engineering at FIU. Her research interests are in optical imaging technologies towards breast cancer imaging, functional brain mapping, and wound imaging applications (both instrument development as well as computational analysis). Dr. Godavarty's accomplishments are summarized as:

Research

1. Dr. Godavarty published **124 papers** (54 peer-reviewed journals, 68 conference proceedings, and 2 book chapters) with over **3223 citations and h-index of 24** (as reported by Google Scholar). She has **166 research presentations** (invited/conference talks/posters).
2. She received **funding support** from various agencies such as National Institutes of Health, Florida Dept of Health, Dept of Defense, W. H. Coulter Foundation, American Cancer Society (and Canary Foundation) and other clinical/industry partners.
3. She filed/received **9 patents** (4 U.S. Non-Provisional, 2 EPO/India Non-Provisional, and 1 PCT) on her hand-held optical imaging technology. Her research on hand-held imaging technology has been highlighted by **press/media at 30 different venues**.

Teaching

1. Dr. Godavarty **taught 8 graduate level and 10 undergraduate level** Biomedical Engineering courses multiple times in the past 10+ years.
2. She served/serving as **major advisor for 4 PhD students, 11 MS students, and 6 post-docs, 42 undergraduate** research students, and also **high school students** (as summer interns). She also served/serving as major advisor for **11 undergrad senior design projects** (total **45 undergrad students**). In addition, she supervised **12 graduate research assistants** in her labs and served as a committee member for 13 MS/PhD students in Biomedical Engineering.
3. Students under Dr. Godavarty's supervision won over **58 awards** to date (within and outside university).
4. She **created 4 new laboratories** at FIU and one laboratory at Miami Children's Hospital.

Administrative/Professional Experience

1. Dr. Godavarty served/serving on **20 committees (e.g. BME Undergraduate Program Committee, Faculty Search/Screen, Faculty Governance, and Institutional Review Board for human clinical trials) in FIU** at university, college and department level.
2. She served as a **reviewer for multiple research grant** agencies and for **peer-reviewed journals**, **committee member/chaired** national conferences, and guest editor/associate editor of per-reviewed journals.

ANURADHA GODAVARTY (FULL CV)

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RESEARCH INTERESTS

Develop and implement near-infrared optical imaging technologies towards breast cancer imaging and functional brain mapping, in particular to autism and cerebral palsy.

EDUCATION

Ph.D. in Chemical Engineering, Aug 1999-Aug 2003
Texas A&M University, College Station, TX
Fluorescence-enhanced optical tomography using an ICCD imaging system: 3D phantom studies
Advisor: Eva M. Sevick-Muraca

M.S. in Chemical Engineering, Jan 1998-Aug 1999
University of Tennessee, Knoxville, TN
Catalytic coal gasification using eutectic salt mixtures
Advisor: Atul C. Sheth

Graduate Studies (M. Tech – 18 credits) in Chemical Engineering, Jul – Dec 1997
Indian Institute of Technology, Madras, India

B.Tech in Chemical Engineering, Nov 1993-Apri1 1997
University of Madras, Madras, India

PROFESSIONAL ACADEMIC EXPERIENCE

Associate Professor (Aug 2010 –)
Department of Biomedical Engineering
Florida International University, Miami, FL, USA

Associate Professor (Feb 2014 –July 2014)
Center for Biomedical Engineering
Indian Institute of Technology Delhi, India

Assistant Professor (Aug 2004 – July 2010)
Department of Biomedical Engineering

Florida International University, Miami, FL, USA

Post-Doctoral Associate (Sept 2003-Apr 2004)
Department of Computer Science, University of Vermont, Burlington, VT, USA
Advisor: Margaret Eppstein

Graduate Research & Teaching Assistant (Aug 1999 – Aug 2003)
Department of Chemical Engineering, Texas A&M University, College Station, TX, USA

Graduate Research Assistant (Jan 1998-Aug 1999)
Department of Chemical Engineering, University of Tennessee, Knoxville, TN, USA

Graduate Teaching Assistant (Jun – Dec 1997)
Department of Chemical Engineering, Indian Institute of Technology, Madras, India

PUBLICATIONS

Publications Summary: Total 124 *(excluding technical reports)*. Peer Reviewed Journal Articles: 54, Conference Proceedings Articles: 68, Book Chapters: 2. A total of **3223 citations** (including refereed conference proceedings, book chapters) with **h-index of 24** from Google Scholar.

Peer-reviewed Journals (Total: 54)

1. E.A. Robledo, R. Schutzman, R. Fang, C. Fernandez, R. Kwasinski, K. Leiva, F. Perez-Clavijo, A. Godavarty, "Physiological wound assessment from coregistered and segmented tissue hemoglobin maps," *JOSA-A* 37(8): 1249-1256 (2020)
2. K. Kaile, **A. Godavarty**, "Development and validation of a smartphone based near-infrared optical imaging device to measure physiological changes in-vivo," Micromachines 10(3): E180 (2019)
3. K. Leiva, J. Mahadevan, K. Kaile, R. Schutzman, E. Robledo, S. Narayanan, V. Muthukrishnan, V. Mohan, W. Wu, **A. Godavarty**, "Breath-hold paradigm to assess variations in oxygen flow in diabetic foot ulcers using a non-contact near-infrared optical scanner" *Advances in Wound Care* 8(8): 386-402 (2019) https://doi.org/10.1089/wound.2018.0922
4. R. Kwasinski, C. Fernandez, K. Leiva, R. Schutzman, E. Robledo, P. Kallis, L. J. Borda, R. Kirsner, F. Perez-Clavijo, **A. Godavarty**, "Tissue oxygenation changes to assess healing in venous leg ulcers using near-infrared optical imaging" *Advances in Wound Care* (2019) https://doi.org/10.1089/wound.2018.0880

5. J. Lei, S. Rodriguez, M. Jayachandran, E. Solis, K. Epnere, F. Perez-Clavijo, S. Wigley, **A. Godavarty**, "Assessing the healing of venous leg ulcers using a non-contact optical imaging approach," *Advances in Wound Care* 7(4): 134-143 (2018).
6. S. Rodriguez, J. Lei, M. Jayachandran, E. Solis, K. Epnere, S. Gonzalez, Y-J Jung, S. Wigley, F. Perez-Clavijo, C. Buscemi, **A. Godavarty**, "Diffuse optical images differentiate healing from non-healing wounds in diabetic foot ulcers," Biomed J Sci & Tech Res 5(2): 1-5 (2018).
7. B. Zhu, A. Godavarty, "Review Article: Near-infrared fluorescence-enhanced optical tomography" *BioMed Research International* 2016(2016), 5040814 http://dx.doi.org/10.1155/2016/5040814
8. M. Jayachandran, S. Rodriguez, E. Solis, **A. Godavarty**, "Non-invasive optical technologies for wound imaging: A review," Advances in Wound Care (Invited Review for Special Topics on Wound Imaging) 5(8): 349-359 (2016). doi:10.1089/wound.2015.0678.
9. S.J. Erickson-Bhatt, M. Roman, J. Gonzalez, A. Nunez, R. Kiszonas, C. Lopez-Penalver, **A. Godavarty**, "Noninvasive surface imaging of breast cancer in humans using a hand-held optical imager," *Biomedical Optics Express* 1: 045001 (2015). *Selected for press release by Journal editor.* ***(Impact Factor =3.648)***
10. **A. Godavarty**, P.N. Someshwara Rao, Y. Khandavilli, Y-J. Jung, "Diabetic wound imaging using a non-contact near-infrared optical scanner: A pilot study," *J. Diabetes Science and Technology* (Letter to Editor) 9(5): 1158-1159 (2015).
11. Y-J. Jung, M. Roman, J. Carrasquilla, S. J. Erickson, **A. Godavarty**, "Non-contact Deep Tissue Imaging using a Hand-Held Near-infrared Optical Scanner," *J Med Diagn Meth* 4(2):169 (2015) doi: 10.4172/2168-9784.1000169.
12. Y-J. Jung, J. Gonzalez, **A. Godavarty**, "Functional NIR imaging reconstruction based on spatio-temporal feature: Venous occlusion studies," *Appl. Opt.* 54(13): D82-D90 (2015). ***(Impact Factor =1.649)***
13. **A. Godavarty**, S. Rodriguez, Y-J. Jung, S. Gonzalez, "Optical imaging for breast cancer pre-screening," *Breast Cancer: Targets and Therapy* 7:1-17 (2015) (Invited paper).

14. U. Chaudhary, M. Hall, J. Gonzalez, L. Elbaum, M. Bloyer, **A. Godavarty**, "Motor response investigation in individuals with cerebral palsy and controls using near infrared spectroscopy: A pilot study," *Appl. Opt* 53(3): 503-10 (2014) ***(Impact Factor =1.649)***
15. M. Roman, J. Gonzalez, J. Carrasquilla, S. J. Erickson, R. Akhter, **A. Godavarty**, "Resolution of a gen-2 hand-held optical imager: Diffuse and fluorescence imaging studies," Applied Optics 52(33): 8060-8066 (2013) http://dx.doi.org/10.1364/AO.52.008060 ***(Impact Factor = 1.748)***
16. C. Zhang, U. Chaudhary, S. Das, S. Thomas, **A. Godavarty**, A. Agarwal, "Effect of Porosity on Photocatalytic Activity of Plasma Sprayed TiO_2 Coating", *J. Therm. Spray. Tech*., (in press) ***(Impact Factor = 1.812)***
17. C. Zhang, U. Chaudhary, D. Lahiri, **A. Godavarty**, A. Agarwal, "Photocatalytic activity of spark plasma sintered TiO2–graphene nanoplatelet composite" *Scripta Materialia* **68**(9): 719-722 (2013). ***(Impact Factor =3.224)***
18. J. Gonzalez, M. Roman, S. J, Erickson, **A. Godavarty**, "Near-infrared hand-held optical imaging technology," *Journal of Indian Institute of Sciences* 93(1): 1-14 (2013). (invited review)
19. B. Zhu, **A. Godavarty,** "Functional connectivity in the brain in joint attention skills using near infrared spectroscopy and imaging" *Behavioral Brain Research* 250:28-31 (2013). ***(Impact Factor =3.002)***
20. S. J. Erickson, S. L. Martinez, J. DeCerce, A. Romero, L. Caldera, **A. Godavarty**, "Three-dimensional fluorescence tomography of human breast tissues *in vivo* using a hand-held optical imager," *Physics in Medicine and Biology* 58(5): 1563-1579 (2013). ***(Impact Factor =2.784)***
21. M. Hall, U. Chaudhary, G. Rey, **A. Godavarty**, "Fronto-temporal mapping and connectivity using NIRS for language-related paradigms," *J. Neurolinguistics* 26(1): 178-194 (2013) ***(Impact Factor = 1.813)***.
22. J. Gonzalez, M. Roman, M. Hall, **A. Godavarty**, "Gen-2 Hand-held Optical Imager towards Cancer Imaging: Reflectance and Transillumination Phantom Studies," *Sensors* 12(2): 1885-1897 (2012) doi: 10.3390/s120201885 http://www.mdpi.com/1424-8220/12/2/1885/ ***(Impact Factor = 1.917, Cited =2)***

23. J. Gonzalez, J. DeCerce, S. J. Erickson, S. L. Martinez, A. Nunez, M. Roman, B. Traub, A. Flores, S. M. Roberts, E. Hernandez, W. Aguirre, R. Kiszonas, **A. Godavarty**, "Hand-held optical imager (Gen-2): Improved instrumentation and target detectability," *J. Biomedical Optics* 17(8): 081402-1-081402-9 (2012) ***(Impact Factor = 2.97, Cited =1)***

24. S. J. Erickson, **A. Godavarty**, S. L. Martinez, J. Gonzalez, A. Romero, M. Roman, A. Nunez, J. Ge, S. Regalado, R. Kiszonas, C. Lopez-Penalver, "Hand-held optical devices for breast cancer: Spectroscopic and 3D tomographic imaging," *J. Sel. Top. Quant. Elect.* 18(4): 1298-1312 (2012),, doi: 10.1109/JSTQE.2011.2170664 ***(Impact Factor = 3.458, Cited =1)***

25. U. Chaudhary, B. Zhu, **A. Godavarty**, "Frontal cortical connectivity and lateralization of joint attention experience using near infrared spectroscopy," *J. Near Infrared Spectroscopy* 19(2): 105-116 (2011). ***(Impact Factor = 0.991)***

26. U. Chaudhary, M. Hall, J. DeCerce, G. Rey, **A. Godavarty**, "Frontal activation and connectivity using near infrared spectroscopy: Verbal fluency language task," *Brain Research Bulletin* 84(3): 197-206 (2011). ***(Impact Factor =2.281, Cited =8)***

27. S. J. Erickson,S. L. Martinez, J. Gonzalez, L. Caldera, **A. Godavarty**, "Improved detection limits using a hand-held optical imager with coregistration capabilities," *Biomedical Optics Express* 1(1): 126-134 (2010). ***(Impact Factor = 2.333, Cited =5)***

28. J. Ge, S. J. Erickson, **A. Godavarty,** "Multi-projection fluorescence optical tomography using a hand-held probe-based optical imager: Phantom studies," *Applied Optics* 49(23):4343-4354 (2010). ***(Impact Factor = 1.738, Cited=2)***

29. S. Regalado, B. Zhu, J. Ge, S. J. Erickson, **A. Godavarty**, "Automated coregistered imaging using a hand-held probe-based optical imager," *Rev. Sci. Instr.* 81:023702-1-10 (2010) ***(Impact Factor = 1.738, Cited = 11)***.

30. S. J. Erickson, J. Ge, A. Sanchez, **A. Godavarty**, "Two-dimensional fast surface imaging using a hand-held optical device: *In-vitro* and *in-vivo* fluorescence studies," *Trans. Oncology* 3(1): 16-22 (2010) ***(Impact Factor = Not Available yet, Cited = 7)***.

31. J. Ge., S. J. Erickson, **A. Godavarty**, "Fluorescence tomographic imaging using a hand-held probe based optical imager: Extensive phantom studies," *Applied Optics* 48: 6408-6416 (2009) ***(Impact Factor = 1.763, Cited = 11)***.

32. B. Zhu, N. Yadav, N. Patel, G. Rey, **A. Godavarty**, "Diffuse optical imaging of brain activation to joint attention experience," *Behavioral Brain Research* 202(1): 32-39 (2009) 10.1016/j.bbr.2009.03.029 ***(Impact Factor = 3.171, Cited = 4)***.

33. B. Zhu, E. M. Sevick-Muraca, M. Eppstein, **A. Godavarty**. (2008) "Noise filtration in fluorescence-enhanced optical tomography: Breast Phantom Studies," *Inverse Problems in Science and Engineering* 17:1,97 – 104, (2009) ***(Impact Factor = 0.416, Cited = 1)***.

34. S. Erickson, **A. Godavarty**, "Hand-Held Based Near-Infrared Optical Imaging Systems: A Review." *Medical Engineering and Physics* 2008 doi: 10.1016/j.medengphy.2008.10.004 (2008) ***(Impact Factor = 2.216, Cited = 35)***.

35. J Ge, B Zhu, S Regalado, **A Godavarty**, "Three-dimensional fluorescence-enhanced optical tomography using a hand-held probe based imaging system", *Med. Phys* 35(7): 3354-63 (2008) ***(Impact Factor = 3.871, Cited = 25)***.

36. B. Jayachandran, J. Ge, S. Regalado, **A. Godavarty**, "Design and development of a hand-held optical probe towards fluorescence diagnostic imaging" *J. Biomedical Optics* 12(5), 054014-1 -10 (2007) ***(Impact Factor = 2.97, Cited = 21)***.

37. B. Zhu, M. Eppstein, E. Sevick-Muraca and **A. Godavarty**, "Noise pre-filtering techniques in fluorescence-enhanced optical tomography", *Optics Express*, Vol. 15, Page 11285 (2007) ***(Impact Factor =3.88, Cited = 4)***.

38. R. Roy, **A. Godavarty**, E. M. Sevick-Muraca, "Fluorescence-enhanced three-dimensional lifetime imaging: a phantom study," *Phy Med Biol.* 52(14): 4155-70 (2007) ***(Impact Factor =2.784, Cited = 14)***.

39. R. Roy**, A. Godavarty** and E.M. Sevick-Muraca, "Fluorescence-enhanced optical tomography of a large tissue phantom using point illumination geometries," *J. Biomedical Optics*, 11(4):44007-1-14 (2006) ***(Impact Factor = 2.97, Cited = 23)***.

40. **A. Godavarty**, E. M. Sevick-Muraca, M. J. Eppstein, "Three-dimensional fluorescence lifetime tomography," *Medical Physics* 32(4): 992-1000 (2005) ***(Impact Factor =3.871, Cited = 84)***.

41. **A. Godavarty**, M. J. Eppstein, C. Zhang, E. M. Sevick-Muraca, "Detection of single and multiple targets in tissue phantoms using fluorescence-enhanced optical imaging," *Radiology* 235: 148-154 (2005) ***(Impact Factor =5.996, Cited = 43)***.

42. F. Fedele, J. P. Laible, **A. Godavarty**, E. M. Sevick-Muraca, M. J. Eppstein, "Fluorescence photon migration by the boundary element method", *J. Computational Physics* 210(1): 109-132 (2005) ***(Impact Factor =2.279, Cited = 19)***.

43. R. Roy, A. B. Thompson, **A. Godavarty**, E. M. Sevick-Muraca, "Tomographic fluorescence imaging in tissue phantoms: A novel reconstruction algorithm and imaging geometry" *IEEE Transactions in Medical Imaging* 24(2): 137-154 (2005) ***(Impact Factor = 4.004, Cited = 49)***.

44. **A. Godavarty**, A. B. Thompson, R. Roy, M. J. Eppstein, C. Zhang, M. Gurfinkel, E. M. Sevick-Muraca, "Diagnostic imaging of breast cancer using fluorescence-enhanced optical tomography: phantom studies," *J. Biomedical Optics: Special edition on Biomedical Optics and Women's Health* 9(3): 488-496 (2004) ***(Impact Factor =2.97, Cited = 87)***.

45. **A. Godavarty**, C. Zhang, M. J. Eppstein, E. M. Sevick-Muraca, "Fluorescence-enhanced optical imaging of large phantoms using single and simultaneous dual point illumination geometries," *Medical Physics* 31(2): 183-190 (2004). ***(Sylvia Sorkin Greenfield Award for Best Paper in Medical Physics for year 2004) (Impact Factor =3.871, Cited = 35)***.

46. **A. Godavarty**, M. J. Eppstein, C. Zhang, S. Theru, A. B. Thompson, M. Gurfinkel, E. M. Sevick-Muraca, "Fluorescence-enhanced optical imaging in large tissue volumes using a gain modulated ICCD camera," *Physics in Medicine and Biology* 48(12):1701-1720 (2003) ***(Impact Factor =2.784, Cited = 126)***.

47. M. J. Eppstein, F Fedele, J. Laible, C. Zhang, **A. Godavarty**, E. M. Sevick-Muraca, "A comparison of exact and approximate adjoint sensitivities in fluorescence tomography,"

IEEE Transactions on Medical Imaging 22(10): 1215-1223 (2003) ***(Impact Factor =4.004, Cited =40)***.

48. **A. Godavarty**, D. J. Hawrysz, R. Roy, E. M. Sevick-Muraca, M. J. Eppstein, "The influence of the refractive index-mismatch at the boundaries measured in fluorescence-enhanced frequency-domain photon migration imaging," *Optics Express* 10(15): 653-662 (2002) ***(Impact Factor =3.88, Cited = 26)***.

49. M. J. Eppstein, D. J. D. Hawrysz, **A. Godavarty**, E. M. Sevick-Muraca, "Three-dimensional near-infrared fluorescence tomography with Bayesian methodologies for image reconstruction from sparse and noisy data sets," *The Proceedings of the National Academy of Science* 99(15): 9619-9624 (2002) ***(Impact Factor =9.38, Cited = 160)***.

50. R. Roy, **A. Godavarty**, E. M. Sevick-Muraca, "Fluorescence-enhanced, optical tomography using referenced measurements of heterogeneous media," *IEEE Transactions on Medical Imaging* 22: 824-836 (2003) ***(Impact Factor =4.004, Cited = 47)***.

51. **A. Godavarty** and A. Agarwal, "Distribution and catalytic activity of eutectic salts in steam gasification of coal," *Energy and Fuels* 14(3): 558-565 (2000) ***(Impact Factor = 2.056, Cited = 6)***.

52. **A. Godavarty**, A. Agarwal and N. B. Dahotre, "Neural networks in studies on oxidation behavior of laser surface engineered composite boride coating," *Applied Surface Science* 161(1-2): 129-136 (2000) ***(Impact Factor = 1.576, Cited = 8)***.

53. A. Sheth, Y. D. Yeboah, **A. Godavarty**, Y. Xu, P. K. Agarwal, "Catalytic gasification of coal using eutectic salts: reaction kinetics with binary and ternary eutectic catalysts," *Fuel* 82: 301-317 (2003) ***(Impact Factor =2.536, Cited = 28)***.

54. Y. D. Yeboah, Y. Xu, A. Sheth, **A. Godavarty**, P. Agarwal, "Catalytic gasification of coal using eutectic salts: identification of eutectics," *Carbon* 41: 203-214 (2003) ***(Impact Factor =4.373, Cited = 37)***.

Book chapters (Total: 2)

55. E. M. Sevick-Muraca, E. Kuwana, **A. Godavarty**, J. P. Houston, A. B. Thompson, R. Roy, "Near-infrared fluorescence imaging and spectroscopy in random media and tissues," Book chapter for *Biomedical Photonics Handbook*, CRC Press, Ed. J. Vo-Dinh, A and A. Komarovsky, Chapter 33:1-66, April 2003 ***(Cited =26)***.

56. E. M. Sevick-Muraca, **A. Godavarty**, J. P. Houston, A. B. Thompson, R. Roy, "Near-infrared imaging with fluorescent contrast agents," in *Fluorescence in Biomedicine*, Marcel Dekker, Eds. Brian. W. Pogue and Mary-Ann Mycek, April 2003 ***(Cited =35)***.

Conference Proceedings (Total: 68)

57. E. Robledo, K. Leiva, C. Beiner, J. Murillo, M.A. Rodrigues, M. Chuong, W. Wu, **A. Godavarty**, "Tissue oxygenation changes in response to radiation therapy in breast cancer subjects using near-infrared optical imaging," OSA Biophotonics Congress: Biomedical Optics, OSA Technical Digest, paper TTu1B.4 (2020)
58. K. Leiva, E. Robledo, D. Ortega, W. Wu, **A. Godavarty**, "Dynamic tissue oxygenation measurements from a hand-held near-infrared optical scanner (NIROS): In-vivo validation studies," OSA Biophotonics Congress: Biomedical Optics, OSA Technical Digest, paper TM3B.4 (2020)
59. K. Kaile, C. Fernandez, **A. Godavarty**, "Tissue oxygenation measurements using a non-contact, smartphone-based near-infrared optical device," OSA Biophotonics Congress: Biomedical Optics, OSA Technical Digest, paper TM3B.2 (2020)
60. Edwin Robledo, Richard Schutzman, Ruogu Fang, Cristianne Fernandez, Rebecca Kwasinski, Kevin Leiva, Francisco Perez-Clavijo, Anuradha Godavarty, "Semi-automated machine learning approach to segment and register tissue oxygenation maps onto clinical images of wound", Proc of SPIE 10873; Optical Biopsy XVII: Toward Real-Time Spectroscopic Imaging and Diagnosis; 1087305 (2019) https://doi.org/10.1117/12.2510065 (2019).
61. Kacie Kaile, Kevin Leiva, Jagadeesh Mahadevan, V Ramnarayan, Miguel Alonso, Vishwanatha Mohan, Anuradha Godavarty, "Low-cost smartphone based imaging device to detect subsurface tissue oxygenation of wounds," Proc. of SPIE 10869, Optics and

Biophotonics in Low-Resource Settings V; 1086912 (2019) https://doi.org/10.1117/12.2510425 (2019).

62. Kevin Leiva, Jagadeesh Mahadevan, Priscilla Lozano, Kacie Kaile, Richard Schutzman, Edwin Robledo, Dinesh Khandavilli, Sivakumar Narayanan, Varalakshmi Muthukrishnan, Mohan Viswanathan, Wensong Wu, Anuradha Godavarty, "Oxygenation based perfusion assessment of diabetic foot ulcers using a breath-hold paradigm," Proc of SPIE 10873, Optical Biopsy XVII: Toward Real-Time Spectroscopic Imaging and Diagnosis; 1087304 (2019) https://doi.org/10.1117/12.2509917
63. Jorge Barter[1], Edwin Robledo[1], Jagadeesh Mahadevan[1], Sivakumar Narayanan[2], Varalakshmi Muthukrishnan[2], Mohan Viswanathan[2], Anuradha Godavarty[1], "Assessment of Wound Healing in Diabetic Foot Ulcers Through the Use of Subclinical Tissue Oxygenation Measurements Obtained with Near Infrared Spectroscopy," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
64. Maria Saavedra[1], Kevin Leiva[1], Kacie Kaile[1], Francisco Perez-Clavijo[2], Anuradha Godavarty[1], "Tissue Oxygenation Changes in a Large Diabetic Foot Ulcer: Longitudinal Case Study," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
65. Priscilla Lozano[1], Kevin Leiva[1], Anuradha Godavarty[1], "Validation of near-infrared optical scanner to assess saturated oxygen changes in response to breath-hold," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
66. Anuradha Godavarty[1], Kevin Leiva[1], Kacie Kaile[1], Jagadeesh Mahadevan[1], Dinesh Khandavilli[1], Sivakumar Narayanan[2], Varalakshmi Muthukrishnan[2], and Mohan Viswanathan[2], "Tissue oxygenation to assess healing diabetic foot ulcers and effectiveness of scalpel debridement," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
67. Fernandez C, Kwasinski R, Leiva K, Schutzman R, Robledo E, Kallis P, Borda L, Perez-Clavijo F, Kirsner R, **Godavarty A**, "Tissue oxygenation maps of diabetic foot ulcers: Longitudinal ulcers," **Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/ Brain/OTS)** OSA Technical Digest (Optical Society of America, 2018), paper JTh3A.6; •**https://doi.org/10.1364/TRANSLATIONAL.2018.JTh3A.6**
68. Kwasinski R, Fernandez C, Leiva K, Schutzman R, Robledo E, Kallis P, Borda L, Perez-Clavijo F, Kirsner R, **Godavarty A**, "Tissue oxygenation changes in venous leg ulcers," OSA **Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/**

Brain/OTS) OSA Technical Digest (Optical Society of America, 2018), paper JTh3A.7; •**https://doi.org/10.1364/TRANSLATIONAL.2018.JTh3A.7**

69. Robledo E, Schutzman R, Fernandez C, Fang R, Leiva K, Kwasinski R, Kallis P, Borda L, Kirsner R, Perez-Clavijo F, **Godavarty A**, "Coregistered and segmented tissue oxygenation maps onto white light images of diabetic foot ulcers," **Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/Brain/OTS)** OSA Technical Digest (Optical Society of America, 2018), paper JW3A.44; **https://doi.org/10.1364/TRANSLATIONAL.2018.JW3A.44**
70. Leiva K, Mahadevan J, Kaile K, Schutzman R, Robledo E, Khandavilli D, Narayanan S, Muthukrishnan V, Viswanathan M, **Godavarty A,** "Breath hold paradigm assesses regions of reduced oxygenation in diabetic foot ulcers," OSA **Biophotonics Congress: Biomedical Optics Congress 2018 (Microscopy/Translational/ Brain/OTS)** OSA Technical Digest (Optical Society of America, 2018), paper JTh3A.11; •**https://doi.org/10.1364/TRANSLATIONAL.2018.JTh3A.11**
71. X. Pang, A. Dadkhah, J. Lei, E. Solis, S. Rodriguez, F. Perez-Clavijo, S. Wigley, R. Fang, **A. Godavarty**, "Near-infrared optical imaging and wound segmentation in lower extremity ulcers," OSA Biomedical Optics Conference, Apr 25-28, 2016, Fort Lauderdale, FL
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Technical Reports

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141. **A. Godavarty**, "Novel breast tissue phantoms with known optical properties," Imaging Diagnostic Systems Inc., Fort Lauderdale, FL, Annual Reports, May 2007, and June 2008.

142. **A. Godavarty**, "Bedside optical imaging of presurgical epilepsy patients" Miami Children's Hospital Seed Grant, Annual Reports, March 2007 and Aug 2008.

143. **A. Godavarty**, "Optical imaging in autistic children" Annual Reports to Univ of Miami for the Don Marino Foundation funds, Feb 2007, Feb 2008, and Feb 2009.

144. **A. Godavarty**, "Hand-held optical probe for fluorescence imaging of breast cancer," National Cancer Institute at National Institutes of Health (Grant ID R15CA119253), Final Reports for Supplements 1 and 2, Oct 2010.

PRESENTATIONS

Invited Talks

1. "Tissue oxygenation assessment of diabetic foot ulcers using a low-cost, hand-held, near infrared optical scanner," at Arizona State University, April 17, 2020
2. "Effectiveness of RD treatment in head/neck cancer patients via tissue oxygenation measurements" at Miami Cancer Institute, Miami, FL, May 2018
3. Global Wound Care Congress, San Antonio, Texas, "Optical classification of diabetic wounds as healing or non-healing," 12-13th Sept 2016.
4. Global Wound Care Congress, San Antonio, Texas, "Automated segmentation of lower extremity ulcers using near-infrared optical imaging," 12-13th Sept 2016.

5. Mohan Diabetes Specialties Center, Chennai, India, "Optical assessment of diabetic foot ulcers using NIROS," 11th July 2016.
6. National Institute of Technology, Allahabad, India, "Non-invasive optical imaging technology: Breast cancer imaging and functional brain mapping," 29th July 2015
7. LSSF Webinar "Near-infrared Optical Scanner for Non-Invasive Tissue Imaging", 21st May 2013
8. SWE Women in Engineering Luncheon, FIU talk, 06th Mar 2013
9. "Hand-held optical scanner for non-invasive deep tissue imaging," STEM Panel Discussion Talk, Miami-Dade Medical Campus, 18 Mar 2013
10. "NIR optical scanner (NIROS) for non-invasive deep tissue dynamic imaging," BioFlorida Saturday Exchange Meeting, 09th March 2013.
11. "Hand-held optical imaging technologies for global health issues," STEM Panel Discussion of Women's History, Miami-Dade Medical College Campus, Miami, FL, 18th March 2013
12. "Breast cancer imaging using near-infrared (NIR) light," Women in Engineering Lucheon, Society of Women Engineers, FIU, 06th Mar 2013.
13. "Hand-held optical imager," Florida Board of Governors Meeting, Tallahassee, FL, June 2012.
14. "Hand-held optical imager," FIU Board of Trustees Meeting, FIU, June 2012.
15. "Hand-held optical imager for breast cancer imaging," *Adyar Cancer Institute*, Chennai, India, Aug 13 (2012).
16. "Non-invasive optical imaging technology: Breast cancer imaging and functional brain mapping," *Indian Institute of Technology Delhi,* New Delhi, India, July 30 (2012).
17. "Optical Imaging and tomography: Breast cancer imaging and functional brain mapping," *Indian Institute of Sciences,* Bangalore, India, Aug 8 (2012).
18. "Hand-held optical imager for breast cancer imaging," *Adyar Cancer Institute*, Chennai, India, Aug 13 (2012).

19. "Non-invasive optical imaging technology: Breast cancer imaging and functional brain mapping," *Indian Institute of Technology Chennai,* Chennai, India, Aug 14 (2012).
20. "Hand-held diffuse optical imager for global health and breast cancer," *NIH Meeting on Cancer Detection and Diagnostics Technologies for Global Health*, Bethesda, MD, Aug 22-23 (2011).
21. "Hand-held probe based optical imager towards diagnostic breast imaging," *Mechanical & Materials Engineering Department, Florida International University,* Miami, FL, March 6 (2009).
22. "Functional brain mapping using Optical imaging," *The Brain Institute* at *Miami Children's Hospital*, Miami, FL, Jan 8 (2007).
23. Biomedical Engineering: A New Direction for Graduate Studies" *Indian Institute of Technology Chennai,* Chennai, India, January 8 (2007).
24. "Optical-based molecular imaging: Applications in cancer diagnostics and brain imaging," *The Brain Institute* at *Miami Children's Hospital*, Miami, FL, Dec 9 (2004).
25. "Optical-based molecular imaging using fluorescent markers: Towards breast cancer diagnosis," *Indian Institute of Technology Kanpur,* Kanpur, India, Aug 5 (2004).

Talks at National/International Meetings

26. E. Robledo, K. Leiva, C. Beiner, J. Murillo, M.A. Rodrigues, M. Chuong, W. Wu, **A. Godavarty**, "Tissue oxygenation changes in response to radiation therapy in breast cancer subjects using near-infrared optical imaging," OSA Biophotonics Congress, April 20-24, 2020 (virtual conference).
27. K. Leiva, E. Robledo, D. Ortega, W. Wu, **A. Godavarty**, "Dynamic tissue oxygenation measurements from a hand-held near-infrared optical scanner (NIROS): In-vivo validation studies," OSA Biophotonics Congress, April 20-24, 2020 (virtual conference).
28. K. Kaile, C. Fernandez, **A. Godavarty**, "Tissue oxygenation measurements using a non-contact, smartphone-based near-infrared optical device," OSA Biophotonics Congress, April 20-24, 2020 (virtual conference).

29. Edwin Robledo, [a]Richard Schutzman, [b]Ruogu Fang, [a]Cristianne Fernandez, [a]Rebecca Kwasinski, [a]Kevin Leiva, [c]Francisco Perez-Clavijo, [a]Anuradha Godavarty, "Semi-automated machine learning approach to segment and register tissue oxygenation maps onto clinical images of wound", SPIE Photonics West(Feb 2-7, 2019), San Francisco, CA (Oral).
30. Kacie Kaile, Kevin Leiva, Jagadeesh Mahadevan, V Ramnarayan, Miguel Alonso, Vishwanatha Mohan, Anuradha Godavarty, "Low-cost smartphone based imaging device to detect subsurface tissue oxygenation of wounds," SPIE Photonics West(Feb 2-7, 2019), San Francisco, CA (Oral).
31. Kevin Leiva, Jagadeesh Mahadevan, Priscilla Lozano, Kacie Kaile, Richard Schutzman, Edwin Robledo, Dinesh Khandavilli, Sivakumar Narayanan, Varalakshmi Muthukrishnan, Mohan Viswanathan, Wensong Wu, Anuradha Godavarty, "Oxygenation based perfusion assessment of diabetic foot ulcers using a breath-hold paradigm," SPIE Photonics West(Feb 2-7, 2019), San Francisco, CA (Oral).
32. Anuradha Godavarty[1], Kevin Leiva[1], Kacie Kaile[1], Jagadeesh Mahadevan[1], Dinesh Khandavilli[1], Sivakumar Narayanan[2], Varalakshmi Muthukrishnan[2], and Mohan Viswanathan[2], "Tissue oxygenation to assess healing diabetic foot ulcers and effectiveness of scalpel debridement," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
33. A. Dadkhah, X. Pang, E. Solis, R. Fang, **A. Godavarty**, "Wound size measurement of lower extremity ulcers using segmentation algorithms," SPIE Photonics West, Feb 13-17 (2016).
34. J. Lei, S. Rodriguez, M. Jayachandran, E. Solis, S. Gonzalez, F. Perez-Clavijo, S. Wigley, **A. Godavarty**, "Quantitative wound healing studies using a portable, low-cost, hand-held near-infrared optical scanner: Preliminary sensitivity and specificity analysis," SPIE Photonics West, Feb 13-17 (2016).
35. **A. Godavarty**, Y. Khandavilli, Y-J. Jung, P.N. Someshwara Roa, "Non-contact optical imaging of healing and non-healing diabetic foot ulcers," SPIE Photonics West, Optical Biopsy XIII: Toward Real-Time Spectroscopic Imaging and Diagnosis, San Francisco, CA (10 Feb 2015).
36. R. Roche, Y-J Jung, **A. Godavarty**, "Implementation of a novel, integrative approach for optical 3D positional tracking towards accurate coregistered imaging using hand-held optical imager," 29th Southern Biomedical Engineering Conference, May 3-5 (2013).

37. M. Roman, J. Gonzalez, J. Carrasquilla, S. J. Erickson, **A. Godavarty**, "A Gen-2 hand-held optical imager: Phantom and preliminary in-vivo breast imaging studies," 29th Southern Biomedical Engineering Conference May 3-5 (2013).

38. U. Chaudhary, Y-J Jung, B. Thompson, J. Gonzalez, J. Davis, P. Gonzalez, K. Rice, M. Bloyer, L. Elbaum, **A. Godavarty**, "Investigation of planning and execution of motor skills in healthy adults using simultaneous near infrared spectroscopy and kinematics study" 29th Southern Biomedical Engineering Conference, May 3-5 (2013).

39. Y. Jung, M. Roman, J. Carrasquilla, S. J. Erickson, **A. Godavarty**, "Portable wide-field hand-held NIR scanner," *SPIE Photonics West Bios Conference*, San Francisco, CA, Feb 2-7 (2013).

40. U. Chaudhary, B. Thomson, J. Gonzalez, Y. Jung, J. Davis, P. Gonzalez, K. Rice, M. Bloyer, L. Elbaum, **A. Godavarty**, "Simultaneous NIRS and kinematic study of planning and execution of motor skill task in subjects with and without cerebral palsy," *SPIE Photonics West Bios Conference*, San Francisco, CA, Feb 2-7 (2013).

41. J. Gonzalez, M. Roman, S. Erickson, **A. Godavarty**, "Three-dimensional tomographic imaging using a Gen-2 hand-held optical imager: Reflectance and transmission studies," *SPIE Photonics West Bios Conference,* San Francisco, CA, Feb 2-7 (2013).

42. U. Chaudhary, M. Hall, A. Gutierrez, D. Messinger, G. Rey, **A. Godavarty** "Joint attention studies in normal and autistic children using NIRS," *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 22-27 (2011).

43. S. J. Erickson, S. Martinez, J. Gonzalez, M. Roman, A. Nunez, **A. Godavarty**, "3D tomographic breast imaging *in-vivo* using a handheld optical imager," *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 22-27 (2011).

44. S. J. Erickson, S. Martinez, J. DeCerce, A. Romero, L. Caldera, A. Godavarty, "Fast coregistered breast imaging *in-vivo* using a hand-held optical imager," *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 23-28 (2010).

45. U. Chaudhary, B. Zhu, A. Godavarty, "Brain connectivity study of joint attention using frequency-domain optical imaging technique," *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 23-28 (2010).

46. B. Zhu, S. Erickson, I. Tsukanov, **A. Godavarty**, "Application of Multiresolution Approach towards Diffuse Optical Tomographic Imaging," (#158229) *10th US National Congress on Computational Mechanics*, Columbus, OH, July 16-19 (2009).

47. U. Chaudhary, B. Zhu, **A. Godavarty**, "Brain connectivity studies of joint attention using frequency-domain diffuse optical imaging," *25th Southern Biomedical Engineering Conference*, May 15-17 (2009).

48. S. Erickson, J. Ge, A. Sanchez, **A. Godavarty**, "Clinical Translation of a Novel Hand-held Based Optical Imager: *In Vitro* and *In Vivo* Studies*," 25th Southern Biomedical Engineering Conference*, Miami, FL, May 15-17 (2009). (First Place, Doctoral Award in SBEC 2009 Paper Competition)

49. J. Ge, S. Erickson, **A. Godavarty**, "Fluorescence Tomographic Imaging using a Hand-held Optical Imager: Extensive Phantom Studies," *25th Southern Biomedical Engineering Conference*, Miami, FL, May 15-17 (2009).

50. B. Zhu, **A. Godavarty**, "Brain activation and connectivity of social cognition using diffuse optical imaging" *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 24-29 (2009).

51. S. J. Erickson, S. Regalado, J. Ge, B. Zhu, **A. Godavarty**, "Real-time co-registered imaging using a novel hand-held optical imager," *SPIE Photonics West BIOS Conference* San Jose, CA, Jan 24-29 (2009).

52. J. Ge, Sarah J. Erickson, **A. Godavarty**, "Multi-projection based fluorescence optical tomography using a hand-held probe based optical imager," *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 24-29 (2009).

53. **A. Godavarty**, S. Erickson, S. Regalado, J. Ge, B. Zhu, A Novel Handheld-based Optical Imager with Real-time Co-Registration Facilities: Phantom, *In-Vitro,* & *In-Vivo* Studies," *RSNA (Radiological Society of North America) Annual Meeting*, Chicago, IL, Dec 2 (2008).

("RSNA-On the Air" Radio Interview at the *94th Radiological Society of North America's (RSNA) Annual Meeting*, Dec 2008 (Broadcast on WIOD-AM Station, FL).

54. B. Zhu, N. Yadav, N. Patel, and **A. Godavarty**, "Functional brain mapping of joint attention skills using diffuse optical imaging", *24th Southern Biomedical Engineering Conference*, EI Paso, TX, April 18-20 (2008).

55. J. Ge, B. Zhu, S. Regalado, **A. Godavarty**, "Hand-held probe based ICCD optical imaging system towards breast cancer diagnosis", *24th Southern Biomedical Engineering Conference*, EI Paso, TX, April 18-20 (2008).

56. J. Ge, B. Zhu, S. Regalado, **A. Godavarty**, "Fluorescence-enhanced imaging using a novel handheld based optical imager: phantom studies", *SPIE Photonics West BIOS Conference*, San Jose, CA, January 19-24 (2008).

57. B. Zhu, **A. Godavarty**, E. M. Sevick-Muraca, M. J. Eppstein, "Filtration techniques in fluorescence-enhanced tomography," *Inverse Problems, Design and Optimization Symposium*, Miami, FL, April 16-18 (2007).

58. J. Ge, B. Jayachandran, B. Zhu, S. Regalado, **A. Godavarty**, "Hand-held probe based optical imaging system towards breast cancer diagnosis," *SPIE Photonics West BIOS Conference*, San Jose, CA, January 20-25 (2007).

59. **A. Godavarty**, M. J. Eppstein, C. Zhang, E. M. Sevick-Muraca, "Fluorescence-enhanced optical tomography on large phantoms using dual point illumination geometry," *OSA Biomedical Topical Meetings*, Miami, FL, Apr 14-17 (2004).

60. **A. Godavarty**, E. M. Sevick-Muraca, M. J. Eppstein, C. Zhang, "Fluorescence-enhanced molecular imaging towards breast cancer diagnostics," *RSNA (Radiological Society of North America) 89th Annual Meeting*, Chicago, IL, Nov 30-Dec 5 (2003).

61. **A. Godavarty**, E. M. Sevick-Muraca, C. Zhang, M. J. Eppstein, "Molecular imaging using fluorescent markers: Towards breast cancer diagnosis," *AIChE* (*American Institute of Chemical Engineers) Annual Meeting*, San Francisco, CA, Nov 16-21 (2003).

62. **A. Godavarty**, E. M. Sevick-Muraca, C. Zhang, M. J. Eppstein, "Fluorescence-enhanced optical imaging on large phantoms: Depth studies," *Frontiers in Optics Laser Science XIX 87th OSA (Optical Society of America) Annual Meeting*, Tucson, AZ, Oct 5-9 (2003).

63. **A. Godavarty**, E. M. Sevick-Muraca, C. Zhang, M. J. Eppstein, "Optical-based molecular imaging with 3D tomographic studies on large breast phantoms," *BMES (Biomedical Engineering Society) Annual Fall Meeting*, Nashville, TN, Oct 1-4 (2003).

64. **A. Godavarty**, E. M. Sevick-Muraca, M. J. Eppstein, C. Zhang, "Fluorescence-enhanced tomographic imaging in large phantoms using gain-modulated ICCD camera," *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 25-31 (2003).

65. R. Roy, **A. Godavarty**, A. B. Thompson, E. M. Sevick-Muraca "Penalty/Modified barrier function method for diagnostic imaging using area and point illumination geometries in fluorescence-enhanced optical tomography," *IEEE International Symposium on Biomedical Imaging*, Arlington, VA., Apr 15-18 (2002).

66. **A. Godavarty**, R. Roy, A. Thompson, E. M. Sevick-Muraca, "Modeling of diffusion equation of light for an isotropic point source and a planar source –finite element approach," *AIChE Annual meeting*, Reno, NV, Nov 5-9 (2001).

67. **A. Godavarty**, R. Roy, D. J. Hawrysz, E. M. Sevick-Muraca, "Experimental validation of finite element approach for 3D inversion in NIR frequency domain optical imaging using phantom studies," *Inverse-2001 Conference*, College Station, TX, June 14-16 (2001).

68. R. Roy, **A. Godavarty**, E. M. Sevick-Muraca, "Three-Dimensional imaging of absorption coefficients in tissue-like scattering media," *Inverse-2001 Conference*, College Station, TX, June 14-16 (2001).

69. **A. Godavarty**, Y.D. Yeboah, A. C. Sheth, P. Agarwal, "Catalytic gasification of goal using eutectic salt mixtures," *Annual Coal Conference*, Pittsburgh, PA, June 2-3 (1999).

<u>Talks/Posters at Internal Meetings</u>

70. K. Leiva, E. Robledo, D. Ortega, W. Wu, **A. Godavarty**, "In-vivo validation of a near-infrared optical scanner (NIROS) via an occlusion paradigm," FIU Graduate Research Day, Mar 6th 2020.
71. K. Kaile, C. Fernandez, **A.Godavarty**, "A non-contact smartphone based near-infrared optical scanner to measure tissue oxygenation," FIU Graduate Research Day, Mar 6th 2020.
72. E.A.Robledo, K. Leiva, C. E. Beiner, J. Murillo, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, **A. Godavarty**, " Tissue oxygenation as a biomarker for radiation dermatitis in radiation-therapy treated breast cancer subjects," FIU Graduate Research Day, Mar 6th 2020.
73. B. Meyer, K. Leiva, K. Kaile, M. Saavedra, F. Perez-Clavijo, **A. Godavarty**, "Effect of re-vascularization on oxygenation flow in a chronic diabetic foot ulcer," FIU-BME 10th Annual Undergraduate Research Day, Oct 4th 2019
74. D. Leizaola, K. Leiva, **A. Godavarty**, "Non-contact pulse measurements using a near-infrared optical imager," FIU-BME 10th Annual Undergraduate Research Day, Oct 4th 2019
75. J. Barter, N. Sevilla, K. Leiva, **A. Godavarty**, "LED optimization of an integrated near-infrared optical scanner for wound imaging," FIU-BME 10th Annual Undergraduate Research Day, Oct 4th 2019
76. Jorge Barter, Kacie Kaile, Edwin Robledo, Kevin Leiva, Jagadeesh Mahadevan, Sivakumar Narayanan, Varalakshmi Muthukrishnan, Mohan Viswanathan, Anuradha Godavarty, "Assessment of Wound Healing in Diabetic Foot Ulcers Using Subclinical Tissue Oxygenation Measurements Obtained with Near Infrared Spectroscopy," Life Sciences South Florida (LSSF), Apr 2019
77. Priscilla Lozano, Kevin Leiva, Anuradha Godavarty, "Validation of near-infrared optical scanner to assess saturated oxygen changes in response to breath hold," Conference for Undergraduate Research at FIU (CURFIU), Apr 2019 & 9th Annual BME Undergrad Research Day at FIU, Sept 2018
78. Maria Saavedra, Kevin Leiva, Kacie Kaile, Francisco Perez-Clavijo, Anuradha Godavarty, "Tissue Oxygenation Changes in a Large Diabetic Foot Ulcer: Longitudinal Case Study,"

Conference for Undergraduate Research at FIU (CURFIU), Apr 2019 & 9th Annual BME Undergrad Research Day at FIU, Sept 2018

79. Jorge Barter, Kacie Kaile, Edwin Robledo, Jagadeesh Mahadevan, Sivakumar Narayanan, Varalakshmi Muthukrishnan, Mohan Viswanathan, Anuradha Godavarty, "Assessment of Wound Healing in Diabetic Foot Ulcers Through the Use of Subclinical Tissue Oxygenation Measurements Obtained with Near Infrared Spectroscopy," Conference for Undergraduate Research at FIU (CURFIU), Apr 2019 & 9th Annual BME Undergrad Research Day at FIU, Sept 2018
80. Christopher Estrella, Nicole Sevilla, Anuradha Godavarty, "Assessment of commercialization pathways for a low-cost hand-held near-infrared optical scanner," BME Graduate Research Day at FIU, Mar 2019 & Graduate Student Appreciation Week (GSAW) – FIU, Apr2019
81. Kevin Leiva, Priscilla Lozano, Maria Saavedra, Kacie Kaile, Francisco Perez-Clavij, Anuradha Godavarty, "Assessment of localized oxygenated flow changes induced by breath-holding using NIROS," BME Graduate Research Day at FIU, Mar 2019 & Graduate Student Appreciation Week (GSAW) – FIU, Apr2019
82. Kacie Kaile, Anuradha Godavarty, "Development and validation of smartphone based oxygenation tool for in-vivo imaging," BME Graduate Research Day at FIU, Mar 2019 & Graduate Student Appreciation Week (GSAW) – FIU, Apr2019
83. Edwin Robledo, Cristianne Fernandez, Rebecca Kwasinski, Francisco Perez-Clavijo, Anuradha Godavarty, "Computational approach to wound assessment using image processing techniques," BME Graduate Research Day at FIU, Mar 2019 & Graduate Student Appreciation Week (GSAW) – FIU, Apr2019
84. Maierhaba Sailaijiang, Kacie Kalie, Anuradha Godavarty, "Validation of a Near-Infrared Optical Scanner to Measure Changes in Oxygenation: Phantom Studies," BME Graduate Research Day at FIU, Mar 2019 & Graduate Student Appreciation Week (GSAW) – FIU, Apr2019
85. Cristianne Fernandez, Rebecca Kwasinski, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, E.A. Pretto, Anuradha Godavarty,

"Hemodynamic Maps and Area Segmentation of Diabetic Foot Ulcers" Conference for Undergraduate Research at FIU (CURFIU), Apr 2018

86. Rebecca Kwasinski, Cristianne Fernandez, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Luis Borda, Francisco Perez-Clavijo, Robert Kirsner, Anuradha Godavarty, "Hemodynamic imaging of venous leg ulcers using a near-infrared optical scanner (NIROS)," Conference for Undergraduate Research at FIU (CURFIU), Apr 2018
87. Kevin Leiva, Jagadeesh Mahadevan, Kacie Kaile, Richard Schutzman, Edwin Robledo, Dinesh Khandavilli, Sivakumar Narayanan, Varalakshmi Muthukrishnan, Mohan Viswanathan, Anuradha Godavarty, "Assessing regions of reduced oxygenation in diabetic foot ulcers using near-infrared optical imaging" BME Graduate Research Day at FIU, Jan 2018 (Best Poster Award – 2nd place)
88. Kacie Kaile, Jagadeesh Mahadevan, Kevin Leiva, Edwin Robledo, Richard Schutzman, Cristianne Fernandez, Dinesh Khandavilli, Sivakumar Narayanan, Varalakshmi Muthukrishnan, Mohan Viswanathan, Anuradha Godavarty, "Tissue Oxygenation Measurements Aid Callus Removal in Patients with Diabetes" BME Graduate Research Day at FIU, Jan 2018
89. Cristianne Fernandez, Rebecca Kwasinski, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, E.A. Pretto, Anuradha Godavarty, "Comparison of Hemodynamic Changes and Wound Area in Diabetic Foot Ulcers" BME Undergrad Research Day at FIU, Sept 2017
90. Rebecca Kwasinski, Cristianne Fernandez, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Luis Borda, Francisco Perez-Clavijo, Robert Kirsner, Anuradha Godavarty, "Hemodynamic imaging of venous leg ulcers using a near-infrared optical scanner," BME Undergrad Research Day at FIU, Sept 2017
91. Edwin Robledo, Yoany Rodriguez, Anuradha Godavarty, "Spatial temporal information of blood vessels from NIR Imaging of venous occlusion," BME Undergrad Research Day at FIU, Sept 2017.
92. Richard Schutzman, Xing Pang, Edwin Robledo, Rebecca Kwasinski, Christianne Fernandez, Francesco- Perez Calvijo, Ruogu Fang, Anuradha Godavarty. "Co-registered hemodynamic

imaging of tissues using a hand-held Near-infrared optical scanner (NIROS)." Annual Biomedical & Comparative Immunology Symposium, May 31st, 2017.

93. Richard Schutzman, Anuradha Godavarty. "Expanded Functionality of Near-infrared optical scanner (NIROS)." 2016 MARC U*STAR & NIGMS RISE Mini-Symposium, Miami, FL, October 3rd, 2016.
94. Richard Schutzman, Anuradha Godavarty. "Spatial Co-Registration of Visible and Optical Images." Conference for Undergraduate Research at FIU, May 29th, 2017.

95. Edwin Robledo, Richard Schutzman, Mia L. Boloix, Anuradha Godavarty. "Modification of NIROS for Hemodynamic Imaging of Large Wounds." Conference for Undergraduate Research at FIU, May 29th, 2017.

96. Rebecca Kwasinski, Cristianne Fernandez, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, Anuradha Godavarty. "Hemodynamic imaging of venous leg ulcers." Conference for Undergraduate Research at FIU, May 29th, 2017.

97. Cristianne Fernandez, Rebecca Kwasinski, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, E.A. Pretto, Anuradha Godavarty. "Weekly Monitoring of Hemodynamic Changes in Diabetic Foot Ulcers." Conference for Undergraduate Research at FIU, May 29th, 2017.

98. Richard Schutzman, Anuradha Godavarty. "Spatial Co-Registration of Visible and Optical Images." Annual Biomedical Engineering Undergraduate Research Day, March 3rd, 2017.

99. Edwin Robledo, Richard Schutzman, Mia L. Boloix, Anuradha Godavarty. "Modification of NIROS for Hemodynamic Imaging of Large Wounds." Annual Biomedical Engineering Undergraduate Research Day, March 3rd, 2017.

100. Rebecca Kwasinski, Cristianne Fernandez, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, Anuradha Godavarty. "Hemodynamic Imaging of Venous Leg Ulcers." Annual Biomedical Engineering Undergraduate Research Day, March 3rd, 2017.

101. Cristianne Fernandez, Rebecca Kwasinski, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, E.A. Pretto, Anuradha Godavarty. "Non-Contact Optical Imaging of Diabetic Foot Ulcers." Annual Biomedical Engineering Undergraduate Research Day, March 3rd, 2017.

102. E. Solis, J. Lei, S. Rodriguez, **A. Godavarty**, "Near-infrared optical imaging to monitor wound healing," wound/optics" FIU McNair Scholars Research Conference, Oct 14-16 2015 (poster).

103. J. Lei, E. Solis, A. Dadkhah, **A. Godavarty**, "Automated and real-time wound imaging using near-infrared optical scanner" FIU McNair Scholars Research Conference, Oct 14-16 2015 (oral).

104. J. Lei, E. Solis, A. Dadkhah, **A. Godavarty**, "Automated and real-time wound imaging using near-infrared optical scanner" MARC U-Star Symposium, Oct 1-2 2015 (oral).

105. S. Rodriguez, Y-J Jung, **A. Godavarty**, "Portable hand-held near-infrared scanner," Photonics in HealthCare-Year of Light Symposium, FIU (3 Apr 2015).

106. E. Solis, S. Gonzalez, S. Rodriguez, **A. Godavarty**, "Systematic monitoring of wound healing using a hand-held near-infrared optical scanner," Photonics in HealthCare-Year of Light Symposium, FIU (3 Apr 2015)

107. E. Solis, S. Gonzalez, S. Rodriguez, **A. Godavarty**, "Systematic monitoring of wound healing using a hand-held near-infrared optical scanner," FIU-BME Undergraduate Research Day (Mar 2015)

108. S. Gonzalez, E. Solis, S. Rodriguez, **A. Godavarty**, "Systematic monitoring of wound healing using a hand-held near-infrared optical scanner," FIU Undergraduate Research Conference (Honor's College) (17 Mar 2015)

109. S. Rodriguez, **A. Godavarty**, "Portable hand-held wide-field near-infrared (NIR) scanner," CEC-FIU 30th Anniversary, Miami, FL, 30 Oct 2015 (poster).

110. B. Thompson, U. Chaudhary, Y-J Jung, L. Elbaum, **A. Godavarty**, "Investigation of cognition in motor skills for healthy adult individuals using simultaneous kinematics and near-infrared spectroscopy studies," BME Undergrad Research Day, 22nd Mar 2013 (poster).

111. R. Akhter, M. Roman, J. Gonzalez, S. J. Erickson, **A. Godavarty**, "Three-dimensional tomographic image analysis of resolution using a hand-held optical imager," BME Undergrad Research Day, 22nd Mar 2013 (poster).

112. R. Roche, S. Martinez, **A. Godavarty**, "Inexpensive and Accurate 3D Positional Tracker Towards Coregistered Imaging Using a Hand-Held Optical Imager," MARC U*STAR & MBRS RISE Student Biomedical Mini-Symposium, Florida International University, Miami, FL, Oct 8-9 (2012)

113. S.J. Erickson, S. Regalado, J. Ge, B. Zhu, **A. Godavarty**, "Real-time Coregistered Imaging using a Novel Hand-Held based Optical Imager" *2009 Scholarly Forum, Florida International University*, Miami, FL, April 1 (2009).

114. A. Romero, **A. Godavarty**, "Automated 3-D laser scanner for breast imaging," *FIU McNair Symposium*, Miami, FL, Nov 9-10 (2008).

115. S.J. Erickson and **A. Godavarty**. "Breast Cancer Detection using a novel Hand-held Based Optical Imager: *In-vitro* and *In-vivo* Tumor Depth Studies," *Breast Cancer Research Symposium* (Sponsored by the Department of Defense Breast Cancer Research Program in partnership with FIU and the UM Braman Family Breast Cancer Institute), Florida International University, Miami, FL, Sept 2 (2008).

116. J. Ge, B. Zhu, S. Regalado, S. Erickson, **A. Godavarty**, "Hand-held Probe Based Optical Imager Towards Breast Imaging: Instrument Development and Phantom Studies," *Breast*

Cancer Symposium (Sponsored by the Department of Defense Breast Cancer Research Program in partnership with FIU and the UM Braman Family Breast Cancer Institute), Florida International University, Miami, FL, Sept 2 (2008).

117. B. Jayachandran, S. Regalado, **A. Godavarty**, "Design of a hand-held based optical probe towards breast cancer diagnosis," *ABR Biomedical Symposium,* Florida International University, Miami, FL, Mar 2-3 (2006).

118. J. Ge, B. Zhu, **A. Godavarty**, "Development of a CCD-based optical imaging system," *ABR Biomedical Symposium,* Florida International University, Miami, FL, Mar 2-3 (2006).

119. **A. Godavarty**, E. M. Sevick-Muraca, "Development of a near-infrared imager for breast cancer detection," *12th Annual Graduate Student Symposium*, Department of Chemical Engineering, Texas A&M University, College Station, TX, Oct 8 (2002).

120. M. J. Eppstein, **A. Godavarty**, J. Zhang, J. Laible, E. M. Sevick-Muraca, "3-D fluorescence tomography for breast imaging," *17th Vermont Cancer Center Cancer Research Symposium: Cancer is a Post-Genomic Era*, Burlington, VT, Oct, 2002.

121. **A. Godavarty**, E. M. Sevick-Muraca, "Detection of breast cancer with a near-infrared imager," *TAMU Student Research Week*, Texas A&M University, College Station, TX, Mar 25-29 (2002).

Posters At National Meetings

122. Jorge Barter, Kacie Kaile, Edwin Robledo, Kevin Leiva, Jagadeesh Mahadevan, Sivakumar Narayanan, Varalakshmi Muthukrishnan, Mohan Viswanathan, Anuradha Godavarty – "Assessment of Wound Healing in Diabetic Foot Ulcers Using Subclinical Tissue Oxygenation Measurements Obtained with Near Infrared Spectroscopy," 7th Annual Life Sciences South Florida Undergraduate Research Symposium, April 6, 2019 at FAU

123. Jorge Barter[1], Edwin Robledo[1], Jagadeesh Mahadevan[1], Sivakumar Narayanan[2], Varalakshmi Muthukrishnan[2], Mohan Viswanathan[2], Anuradha Godavarty[1], "Assessment of Wound Healing in Diabetic Foot Ulcers Through the Use of Subclinical Tissue Oxygenation Measurements Obtained with Near Infrared Spectroscopy," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.

124. Maria Saavedra[1], Kevin Leiva[1], Kacie Kaile[1], Francisco Perez-Clavijo[2], Anuradha Godavarty[1], "Tissue Oxygenation Changes in a Large Diabetic Foot Ulcer: Longitudinal Case Study," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.

125. Priscilla Lozano[1], Kevin Leiva[1], Anuradha Godavarty[1,] "Validation of near-infrared optical scanner to assess saturated oxygen changes in response to breath-hold," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.

126. Fernandez C, Kwasinski R, Leiva K, Schutzman R, Robledo E, Kallis P, Borda L, Perez-Clavijo F, Kirsner R, **Godavarty A**, "Tissue oxygenation maps of diabetic foot ulcers: Longitudinal ulcers," OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL (Apr 2018)

127. Kwasinski R, Fernandez C, Leiva K, Schutzman R, Robledo E, Kallis P, Borda L, Perez-Clavijo F, Kirsner R, **Godavarty A**, "Tissue oxygenation changes in venous leg ulcers," OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL (Apr 2018).

128. Robledo E, Schutzman R, Fernandez C, Fang R, Leiva K, Kwasinski R, Kallis P, Borda L, Kirsner R, Perez-Clavijo F, **Godavarty A**, "Coregistered and segmented tissue oxygenation maps onto white light images of diabetic foot ulcers," OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL (Apr 2018).

129. Leiva K, Mahadevan J, Kaile K, Schutzman R, Robledo E, Khandavilli D, Narayanan S, Muthukrishnan V, Viswanathan M, **Godavarty A,** "Breath hold paradigm assesses regions of reduced oxygenation in diabetic foot ulcers," OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL (Apr 2018).

130. R. Kwasinski. C. Fernandez, K. Leiva, E. Robledo, Y. Zhu, P. Kallis, F. F. Perez-Clavijo, E.A. Pretto, R. Fang, R. Kirsner**, A. Godavarty**, "Hemodynamic imaging of lower extremity ulcers," Innovations in Wound Healing Conference, Key Largo, 8-11 Dec (2016).

131. Anuradha Godavarty, Rebecca Kwasinki, Cristianne Fernandez, Yuanyuan Zhu, Edwin Robledo, F. Perez-Clavijo, **Ruogu Fang.** Physiological Assessment of Wound Healing using a Near-Infrared Optical Scanner. BMES, Biomedical Engineering Society Annual Meeting, October 5-8, 2016 in Minneapolis, Minnesota.

132. Godavarty, A., Rodriguez, S. **Buscemi, C.** et. al. (2016, June). Lower extremity wound imaging using a hand-held near-infrared optical scanner. Poster presented at the WOCN Society & CAET Joint Conference. Montreal, Canada

133. **Ruogu Fang**, Xing Pang, Arash Dadkhah, Jiali Lei, Elizabeth Solis, Suset Rodriguesz, Francisco Perez-Clavijo, Stephen Wigley, Charles Buscemi, Anuradha Godvarty. Automatic Segmentation of Lower Extremity Ulcers in Near-Infrared Optical Imaging. ISBI, IEEE International Symposium on Biomedical Imaging, Prague, Czech Republic, April, 2016

134. Xing Pang, Arash Dadkhah, Jaili Lei, Elizabeth Solis, Suset Rodriguez, Francisco Perez-Clavijo, Stephen Wigley, **Ruogu Fang**, Anuradha Godvarty. Near-Infrared Optical Imaging and Wound Segmentation in Lower Extremity Ulcers. OSA, Optical Society of America Annual Meeting, 2016.

135. **A. Godavarty**, S. Rodriguez, M. Jayachandran, J. Lei, E. Solis, S. Gonzalez, F. Perez-Clavijo, S. Wigley, C. Buscemi, “Point-of-care wound imaging using a portable near-infrared optical scanner,” Innovations in Wound Healing, Duck Key, FL, 13-14 Dec (2015).

136. **Fang, R**., Pang, X., Dadkhah, A., Lei, J., Solis, E., Rodriguez, S., Perez-Clavijo, F., Wigley, S., Buscemi, C., Godavarty, A. (2015). Wound segmentation in near-infrared optical imaging. Innovations in Wound Healing Conference, Duck Key, FL, 13-14 Dec (2015).

137. Y-J. Jung, M.V. Mejia, **A. Godavarty**, “Spatio-Temporal Hemodynamic Imaging using a with Non-contact NIR scanner,” OSA Biomedical Optics Meeting, April 2014, Miami, FL

138. S. Rodriguez, H. Kaliada, G. Clark, Y. Jung, and **A. Godavarty**, "In-vivo Breast Imaging Using An Ultra-Portable Hand-Held Near-Infrared Optical Scanner (NIROS)," OSA Biomedical Optics Meeting, April 2014, Miami, FL.

139. **A. Godavarty**, Y-J Jung, J. Gonzalez, “Portable hand-held wide-field near infrared (NIR) scanner,” Southeastern Medical Device Association (SEMDA) Annual Meeting, Atlanta, GA, 19-20 Feb (2013).

140. M. Roman, J. Gonzalez, J. Carrasquilla, S. J. Erickson, **A. Godavarty**, “Resolution studies of a hand-held optical imager,” SPIE Photonics West Bios Conference, San Francisco, CA, Feb 2-7 (2013).

141. J. Gonzalez, J. DeCerce, S. L. Martinez, S. Erickson, **A. Godavarty**, "Bilateral breast imaging using a novel hand-held optical device," *7th NIH Inter-Institute Workshop on Optical Diagnostic and Biophotonic Methods from Bench to Bedside 2011*, Bethesda, MD, Sept 15-16 (2011).

142. M. Hall, U. Chaudhary, G. Rey, **A. Godavarty**, "Temporal mapping and connectivity using NIRS for language-related tasks," *SPIE Photonics West BIOS Conference*, San Jose, CA, Jan 22-27 (2011).

143. U. Chaudhary, M. Hall, A. Gutierrez, D. Messinger, G. Rey, **A. Godavarty**, "NRS study of joint attention in young children," fNIRS conference, Boston, MA, Oct 15-17, (2010).

144. U. Chaudhary, M. Hall, A. Gutierrez, D. Messinger, G. Rey, **A. Godavarty**, "Brain Activation and Connectivity of Joint Attention in Children using Near Infrared Spectroscopy," Brain Research 2010, A Brain Research meeting: The Emerging Neuroscience of Autism Spectrum Disorders: Etiologic Insights; Treatment Opportunities, San Diego, CA, Nov 11-12, (2010).

145. S. Martinez, J. DeCerce, J. Gonzalez, S. Erickson, **A. Godavarty**, "Assessment of tracking devices towards accurate co-registration in a hand-held optical imager," *Optical Society of America Biomedical Optics Meeting,* Miami, FL, April 14-19 (2010)

146. S. Erickson, S. Martinez, L. Caldera, **A. Godavarty**, "Improved detection limits using a hand-held optical imager with coregistration capabilities," *Optical Society of America Biomedical Optics Meeting,* Miami, FL, April 14-19 (2010).

147. U. Chaudhary, J. DeCerce, G. Rey, **A. Godavarty**, "Brain connectivity study in verbal fluency task using near-infrared spectroscopy," *Optical Society of America Biomedical Optics Meeting,* Miami, FL, April 14-19 (2010).

148. **A. Godavarty**, S. Erickson, S. Martinez, J. Decerce, "Hand-held probe based optical imager towards *in-vivo* imaging of breast tissues," *NIH Inter-Institute Workshop on Optical Diagnostic and Biophotonics Methods from Bench to Bedside 2009*, Bethesda, MD, Oct 1-2 (2009).

149. **A. Godavarty**, "A novel hand-held optical imager towards real-Time co-registered imaging of breast cancer: In-vivo studies," *W.H. Coulter Foundation's Early Career Conference: Coulter College*, Fort Lauderdale, FL, Aug 10-13 (2009).

150. S. Regalado, B. Zhu, J. Ge, S. Erickson, **A. Godavarty**, "A Hand-held Probe-Based Optical Imager with Self Co-Registration Facilities", *FL-Cured Summit: TownHall Meeting on Open Innovation in Science*, Miami, FL, June 27 (2008).

151. S. Regalado, B. Zhu, J. Ge, S. Erickson, **A. Godavarty**, "A Hand-held Probe-Based Optical Imager with Self Co-Registration Facilities", *EDC BioTech Conference*, Miami, FL, April 24 (2008).

152. B. Zhu, S. Regalado, V. Sueiras, T-H. Nguyen, S. L. Ponder, and **A. Godavarty**, "Scattering Characterization of Tio_2/Polyurethane Optical Phantom Using Frequency-domain optical imaging", *BIOMED Topical Meeting*, *Optical Society of America*, St. Petersburg, FL, March 16-19 (2008).

153. J. Ge, B. Zhu, **A. Godavarty**, "Three-Dimensional Tomography Studies Using a Novel Hand-held Probe Based Optical Imager", *BIOMED Topical Meeting*, *Optical Society of America*, St. Petersburg, FL, March 16-19 (2008).

154. N. Yadav, B. Zhu, N. Patel, G. Rey, **A. Godavarty**, "Joint Attention Studies Using Near Infrared Optical Imaging", *BIOMED Topical Meeting*, *Optical Society of America*, St. Petersburg, FL, March 16-19 (2008).

155. S. Regalado, B. Zhu, J. Ge, **A. Godavarty**, "A Hand-Held Probe-Based Optical Imager with Self Co-Registration Facilities", *BIOMED Topical Meeting*, *Optical Society of America*, St. Petersburg, FL, March 16-19 (2008).

156. J. Ge, B. Jayachandran, B. Zhu, S. Regalado, **A. Godavarty**, "A novel optical imager towards breast cancer diagnosis," *American Association of Physicists in Medicine* Annual Meeting, Orlando, FL, July 30-Aug 3 (2006) (Moderated Poster)

157. B. Jayachandran, J. Ge, S. Regalado, B. Zhu, **A. Godavarty**, "Development of a near infrared optical imaging system towards breast cancer diagnosis," *EDC 5th Annual BioTech Conference*, Miami, FL, May 17 (2006).

158. B. Jayachandran, **A. Godavarty**, E. M. Sevick-Muraca, M. J. Eppstein, "Simultaneous illuminating and detecting optical imager: Towards breast cancer diagnosis," *BMES Annual Meeting*, Baltimore, Sept 28-Oct 1, (2005).

159. **A. Godavarty**, M. J. Eppstein, E. M. Sevick-Muraca, "Three-dimensional fluorescence-enhanced absorption and lifetime tomography," *Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside*, National Institutes of Health, Bethesda, MD, Sept. 20-22 (2004).

160. R. Roy, **A. Godavarty**, A. Thompson, E. M. Sevick-Muraca, "Penalty/modified barrier function method for diagnostic imaging using fluorescence-enhanced optical tomography," *Second International Symposium on Biomedical Imaging: from Macro to Nano*, Washington D.C., April 13 (2004).

161. M J Eppstein, J L Payne, F Fedele, J P Laible, **A Godavarty**, E. M. Sevick-Muraca, "Validation of boundary element method for fluorescence photon migration," *Fourth International Workshop on Optical Diagnostic Imaging from Bench side to Bedside,* National Institutes of Health, Bethesda, MD, September 20-22 (2004).

162. **A. Godavarty**, M. J. Eppstein, E. M. Sevick-Muraca, "Fluorescence-enhanced optical tomography: Absorption and lifetime contrast studies," *OSA Biomedical Topical Meetings*, Miami, FL, Apr 14-17 (2004).

163. **A. Godavarty**, "Molecular imaging using near-infrared fluorescence tomography," *Meet the Faculty Candidate, AIChE Annual Meeting*, San Francisco, CA, Nov 16-21 (2003).

164. M. J. Eppstein, **A. Godavarty**, J. Zhang, J. Laible, E. M. Sevick-Muraca, "Three-dimensional Bayesian tomography using sparse fluorescence frequency domain photon migration measurements on clinically relevant phantom volumes," *Third Inter-Institute*

Workshop on Diagnostic Optical Imaging and Spectroscopy: The Clinical Adventure, National Institutes of Health, Bethesda, MD, Sept. (2002).

165. **A. Godavarty**, R. Roy, D. J. Hawrysz, E. M. Sevick-Muraca, M. J. Eppstein, "Accuracy of 3D forward solvers and precision of frequency domain photon migration measurements for fluorescence enhanced optical imaging," *Advances in Optics for Biotechnology, Medicine and Surgery Conference*, Banff Centre for Conferences, Banff, Canada, July 22-27 (2001),

166. R. Roy, E. M. Sevick-Muraca, **A. Godavarty,** "3-D imaging of absorption coefficients in tissue-like scattering medium using different error functions," *Advances in Optics for Biotechnology, Medicine and Surgery Conference*, Banff Centre for Conferences, Banff, Canada, July 22-27 (2001).

ADDITIONAL DETAILS

AWARDS AND HONORS

- FIU's 100 women, Honored by Center for Women's and Gender Studies, FIU, April 5, 2018
- Florida International University Top Scholars Recognition, April 2013
- Winner of HealthCare Heroes Award (Biomedical Category), Miami Chamber of Commerce, 2012
- Finalist, HealthCare Heroes Award (Biomedical Category), Miami Chamber of Commerce, May 2011
- Finalist, HealthCare Heroes Award (Biomedical Category), Miami Chamber of Commerce, May 2010
- Coulter Early Career Award (for Translational Research), W.H. Coulter Foundation, 2009.
- Florida International University Top Scholars Recognition, 2009
- Kauffman Professor Award, Florida International University, 2009.
- Sylvia Sorkin Greenfield Award for Best Paper in *Medical Physics* in 2004 (2005).
- Ethel-Ashworth Tsutsui Memorial Award for Research, Texas A&M University, Nov 2002.
- Award winner in the 12th Annual Graduate Student Symposium in Department of Chemical Engineering, Texas A&M University, October 2002.

- First place in Student Research Week graduate students presentations (Physical Sciences section), Texas A&M University, March 2002.
- Scholarship Finalist award in the Women's Faculty Network Graduate Research Student Scholarship Competition, Texas A&M University, 2000.
- National Collegiate Engineering Award by United States Achievement Academy, 1999.
- All American Scholar Award by United States Achievement Academy, 1999.
- Ranked first in the University of Madras, B.Tech Chemical Engineering, 1997.
- First place in Inter University paper presentation seminar at Annamalai University, India for *"Biowaste gasifier - A new proposal,"* 1996.
- First place in paper presentation at Adhiyamaan College of Engineering, Hosur, India for *"Design of mobile biogas plant,"* 1995.

PATENTS

1. "Hand-held optical probe based imaging system with 3D tracking facilities," PCT Application No.: PCT/US2007/079906, PCT Publication No.: WO 2008/039988, U.S. Patent filed March 2009 (Application No. 12/442,505). US9709733B2 Patent 18 July 2017.
2. "Automated and real-time coregistration software" *Disclosure* filed at FIU (30 June 2008), Provisional Patent filed in Nov. 2008 (61/118,326), and is filed as "Hand-held optical probe based imaging system with 3D tracking facilities" CIP – Continuation-in-Part (Nov 2009), US Patent Application Serial No. 12/625,476. Patent Issued 8,712,504.
3. "Second generation hand-held optical imager," *Disclosure* filed at FIU (05 Feb 2010). Provisional U.S. Patent filed in June 2010, PCT filed in June 2011. PCT National Stage U.S. (13/703,270), EPO(11793309.3), and India (78/DELNP/2013) Patents filed in Dec 2012. Issued 2017, US Patent Issued 9635349 (April 2017) EPO Patent No. EP 2579777 B1 (July 2019), German National Patent No. 602011060912.2 (Nov 2019).
4. "Near-infrared optical scanner" PCT filed Jan 2013, Pub. No: WO/20113/10393, Patent Applic ation No. PCT/US2013/02046111 July 2013. PCT National Stage

U.S.(14/370,600), EPO(13733558.4), and India (6555/DELNP/2014) Patents filed in July 2014.

5. "Near-infrared optical scope for hemodynamic imaging, pulse monitoring, and mapping spatio-temporal features," Disclosure filed at FIU (Oct 2013), U.S. Provisional Patent filed Jan 2014 (61,924,049). U.S Non-Provisional Patent and PCT filed Jan 2015. U.S Non-Provisional filed July 2016. EPO/India filing in Aug 2016. US Patent Application# 20150190061; Europe Patent Office EP 3091897A2 US Patent Issued 10258242 (Apr 2019).

6. "Integrated NIR and white light scanner for coregistered imaging of tissues," Disclosure filed at FIU (Jan 2017). United States Patent Application No. 20190008387 US Patent Issued 10674916 B2 (June 2020).

7. "Cellphone based tissue oxygenation measuring device," Disclosure filed at FIU (May 11, 2018). US Non-Provisional Patent Filing (Dec 2018).

RESEARCH FUNDING

1. "Validated tissue oxygenation biomarker in diabetic foot ulcers to assess healing using a low-cost hand-held optical imager," NIDDK-DiaComp Consortium, **$100,000** 10/18-10/20
2. "Monitoring the effectiveness of radiation dermatitis treatment in breast cancer patients via tissue oxygenation measurements," CEC Coulter Funds – Radiation dermatitis - **$ 88K**, 06/18-08/20
3. "Quantitative differentiation of healing and non-healing diabetic foot ulcers using near-infrared optical imaging," **BME Coulter Seed Funds**, FIU (Role: PI); **$ 17,000** 03/16-02/18
4. "Near-infrared optical scanner for wound and other bioimaging applications," FIU CEC-BME Seed Funds, **$ 20,000**, 09/14-06/17
5. "Novel optical imaging system for breast cancer diagnostics and brain mapping: Development and translational efforts," **Kauffman Doctoral Award, FIU** (Role: Mentor, PI: Ujwal Chaudhary), **$ 5,000** 08/12-07/14.
6. "Wide-field ultra-portable NIR optical scanner" **FIU Division of Research** (Role: Sole PI), **$ 60,000** 09/12 – 08/13.

7. “Hand-held optical imaging for breast cancer imaging”

   National Institutes of Health (National Cancer Institute, R15), R15 Supplement Grant

   (Role: Sole PI) **$ 60,783** 07/12 – 8/13.

8. “Hand-held optical imaging for breast cancer imaging”

   National Institutes of Health (National Cancer Institute, R15)

   (Role: Sole PI) **$ 348,194** 09/11 – 8/13.

9. “Clinical translation of a hand-held optical imager towards breast imaging”

   American Cancer Society (and Canary Foundation) Post-Doctoral Fellowship

   (Role: Mentor for PI) **$ 98,000**, 07/11-06/13.

10. “Hand-held optical imager *vs.* CTLM imager: Extensive Tomography Studies”

    Coulter Translational Initiative Program (CTIP) Award, Biomedical Engineering Department

    (Role: PI) **$ 10,000,** 06/11-05/12.

11. “Hand-held optical imager *vs.* CTLM imager: Comparison Studies”

    Coulter Translational Initiative Program (CTIP) Award, Biomedical Engineering Department

    (Role: PI) **$ 10,000,** 01/10-01/11.

12. “Hand-held optical probe for fluorescence imaging of breast cancer diagnosis”

    National Institutes of Health (National Cancer Institute, R15 ARRA- Administrative Supplement Award for Equipment)

    (Role: Sole PI) **$ 70,000** 09/09 – 8/10.

13. “A novel hand-held optical imager towards Diagnostic imaging of breast cancer: In-vivo studies”

    W. H. Coulter Foundation <u>Career Award</u> (Early Career Translational Research Award in Biomedical Engineering)

    (Role: PI), **$ 240,000** 08/09 – 08/11.

14. “Hand-held optical probe for fluorescence imaging of breast cancer diagnosis”

    National Institutes of Health (National Cancer Institute, R15 ARRA-Summer Supplement Award)

(Role: Sole PI) **$ 36,338** 06/09 – 9/10

15. **"**A Novel Hand-Held Optical Imager with Real-Time Coregistration Facilities toward Diagnostic Mammography"

    Department of Defense Breast Cancer Research Program (BCRP) Pre-Doctoral Research Award

    (Role: Mentor for PI) **$ 95,791** 01/09-12/11.

16. "Novel Hand-Held Optical Imager for Breast Cancer Diagnostics: Translational & Commercialization Efforts"

    Kauffman Professor Award

    (Role: Sole PI) **$ 15,000,** 01/09 – 12/09.

17. "CTLM imaging system on a permanent loan to Optical Imaging Laboratory"

    Imaging Diagnostic Systems Inc.

    ~ $ 150,000 valued, 2009.

18. "Breast cancer research using optical imaging technologies"

    Jeromy Block Foundation towards cancer research

    (Role: PI) **$ 1667,** 08/08-07/10.

19. "Diagnostic mammography using a real-time coregistering novel hand-held optical imager"

    Florida Department of Health, Bankhead-Coley Bridge Grant

    (Role: Sole PI) **$ 108,000** 07/08 -12/09.

20. "Image guided intervention for breast cancer: Combined hyperthermia and chemotherapy with reduced cardiotoxicity"

    Florida Department of Health, Bankhead-Coley Bridge Grant

    (Role: Co-I) **$ 200,000** 07/08-09/09.

21. "Hand-held optical probe for fluorescence imaging of breast cancer diagnosis"

    National Institutes of Health (National Cancer Institute, R15)

    (Role: Sole PI) **$ 196,645** 09/07 – 8/11.

22. "Hand-held optical probe for fluorescence imaging of breast cancer diagnosis"

Florida Department of Health, Bankhead-Coley Bridge Grant

(Role: Sole PI) **$ 52,500** 1/07 – 08/07.

23. "Investment towards optical imaging research (via purchase of an optical imaging instrument towards brain imaging studies)"

    Miami Children's Hospital, Miami

    ~ $ 120,000, 2007.

24. **"**Novel tissue phantoms with known optical properties"

    Imaging Diagnostic Systems Inc.

    (Role: Sole PI) $ **88,083** 6/06-5/08.

25. "Optical imaging in autistic children"

    University of Miami's Marino Autism Research Institute Grant

    (Role: PI) **$98,000** 2/06-1/12.

26. "Bedside optical imaging of presurgical epilepsy patients"

    Miami Children's Hospital Seed Grant

    (Role: PI) **$ 40,000** 2/06 – 8/08.

27. "Clinical Translation of Optical Imaging Technologies towards Breast Cancer"

    Young Inventor Award via Coulter Funds from Biomedical Engineering Department, FIU to support a post-doc for 2 years

    (Role: Mentor of PI) **$ 150,000,** 10/05-09/07.

28. "Functional brain mapping of autism using optical imaging"

    Coulter Translational Initiative Program (CTIP) Award, Biomedical Engineering Department

    (Role: PI) **$ 20,000,** 8/05-8/06.

29. "Design and develop a hand-held optical probe for breast-cancer diagnosis"

    Faculty Research Enhancement Award

    (Role: Sole PI) **$ 3993,** Summer 2005 – Fall 2005.

AWARDS WON BY SUPERVISED STUDENTS AT FIU

1. NIH-NIDDK F31 Pre-Doctoral Diversity Fellowship ($ 72,162 for 2 years) – Kevin Leiva, Doctoral Student (Aug 2020)
2. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 1000), Summer 2020 (Daniela Leizaola, UG student)
3. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 1000), Summer 2020 (Bridgette Meyer, UG student)
4. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 1000), Summer 2020 (Alexander Trinidad, UG student)
5. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2019 (Pablo Rodriguez, UG student)
6. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 1000), Summer 2020 (Juan Murrillo, UG student)
7. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 1000), Summer 2019 (Valentina Roldan, UG student)
8. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2019 (Daniela Leizaola, UG student)
9. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2019 (Bridgette Meyer, UG student)
10. MBRS Biomedical Summer Research Award at FIU, Summer 2018 ($ 3000) (Kevin Leiva, PhD student)
11. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2018 (Priscilla Lozano, UG student)
12. Second place in BME Graduate Research Day Poster at FIU, Spring 2018 (Kevin Leiva, PhD Student).
13. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2017 (Cristianne Fernandez, UG student)
14. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2017 (Brian Pintado, UG student)

15. Second place in BME Undergraduate Research Day Poster at FIU, Spring 2017 (Cristianne Fernandez, BS Honor's Student).
16. FIU MARC U* STAR Fellowship for Undergraduate Research, Fall 2016-Spring 2017 (Richard Schutzman, UG student).
17. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2016 (Richard Schutzman, UG student)
18. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship ($ 2400), Summer 2016 (Rebecca Kwasinski, UG student)
19. Best Undergraduate Research Day Poster at FIU, Spring 2016 (Jiali Lei, BS Honor's Student)
20. MBRS Biomedical Summer Research Award at FIU, Summer 2015 ($ 3000) (Arash Dadkhah, PhD student)
21. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research Internship ($ 2400), Summer 2015 (Elizabeth Solis, UG student)
22. 2nd plate in Oral Presentation at FIU MARC U*STAR & MBRS RISE Student Biomedical Mini Symposium, Graduate Research Presentations, Fall 2012 (Rigoberto Roche)
23. 2nd place in Poster Presentation at BME Graduate Research Day, Fall 2012 (Manuela Roman, MS student)
24. Dissertation Year Fellowship at FIU Spring 2013 (Ujwal Chaudhary, PhD student)
25. Kaufmann Doctoral Award at FIU Fall 2012 (Ujwal Chaudhary, PhD student)
26. Dissertation Enhanced Acquisition Fellowship at FIU Spring 2012 (Ujwal Chaudhary, PhD student)
27. FIU Graduate Student Association Travel Award, Fall 2011 (Jean Gonzalez, MS student)
28. 2nd place in Poster Presentation at BME Graduate Research Day, Fall 2011 (Rigoberto Roche, MS student)
29. MBRS Biomedical Summer Research Award at FIU, Summer 2011 (Ujwal Chaudhary, PhD student)
30. Post-Doctoral Fellowship Award from American Cancer Society & Canary Foundation, Summer 2011 (Sarah Erickson)

31. Outstanding PhD Student in College of Engineering and Computing, Spring 2011 (Sarah Erickson)
32. World's Ahead Graduate Student at FIU, Spring 2011 (Sarah Erickson)
33. FIU Graduate Student Association Travel Award, Spring 2011 (Michael Hall, MS student)
34. FIU Graduate Student Association Travel Award, Spring 2011 (Ujwal Chaudhary, MS student)
35. Research Excellence Travel Award for SPIE Photonics West, January 2011 (Sarah Erickson, PhD Student)
36. Session Best Paper Award at the 14th World Multi-Conference on Systems, Cybernetics, and Informatics, July 2010 (Sarah Erickson, PhD student)
37. Best Undergraduate Student in Biomedical Engineering at FIU, May 2010 (Jean Gonzalez, UG student working in my lab)
38. 1st Place (Engineering Session) in 2010 Graduate Student Association (GSA) Scholarly Forum Paper Competition at FIU ($ 250), Spring 2010 (Sarah Erickson, PhD student).
39. Lydia I. Pickup Scholarship for 2009-2010 by Society of Women Engineers ($ 4000), Sept 2009 (Sarah Erickson, PhD student).
40. 3rd Place (Engineering Session) in 2009 Graduate Student Association (GSA) Scholarly Forum Paper Competition at FIU ($ 250), Spring 2009 (Sarah Erickson, PhD student).
41. First Place, Doctoral Award in SBEC 2009 Paper Competition at 25th Southern Biomedical Engineering Conference 2009, 15 -- 17 May 2009, Miami, Florida, USA (Sarah Erickson, PhD student)
42. Nominated as Outstanding Doctoral Student from BME department in Fall 2008 (Jiajia Ge, PhD student).
43. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research Internship ($ 2400), Summer 2009 (Jean Gonzalez, UG student)
44. Dept of Defense Breast Cancer Research Program's Pre-Doctoral Award ($ 95,791), Jan 2009 – Dec 2011 (Sarah Erickson, PhD student)
45. Ronald E. McNair Award at FIU, Summer 2009 (Adrian Romero, UG student)
46. Best Master's Student in College of Engineering and Computing at FIU, May 2008 (Steven Regalado, MS student)

47. Best Undergraduate Student in Biomedical Engineering at FIU, May 2008 (Adrian Romero, UG student)
48. University Wide General Scholarship ($1000), Florida International University, 2006-2007 (Jiajia Ge, PhD student)
49. Best Master's Student in College of Engineering at FIU, May 2006 (Bhavani Jayachandran, MS student)
50. Best Teaching Assistant for BME Labs, Spring 2006, FIU (MS student), 2006 (Bhavani Jayachandran, MS student)
51. Florence Bayuk Graduate Fellowship ($15,000), Florida International University, 2005-2006 (Jiajia Ge, PhD student)
52. Presidential Fellowship ($70,000), Florida International University Graduate School, 2005-2008 (Sarah Erickson, PhD student)
53. Student Summer Research Award of $3000 (funded through the RISE biomedical Research Initiative), Florida International University, Summer 2005 (Jiajia Ge, PhD student)
54. Ralph Sanchez Scholarship, FIU (MS student), $ 1000 for academic year 2005-2006 at FIU (Bhavani Jayachandran, MS student)
55. Dean's List in College of Engineering and Computing at FIU, Summer 2005- Fall 2006 (Steven Regalado, UG student)
56. Tau Beta Pi Inductee (Top 1/8th of class in College of Engineering and Computing at FIU, Fall 2005 (Steven Regalado, UG student)
57. NSCS (National Society of Collegiate Scholars) Inductee (Top 1/5th of class in entire FIU), Fall 2005 (Steven Regalado, UG student)
58. CSEMS (Computer Science and Engineering Math Scholarship) Scholar of at FIU ($3125), Fall 2005-Spring 2006 (Steven Regalado, UG student).

RESEARCH COLLABORATORS (PRESENT AND PAST)

Dr. Godavarty has established active research collaboration at *multiple* levels: *national* (other universities, industry, and clinic/hospitals), and *within FIU.* The collaborations within FIU also exist at multiple levels, i.e. within department, within college and outside college. These

collaborations have resulted in creative research productivity in terms of ***publications*** and/or ***research grant(s).***

A. <u>US Universities</u>

- Dr. Francesco Fedele (Civil & Environmental Engineering) of Georgia Institute of Technology Savannah
- Dr. Anthony Yezzi (Electrical and Computer Engineering) of Georgia Institute of Technology Atlanta
- Dr. Daniel Messinger (Psychology) of University of Miami
- Dr. Jennifer Durocher (Psychology) University of Miami
- Dr. Stephen Boppart (Electrical & Computer Engineering, BioEngineering, Medicine) of University of Illinois – Urbana Champaign.

B. <u>FIU</u>

- Dr. Igor Tsukanov (Mechanical and Materials Engineering, College of Engineering & Computing)
- Dr. Roberto Panepucci (Electrical & Computer Engineering, College of Engineering & Computing)
- Dr. Anthony McGoron (Biomedical Engineering, College of Engineering & Computing)
- Dr. Leonard Elbaum (Physical Therapy, College of Health & Urban Affairs)
- Dr. Martha Bloyer (Physical Therapy, College of Health & Urban Affairs)
- Dr. David Graham (Chair, Radiology, College of Medicine)
- Dr. Anibal Gutierrez (Psychology)
- Dr. Ruogu Fang (Computer Science)

C. <u>Industry</u>

- Dr. Steven Ponder of Imaging Diagnostic Systems Inc., Fort Lauderdale.

D. <u>Clinic/Hospitals</u>

- Dr. Richard Kiszonas (Radiologist) at Sylvester Comprehensive Cancer Center of University of Miami.
- Dr. Cristina Lopez-Penalver (Breast Surgeon) at Baptist Hospital, Miami
- Dr. Abraha Taddese (Breast Radiologist) at Diagnostic Center for Women, Miami

- Dr. Gustavo Rey (Neuropsychologist) of Miami Children's Hospital, Miami
- Dr. Ernesto Pretto (Chief, Anaesthesiology and Transplant Organs) Univ of Miami, Miami
- Dr. Perez-Clavijo (Podiatric Surgeon), Foot and Ankle Associates, Miami
- Dr. Steven Wigley (Podiatric Surgeon), Wigley Foot and Ankle Care, Miami
- Dr. Michael Chuong (Radiation Oncologist), Miami Cancer Institute, Miami
- Dr. Noah Kalman (Radiation Oncologist), Miami Cancer Institute, Miami

PRESS RELEASES

1. "Collaborative clinical study tests impact of novel imaging technology on diabetic foot ulcers," Inventum-Research, Education, and Medical News, UM Miller School of Medicine, 19 May 2017 http://med.miami.edu/news/collaborative-clinical-study-tests-impact-of-novel-imaging-technology-on-di
2. http://umiamihealth.org/physician-news/collaborative-clinical-study-tests-impact-of-novel-imaging-technology-on-diabetic-foot-ulcers/ 19 May 2017
3. "Hand-held probe scans for breast cancer without compression or radiation," Medical Research, 31 Oct 2015 http://medicalresearch.com/cancer- -oncology/breast-cancer/handheld-probe-scans-for-breast-cancer-without-compression-or-radiation/18956/

   (Followed by 15 other press releases on similar topic).
4. "A near-IR optical scanner to detect wound healing," Biomedical Optics and Medical Imaging, SPIE NewsRoom, 17 June 2015, DOI: 10.1117/2.1201505.005975, http://spie.org/newsroom/technical-articles/5975-a-near-ir-optical-scanner-to-detect-wound-healing
5. "Near-infrared Optics/OCT/Oncology: Hand-held optical devices for the physician's toolbox," ***BioOptics World****, March 2013*

   *(*http://www.bioopticsworld.com/articles/print/volume-6/issue-2/features/near-infrared-optics-oct-oncology--handheld-optical-devices-for-.html)

6. "Greater Miami Chamber of Commerce, Health Care Heroes," ***South Florida Hospital News***, May 2012 (page 43), May 2011 (page 45), May 2010 (page 37)

7. "Researchers at the Optical Imaging Laboratory See the Human Body in a Different Light," ***AEMB National Biomedical Engineering Honor Society Newsletter***, Vol. 10, No. 1, Jan 2012.

8. "Best Student Poster Prize (Third) for Sarah Erickson" at ***NIH-SPIE Bench to Bedside Workshop 2009*** highlighted in the article titled, "New biophotonics techniques hold promise but need translation, say researchers at NIH-SPIE 'Bench to Bedside' workshop, http://spie.org/x37689.xml, Oct 2009.

9. "FIU researcher and team invent device to aid in detection of breast cancer," ***Florida International University News***, March 2009, http://news.fiu.edu/?p=2638

10. "Cancer Catcher," Telecast on ***WSVN Channel 7,*** Miami, Feb, 2009 http://www.wsvn.com/features/articles/medicalreports/MI113800

11. "Device uses 3-D image to detect breast cancer," ***The Beacon, A Forum for Free Student Expression at Florida International University***, Dec 2008, http://www.beaconnewspaper.com/news/2008/12/2/university-researchers-develop-groundbreaking-device-to-detect-breast-cancer

12. "Flexible Handheld Optical Imager Promises New Complimentary Mammography Tool," ***MedicExchange***, Dec 2008, http://www.medicexchange.com/RSNA-2008/flexible-handheld-optical-imager-promises-new-complimentary-mammography-tool.html

13. "RSNA-On the Air" ***Radio Interview at the 94th Radiological Society of North America's (RSNA) Annual Meeting***, Dec 2008 (Broadcast on WIOD-AM Station, FL).

14. "Investigadores de FIU crean dispositivo para detector cancer de seno," ***The ExpressNews (Spanish Newspaper)***, Nov 2008.

15. "New imaging device for breast cancer diagnosis," ***Florida Biomedical Program***, Jan 2008, http://www.floridabiomed.com/NewsArchive.section/pages/newsarchivedetail A9F4EB30.html

16. "Imaging Diagnostic Systems and Florida International University Unite," ***Medical Imaging Magazine***, Aug 2006, http://www.medicalimagingmag.com/MIN/2006-08-2_5.asp

17. "3-D fluorescence tomography tested in phantom breast model," pg: 32-33, ***Biophotonics International,*** Aug 2003.

TEACHING EXPERIENCE

A. Graduate Courses (Total 8)

- BME 5505C: Medical Imaging Instrumentation, Spring 2011, Spring 2012, Spring 2015, Spring 2018, Spring 2020
- BME 5560: Biomedical Engineering Optics, Spring 2005, Fall 2007, Fall 2009, Fall 2016, Fall 2017 (Hybrid), Fall 2018 (Hybrid), Fall 2019 (Hybrid)
- BME 6564: Optical Imaging in Biomedicine, Spring 2007, Spring 2009, Spring 2011, Spring 2016, Spring 2019
- BME 6905: Independent Study, Fall 2005, Spring 2006, Summer 2006, Spring 2011, Summer 2015, Spring 2017,Fall 2018, Summer 2019, Spring 2020
- BME 6907: Biomedical MS Project, Fall 2007, Spring 2011, Spring 2013.
- BME 6910: Supervised Research, Summer 2005, Spring 2006, Summer 2006, Fall 2006, Summer 2007, Fall 2007, Spring 2008, Summer 2008, Spring 2009, Summer 2009, Fall 2009, Spring 2010, Fall 2010, Spring 2011, Summer 2011, Fall 2011, Spring 2015, Spring 2016, Summer 2018, Fall 2018, Spring 2019, Summer 2019, Fall 2019, Spring 2020
- BME 6970: Biomedical MS Thesis, Summer 2005, Fall 2005, Spring 2006, Summer 2006, Spring 2008, Summer 2008, Summer 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2014
- BME 7980: Biomedical PhD Dissertation, Summer 2007, Fall 2007, Spring 2008, Summer 2008, Spring 2010, Summer 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Summer 2012, Fall 2012, Spring 2013, Summer 2013, Spring 2020

B. Undergraduate Courses (Total 10)

- BME 2740: Biomedical Modeling and Simulation, Spring 2006
- BME 3632: Biomedical Engineering Transport, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Spring 2008, Fall 2008, Fall 2009, Fall 2010, Fall 2012, Fall 2013, Fall 2014, Fall 2015, Spring 2017, Spring 2018, Fall 2020
- BME 4050L: BME Labs I, Fall 2013, Fall 2014, Fall 2015
- BME 4051L: BME Labs II, Spring 2016

- BME 4531: Medical Imaging, Spring 2009, Spring 2010, Spring 2011, Spring 2012, Spring 2015, Spring 2018, Spring 2020,
- BME 4562: Introduction to Biomedical Optics, Spring 2005, Fall 2007, Fall 2009, Fall 2016, Fall 2017 (Hybrid), Fall 2018 (Hybrid), Fall 2019 (Hybrid)
- BME 4908: Senior Design Project, Summer 2007, Summer 2008, Spring 2010, Spring 2011, Spring 2015, Fall 2015, Spring 2016, Fall 2016, Spring 2017, Spring 2018, Spring 2020
- BME 4912: Undergraduate Research, Fall 2013, Spring 2014, Spring 2017
- BME 4931: Special Topics/Project, Fall 2010
- IDH 4905: Honor's Independent Studies, Fall 2013, Spring 2014

STUDENTS/POST-DOCS SUPERVISION

A. Master's Students Advisor (Total: 10)

Name	Degree	Graduation	Thesis Title	Faculty Role
Bhavani Jayachandran	M.S.	Summer 2006 ***(Outstanding MS student award in College of Engineering, CEC-FIU)***	Design and development of optical probes for non-invasive cancer diagnostic imaging.	Major Advisor
Steven Regalado	M. S.	Fall 2008 ***(Outstanding MS student award in College of Engineering, CEC-FIU)***	Real-Time Coregistered Imaging Using a Hand-Held Probe-Based Optical Imager	Major Advisor
Niravkumar Patel	M.S.	Fall 2007	Design and Development of a 10-20 system based optical head cap.	Major Advisor
Sergio Martinez	M.S.	Spring 2011	Performance enhancement in accuracy and imaging time of a hand-held probe-based optical imager	Major Advisor
Pallavi Joshi	M.S	Spring 2011	Breast phantom models and fluorescence imaging studies	Major Advisor
Michael Hall	M.S.	Spring 2012	Temporal mapping and connectivity using NIRS for language related tasks	Major Advisor
Jean Gonzalez	M.S.	Spring 2012	Development and Testing of	Major Advisor

		(Outstanding MS student award in College of Engineering, CEC-FIU)	a Second Generation Hand-Held Optical Imager	
Rigoberto Roche	M. S.	Spring 2013	Implementation of a novel, integrative approach for optical 3D positional tracking towards accurate coregistered imaging using hand-held optical imagers	Major Advisor
Manuela Roman	M. S.	Spring 2013	Resolution studies of a hand-held optical imager	Major Advisor
Kevin Leiva	M.S.	Fall 2016 – Fall 2017 (transferred to PhD)	Near-infrared optical scanner for coregistered wound imaging	Major Advisor
Kacie Kaile	M.S.	Spring 2018-Summer 2018 (transferred to PhD)	Cellphone based tissue oxygenation measuring device	Major Advisor
Edwin Robledo	M.S.	Fall 2018-	Tissue oxygenation changes in radiation dermatitis treatment	Major Advisor
Daniela Leizaola	B.S/M.S	Fall 2019 -	Pulse measurements from non-contact NIR optical imager	Major Advisor
Bridgette Meyer	B.S/M.S	Spring 2020 -	Dynamic optical imaging - data analysis	Major Advisor

PS: No co-advisor for any supervised MS students

B. <u>Doctoral Students (Total: 5)</u>

Name	Degree	Graduation	Dissertation Title	Faculty Role
Jiajia Ge	Ph.D.	Fall 2008 ***(Nominated Outstanding PhD student in BME department)***	Fluorescence-enhanced optical imaging on 3-D phantoms using a hand-held probe based frequency-domain ICCD optical imager	Major Advisor
Sarah Erickson	Ph.D.	Spring 2011 (***Outstanding***	Fluorescence-enhanced optical tomography using a	Major Advisor

		PhD student in College of Engineering, CEC-FIU)	self co-registering hand-held optical imager	
Ujwal Chaudhary	Ph.D.	Summer 2013	Functional near infrared spectroscopy of joint attention and motor skills	Major Advisor
Kevin Levia	Ph.D.	Spring 2018-	Development of tissue oxygenation biomarker for assessment of wound healing	Major Advisor
Kacie Kaile	Ph.D.	Fall 2018-	Cellphone based tissue oxygenation measuring device	Major Advisor

C. <u>Supervised Post-Doctoral Researchers (Total: 6)</u>

Name	Support	Period	Research Area
Dr. Banghe Zhu	Coulter's Young Inventor Awardee	Oct 2005-Mar 2009	Developing optical imaging technologies towards breast imaging and brain mapping applications.
Dr. Jiajia Ge	Post-Doc (NIH grant)	Jan-Apr 2009	Sensitivity/specificity analysis of hand-held optical imager towards cancer diagnostics
Dr. Sarah Erickson	ACS Post-Doc Fellowship	June 2011-onwards	Clinical translation of a hand-held optical imager towards breast cancer imaging
Dr. Young-Jin Jung	Post-Doc (NIH grant)	Jan 2012-Dec 2014	Gen-2 hand-held optical imager towards tomographic imaging
Dr. Ujwal Chaudhary	Post-Doc	Aug-Dec 2013	Near-infrared optical imaging of venous occlusions
Dr. Yoany Rodriguez	Post-Doc	Oct 2016 – Oct 2017	Near-infrared optical imaging of lower extremity ulcers

D. <u>Other Graduate Student Supervision (Total : 12)</u>

Name	Student Role	Period	Research Area	Faculty Role
Amit Dahigaonkar (MS student)	Grad. Research Assistant	Fall 2005-Spring 2006	Noise filtration techniques in fluorescence optical tomography	Supervisor
Swarnalatha Ramakoti (MS student)	Grad. Research Assistant	Spring - Fall 2006	Determination of tissue optical properties using frequency-domain optical imaging system	Supervisor

Hai Zheng (PhD student)	Grad. Research Assistant	Fall 2006-Summer 2008	Functional brain mapping using diffuse optical imaging technique	Supervisor
Nitin Yadav (PhD student)	Grad. Research Assistant	Fall 2007-Spring 2008	Functional brain mapping using near infrared imaging	Supervisor
Vishwani Sharma (MS student)	Graduate Research Assistant	Summer 2009	Cross-correlation software analysis towards brain mapping studies	Supervisor
George Varghese (MBA student)	Summer Intern	Summer 2009	Pre-market analysis of our hand-held optical imaging technology towards strategic planning and commercialization.	Supervisor
Maanasa Jayachandran (Neuroscience Major)	Grad Research Volunteer	Spring 2015 – Summer 2015	Review article on wound imaging using optical approaches; and statistical analysis of optical data	Supervisor
Xing Pang	Visiting Scholar	Fall 2015 -	Image segmentation and coregistration of diabetic wounds.	Co-Supervisor with Dr. Fang (CS)
Arash Dadkhah	Graduate Research Assistant	Spring 2015-Summer 2016	NIR imaging of diabetic foot ulcers	Supervisor
Melake Daniel Tesfamariam	Graduate Research Volunteer	Fall 2016-Spring 2017	Non-contact pulse oximetry	Supervisor
Katrina Epnere	Graduate Research Assistant	Fall 2016	Statistical analysis and data management of NIROS data	Supervisor
Mandela Sealy (MBA)	Research Assistant	Spring 2017-Summer 2017	Market analysis of pressure ulcers and use of NIR imaging	Supervisor
John Perez	Graduate Research Assistant	Spring 2017 – Fall 2017	Functional brain mapping using NIRS	Major Advisor
Edwin Robledo	Post-Bacc Research Engineer	Summer 2018	Radiation dermatitis and optical imaging	Supervisor
Nicole Sevilla	Post-Bacc Research Engineer	Summer 2018-Summer 2019	Integrated NIROS device design and development	Supervisor

E. <u>Undergraduate Student Supervision (Total: 42)</u>

Name	Student Role	Period	Research Area	Faculty Role
Alexander Trinidad	Undergrad Research Assistant	Summer 2020-	App development for smartphone based optical device	Supervisor
Pablo Rodriguez	Undergrad Research Assistant	Summer 2020-	Thermal imaging device development	Supervisor
Valentina Roldan	Undergrad Research Assistant	Fall 2019-	NIROS optimization analysis	Supervisor
Juan Murillo	Undergrad Research Assistant	Spring 2020-	Radiation dermatitis and optical imaging	Supervisor
Bridgette Meyer (Honor's Thesis)	Undergrad Research Assistant	Spring 2019-	Dynamic optical imaging – data analysis	Supervisor
Daniela Leizaola (Honor's Thesis)	Undergrad Research Assistant	Spring 2019-	Non-contact NIR imaging for pulse measurements	Supervisor
David Ortega	Undergrad Research Assistant	Spring 2019, Fall 2019-Spring 2020	Imaging set-up and optimization analysis for NIROS	Supervisor
Christian Fernandez	Undergrad Research Assistant	Fall 2018-Summer 2019	App development for smartphone based optical device	Supervisor
Manuel Vazquez	Undergrad Research Assistant	Summer 2018	Phantom validation studies of NIROS	Supervisor
Jorge Barter	Undergrad Research Assistant	Summer2018 – Fall 2019	GUI development/ modification of NIROS	Supervisor
Maria Saavedra Guevara	Undergrad Research Assistant	Summer 2018 – Spring 2019	Clinical and lab coordinator	Supervisor
Priscilla Lozano	Undergrad Research Assistant	Spring 2018 - Spring 2019	Oximeter vs. NIROS studies	Supervisor
Brian Pintado	Undergrad	Spring 2017-	GUI development/	Supervisor

	Research Assistant	Summer 2017	modification for NIROS	
Kacie Kaile	Undergrad Research Assistant	Spring 2017- Fall 2017	Rebuild and optimize NIR device for wound imaging	Supervisor
Natalie Rivera	Undergrad Research Assistant	Spring 2017-Fall 2017	Data analysis of NIR images from lower extremity ulcers	Supervisor
Cristianne Fernandez (Honor's Thesis)	Undergrad Research Assistant	Spring 2016-Spring 2018	Clinical imaging studies using NIROS (Diabetic leg ulcers)	Supervisor
Richard Schutzman	Undergrad Research Assistant	Spring 2016 – Spring 2017	Tracking and registration software development for NIROS	Supervisor
Edwin Robledo	Undergrad Research Assistant	Fall 2015 – Spring 2018	Optimization of NIROS circuit for hemodynamic imaging	Supervisor
Trevor Solorzano (Mech Eng)	Undergrad Research Assistant	Fall 2015 – Spring 2016	Design and 3D printing of component for next generation NIROS	Supervisor
Rebecca Kwasinski (Honor's Thesis)	Undergrad Research Assistant	Fall 2015 – Spring 2018	Clinical imaging studies using NIROS (Venous leg ulcers)	Supervisor
Jiali Lei (Honor's Thesis)	Undergrad Research Assistant	Spring 2015 – Spring 2016	Develop GUI for near-infrared optical scanner	Supervisor
Elizabeth Solis	Undergrad Research Assistant	Fall 2014 – Fall 2015	Foot imaging using optical imaging	Supervisor
Stephanie Gonzalez	Undergrad Research Assistant	Fall 2014 – Spring 2015	Foot imaging using optical imaging	Supervisor
Kenneth Riggit	Undergrad Research Assistant	Fall 2013 – Spring 2014	Assistance in optical hand and foot imaging studies	Supervisor
Hanna Kaliada	Undergrad Research Assistant	Fall 2013 – Spring 2014	Assistance in optical hand and foot imaging studies	Supervisor
Gabrielle Clark	Undergrad Student Worker	Summer 2013	Assistance to optical imaging projects in the laboratory	Supervisor

Suset Rodriguez (Honor's Thesis)	Undergrad Research Assistant	Summer 2013 – Spring 2015	Breast imaging studies using the portable optical scanner	Supervisor
Maximilliano Velez Majia	Undergrad Research Assistant	Spring 2013 – Fall 2013	Experimental studies using optical scanner	Supervisor
Bryant Thomson	Undergrad Research Assistant	Fall 2012 – Spring 2013	Functional brain mapping towards cerebral palsy research	Supervisor
Rad Akhter	Undergrad Research Assistant	Fall 2011 – Summer 2013	Optical scanner for body imaging (instrumentation) and brain mapping data analysis	Supervisor
Jennifer Carrasquilla	Undergrad Research Assistant	Fall 2011 – Summer 2012	Optical scanner for body imaging (design)	Supervisor
Annie Nunez	Undergrad Research Assistant	Summer 2010-Spring 2011	CTLM *vs.* hand-held optical imaging studies	Supervisor
Manuela Roman	Undergrad Research Assistant	Summer 2010-Summer 2011	*In-vivo* breast imaging studies using hand-held optical imager	Supervisor
Rigoberto Roche	Undergrad Research Assistant	Summer 2010-Spring 2011	Automated coregistered imaging and software	Supervisor
Lizeth Caldera	Undergrad Research Assistant	Summer 2009 – Fall 2009	Fluorescence optical imaging towards coregistered *in-vivo* studies	Supervisor
Joe DeCerce	Undergrad Research Assistant	Fall 2008- Fall 2009	Developing animated video clips towards brain mapping studies related to autism research	Supervisor
Andrea Sanchez	Undergrad Research Assistant	Fall 2008-Spring 2009, Fall 2009	Fluorescence optical imaging towards preliminary *in-vivo* studies	Supervisor
Sarah Boodram	Undergrad Student Worker	Summer 2008	Lab assistant in data post processing and analysis, and compiling research papers.	Supervisor
Adrian Romero	Undergrad Research Assistant & McNair	Spring 2008 - Summer 2008	Worked in the developed of an automated laser scanning system towards breast tissue imaging	Supervisor

	Fellow			
Surabhi Agrawal	Undergrad Student Worker	Summer Intern for Summer 2006, 2007, 2008	Lab assistant in data post processing, analysis, and compiling research papers.	Supervisor
Steven Regalado	Undergrad Research Assistant	Fall 2005-Summer 2007	Develop the Gen-1 hand-held optical probe	Supervisor
Hugo Gambini	Undergrad Student Worker	Fall 2004-Spring 2005	Training in operating and trouble-shooting spectro-fluorometer and other optical instruments	Supervisor

F. Committee Member on MS/PhD Candidate's Committees

Name	**Degree (Major)**	**Graduation Date**	**Faculty Role**
Sarel Gilet	*MS (Biomedical)*	*Fall 2005*	*Thesis Committee Member*
David Isaza	*MS (Biomedical)*	*Summer/Fall 2005*	*Thesis Committee Member*
Rohit Chawla	*MS (Biomedical)*	*Fall 2005*	*Thesis Committee Member*
Rozita Fallahinejad	*MS (Biomedical)*	*Spring 2006*	*Thesis Committee Member*
Yalin Ti	*MS (Biomedical)*	*Spring 2008*	*Thesis Committee Member*
Misael del Valle	*MS (Biomedical)*	*Spring 2008*	*Thesis Committee Member*
Vinayak Joshi	*MS (Biomedical)*	*Spring 2008*	*Thesis Committee Member*
Yuan Tang	*PhD (Biomedical)*	*Summer 2010*	*Dissertation Committee Member*
Shradha Prabulkar	PhD (Biomedical)	*Summer 2011*	*Dissertation Committee Member*
Sridevi Nagaraja	*PhD (Biomedical)*	*Fall 2011*	*Dissertation Committee Member*
Catalina Martinez	*MS (Biomedical)*	*Fall 2011*	*Thesis Committee Member*
Chang Liu	*PhD (Biomedical)*	*Spring 2013*	*Dissertation*

			Committee Member
Jaimit Parikh	PhD (Biomedical)	Fall 2014	Dissertation Committee Member
Yinchen Song	PhD (Biomedical)	Fall 2014	Dissertation Committee Member
Susan Stoff	PhD (Biomedical)	Discontinued	Dissertation Committee Member
Joseph Chue-Sang	PhD (Biomedical)	Fall 2015 -	Dissertation Committee Member
Omkar Mankame	MS (Biomedical)	Spring 2016 -	Thesis Committee Member
Mohammad Soltani	PhD (Biomedical)	Discontinued	Dissertation Committee Member
Teshaun Francis	PhD (Biomedical)	Spring 2016 -	Dissertation Committee Member
Leon Dawson	MS (Biomedical)	Spring 2017 -	Thesis Committee Member

PS: Italicized font indicates student has completed thesis/dissertation

G. <u>Undergraduate Senior Design Project Supervision (Total: 11 teams)</u>

Names	Period	Senior Design Project	Faculty Role
Steven Regalado, Vivian Sueiras, Thu Nguyen	Spring 2007-Summer 2007	Developing standardized models for TiO_2/Polyurethane Optical Phantoms **(Method Implemented by IDSI Inc.-Sponsor)**	Faculty Advisor
Barbara Traub, Cecilia Flores, Seigbeh Roberts, Estrella Hernandez, Wenceslao Aguirre,	Spring 2008 – Summer 2008	Developing a second generation hand-held probe towards diagnostic breast imaging	Sponsor and Faculty Advisor
Konstantinos Sebekos,	Fall 2009 – Spring 2010	Catheter Rotational Positioning System (RotoCath	Faculty Advisor

Maurice Hopwood, Manuel Romero, Elie Victor			
Rigoberto Roche, Amelia Lee, Pedro Montes, Sheidyn Ng	Fall 2010-Spring 2011	3D optical tracking system	Sponsor and Faculty Advisor
Ana Pena, Karen de la Pena, David Llana, Rodrigo Ferreira	Fall 2010-Spring 2011	Optical brain imaging cap for children	Sponsor and Faculty Advisor
Astrid Rodriguez, Hanna Robla, Michael Sours, Carlos Garcia	Fall 2014-Spring 2015	Air removal from a liquid drug injection system **(1st place in presentation)**	Faculty Advisor
Stephanie Gonzalez, Kevin Maestre, Brandon Cardenas, William Noundou	Spring 2015	Versatile near-infrared optical scanner	Sponsor and Faculty Advisor
Arman Hajjar, Matthew Quinto, Santiago Vanegas, Stewd Stephen	Spring 2015 – Fall 2015	Oxy-Synth: Chemically induced emergency oxygen generator **(2nd Place in Presentation)**	Faculty Advisor
Celine Wassaf, Gabrielle Estevez-Iona, LaTerika Kelly, Isis Machado	Fall 2015 – Spring 2016	Optimizing a peristaltic pump for drug mixing	Faculty Advisor
Somafa Bailey, Kevin Leiva, Andres Lopez, Carolina Moncion, Jonathan Rolon	Fall 2015-Spring 2016	Synchronized EEG-NIRS recording device for analysis of neurovascular coupling	Co-Faculty Sponsor and Advisor
Caitlyn Myland, Justin Franco, Michael Mei, Aileen Anaya	Fall 2016-Spring 2017	UV Imaging System for NuTech Slides	Faculty Advisor

Nicole Sevilla, Daniel Wilding, Nidhi Suthar, Jean Marc Augustin	Spring 2018	TinyOx. A wearable, low profile muscle oximetry monitor for morbidly obese individuals	Faculty Advisor

H. <u>Establishing Research Labs and Teaching Infrastructure (Creation of Labs)</u>

Four (4) new laboratories have been established at FIU, and one in **the Brain Institute at Miami Children's Hospital:**

1. <u>Optical Imaging Laboratory</u>: An Optical Imaging Laboratory (~820 sq. ft) has been established in the Engineering Center (EC 3365) in January 2005. The laboratory is equipped with the basic optical components for optics-based research, some of which include optical table, laser diode controllers, optical filters, fiber polishing accessories, and other major equipment (CCD camera, image intensifier, high voltage micro-power supply, 3D laser scanner, signal generators, amplifiers).

2. <u>Spectrofluoroscopy Laboratory</u>: A spectrofluoroscopy laboratory (~100 sq. ft.) has been established in Fall 2005 in the Engineering Center (EC 2362). The laboratory is equipment with a frequency-domain based spectrofluorometer for fluorescence lifetime studies. In addition, in Spring 2009, Imaging Diagnostic Systems Inc. (IDSI, Fort Lauderdale) had provided a CTLM® optical mammography system (~$ 150K) on a permanent loan towards further research in the area of breast cancer diagnostic imaging. This equipment has been installed in the same laboratory.

3. <u>Optical Imaging Laboratory at MCH</u>: An optical imaging laboratory has been established in the Brain Institute at Miami Children's Hospital (Room 3026, Ambulatory Care Building). MCH has invested $ 120K in purchasing the optical imaging instrument (Imagent Inc.) towards functional brain mapping studies using optical tools. This laboratory led to external funding of ~ $138K towards brain research.

4. Brain Imaging Laboratory (EC 3365): A functional brain imaging laboratory employing optical imaging tools has been established in Fall 2010 towards autism and cerebral palsy related brain research.
5. Optical Mammography Laboratory (EC 3130): Established in Oct 2010 towards clinical breast imaging studies using optical techniques on normal and breast cancer subjects.

SERVICE (Professional)

- Guest Editor on Special Issue, "— Special Issue "Smartphone, Wearable, or Hand-Held Diagnostic Bioimaging Sensors/Devices" BioSensors, MDPI, April 2020-
- Program Committee Member and Session Presider, OSA Biomed Photonics Congress 2020 on "Clinical and Translational Biophotonics" April 20-23, 2020
- Session Chair, Global Wound Care Congress, San Antonio, Texas, 12-13th Sept 2016
- Session Co-Chair, EEG/NIRS of brain at 13th Annual Conference of Society for Brain Mapping and Therapeutics, April 9-10, 2016.
- Program Committee Member, 29th Southern Biomedical Engineering Conference 2013, Miami, Florida, 3-5 May 2013.
- Session Chair (Optical Imaging Session): The 25th Southern Biomedical Engineering Conference 2009, Miami, Florida, 15 -17 May 2009.
- *Associate Editor: Medical Physics (2005 - onwards)*

REVIEWER ACTIVITIES

A. Research Proposals and Grants

- DBT Wellcome Grant, India Alliance – Grant Reviewer, Aug 2019
- PhD Thesis External Reviewer, Applied Physics Dept, Indian Institute of Technology Madras, Chennai, India – Jan 2018
- Reviewer for NIH/NCI U54 grants in Physical Sciences –Oncology Network(PS-ON): Physical Sciences Oncology Center (PS-OC)- Apr 2016
- Dutch Foundation Grant Reviews – Mar 2016

- Reviewer of NIH/NCI R21 in Innovative Molecular Analysis –Technologies for Cancer Research (Dec 2015).
- Reviewer of NIH R15 grants, June 2013.
- Reviewer for Biomedical Research Fellowship Programme for India, India Alliance System (Apr 2013).
- Reviewer for The Univ. City Science Center's QED Program, American Institute of Biological Sciences (Nov 2012)
- Reviewer for Discovery Grants submitted to Natural Sciences and Engineering Research Council of Canada (NSERC), Canada, Dec 2009.
- Reviewer for Biomedical Research Proposals submitted to Italian Ministry of Health in association with National Institutes of Health (NIH), Sept 2009.
- Got invitation from Department of Defense to review Synergistic Idea Award, submitted to the Congressional Directed Medical Research Program Breast Cancer program. Could not attend due to conflict of schedule.

B. Journals

1. Advances in Wound Care
2. Annals of Biomedical Engineering
3. Applied Optics
4. Behavioral Brain Research
5. Biomedical Optics Express
6. Biomedical Physics Engineering Express
7. BMC Psychology
8. Cortex
9. Cytometry
10. Frontiers Neuroscience
11. IEEE Access
12. IEEE Journal of Selected Topics in Quantum Electronics
13. IEEE Technology Letters
14. IEEE Transactions on Circuits and Systems

15. IEEE Transactions on Medical Imaging
16. IEEE Journal of Biomedical and Health Informatics
17. International Journal of Computational Engineering Science
18. Journal of Cancer
19. Journal of Biomedical Optics
20. Journal of Biophotonics
21. Journal of Healthcare Engineering
22. Journal of Medical Devices
23. Journal of Optical Society of America A
24. Journal of Physiological Anthropology
25. Medical Case Reports
26. Medical Physics
27. Methods and Applications
28. Neuroscience Letters
29. Optics Express
30. Optics Letters
31. PLOS
32. Photonics Technology Letters
33. Physics in Medicine and Biology
34. Proceedings of National Academy of Science USA
35. Scientific Reports
36. Sensors
37. Technology in Cancer Research and Treatment
38. Wound Repair and Regeneration

PROFESSIONAL ADMINISTRATIVE EXPERIENCE

Department Level (Biomedical Engineering, FIU)

- BME Undergraduate Program Director, Summer 2016 onwards
- BME Undergraduate Academic Standing Committee Member, 2009 - onwards

- BME Undergraduate Program Committee Member, 2007 – Spring 2016
- Dissertation Council Committee Member, Department of Biomedical Engineering, FIU (Fall 2006 onwards)
- BME Non-Tenure Faculty, Search & Screen Committee Member (Spring 2011)
- BMES Student Chapter Faculty Advisor, Fall 2010- Summer 2011
- BME Faculty Search & Screen Committee Member 2007-2008
- Chair, BME Undergraduate Advisor/Instructor Search & Screen Committee 2007

College Level (College of Engineering and Computing, FIU)

- CEC New Building Committee, Fall 2019 onwards
- Dean Transition Committee, Spring 2017 onwards
- College Curriculum Committee (BME Rep), Spring 2015.
- Faculty Awards Committee at College of Engineering and Computing, 2012-2013.
- Mechanical & Materials Engineering Faculty, Search & Screen Committee Member, 2011-2013
- Faculty Council Representative at College of Engineering and Computing, 2010 - 2012
- BME Chair Search & Screen Committee Member 2009
- BME Chair Search & Screen Committee Member 2007-2008
- Faculty Council Representative at College of Engineering and Computing, 2005-2007.
- Classroom Committee Member, FIU (Dec 2006).

University Level (FIU)

- Strategic Planning Committee (Highest Research Committee), Fall2018-Spring 2019
- Research Enquiry Committee, Spring 2018-Summer 2018
- FIU Research Foundation, Board Member, 2016-
- College of Engineering Dean Search & Screen Committee Member 2016-2017
- Internal Review Board Committee Member (Health Sciences Division), 2008 - 2013
- Intellectual Property (IP) Director, Search & Screen Committee Member, 2011.
- BME Chair Search & Screen Committee Member 2009.

- BME Chair Search & Screen Committee Member 2007-2008.

CURRENT AND PAST RESEARCH INTERESTS

- Diffuse optical imaging technology
- Optical imaging instrument development
- Hand-held optical imaging devices
- Tissue optical property measurements
- 3D tomographic imaging
- 3D coregistration imaging and motion tracking technologies
- Real-time optical imaging: Software development and computational analysis
- Clinical breast cancer imaging via optical techniques
- Functional brain mapping using near-infrared spectroscopy (NIRS)
- NIRS on children with autism
- NIRS on subjects with cerebral palsy
- Muscle oxygenation via NIRS
- Fluorescence optical imaging technology
- Fluorescence lifetime tomography
- Monitoring of wound healing in lower extremity ulcers