ANURADHA GODAVARTY

Curriculum Vitae

This document contains an executive summary (page 1) of Dr. Anuradha Godavarty's curriculum vitae and her detailed curriculum vitae (on pages 2-62).

ANURADHA GODAVARTY (EXECUTIVE SUMMARY)

Dr. Godavarty graduated with a Ph.D. in Chemical Engineering from Texas A&M University in 2003. She worked as a Post-Doc at the University of Vermont's Department of Computer Science in 2003-04. In Aug 2004, Dr. Godavarty joined FIU as an Assistant Professor in Biomedical Engineering. She was tenured and promoted to Associate Professor in 2010. Her research interests are optical imaging technologies towards breast cancer imaging, functional brain mapping, and wound imaging applications (both instrument development and computational analysis). Dr. Godavarty's accomplishments 2010-2023 are summarized below:

Research (since 2010 onwards)

- 1. Dr. Godavarty published **88 papers** (33 peer-reviewed journals, 55 conference proceedings) with over **1532 citations (total 2357) and an h-index of 25** (as reported by Google Scholar). She has **97 research presentations** (24 invited talks, 73 conference talks/posters).
- 2. She received **funding support** from various agencies such as the National Institutes of Health (NIBIB and NIDDK) and National Science Foundation (\$ 2.85M are external funds of the total \$ 3.1M)
- 3. She has **11 patents issued** (8 U.S. Non-Provisional, 3 Global) on her hand-held optical imaging technology. She has **6 patent** applications pending (2 U.S and 4 Global). Press/media have highlighted her hand-held imaging technology **over 25 different venues**.

Teaching (since 2010 onwards)

- 1. Dr. Godavarty taught 8 graduate level and 9 undergraduate level Biomedical Engineering courses multiple times since 2010.
- 2. She served/serving as a major advisor for 6 Ph.D. students, 10 MS students, 5 post-docs, 50 undergraduate research students, and ~10 high school students (as summer interns). She also served/serving as a major advisor for 12 undergrad senior design projects (~50 undergrad students). Also, she supervised 11 graduate research assistants in her labs and served as a committee member for 19 MS/PhD students in Biomedical Engineering.
- 3. Students under Dr. Godavarty's supervision have won over **54 awards** to date (within and outside the university since 2010), including NIH F31, DoD Pre-Doc & ACS Post-Doc Fellowships & several Outstanding Graduating Doctoral Student Awards.

Administrative/Professional Experience (since 2010 onwards)

- 1. Dr. Godavarty served as the **Undergraduate Program Director** (Summer 2016-Fall 2022) towards ABET submission, site visit, and successful re-accreditation in 2022.
- 2. She also served/serving on 22 committees (e.g., BME Undergraduate Program Committee, Faculty Search/Screen, Faculty Governance, and Institutional Review Board for human clinical trials) in FIU at the department, college, and university level.
- She served as a reviewer for multiple research grant agencies and peer-reviewed journals, committee member/chaired national conferences, and guest editor/associate editor of peer-reviewed journals.

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ANURADHA GODAVARTY (FULL CV)

Associate Professor

Dept of Biomedical Engineering

Florida International University

Miami, FL

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RESEARCH INTERESTS

Develop and implement near-infrared optical imaging technologies towards breast cancer imaging and functional brain mapping, particularly 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-April 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

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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

CURRENT RESEARCH INTERESTS (since 2010)

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

PUBLICATIONS

<u>Publications Summary</u>: Total 144 (excluding technical reports). Peer-Reviewed Journal Articles: 62, Conference Proceedings Articles: 80, Book Chapters: 2. A total of 2357 citations (including refereed conference proceedings, book chapters) with an **h-index of 25** from Google Scholar.

Peer-reviewed Journals (Total: 62. 3 submitted + 33 published since 2010)

 K. Leiva, A. Trinidad, I. Gonzalez, A. Espinosa, T. Zwick, J.E. Levine, M.A. Rodriguez, H. Lev-Tov, W. Wu, R.S. Kirsner, A. Godavarty, "Tissue oxygenation flow-based index to discern healing status in diabetic foot ulcers," *Advances in Wound Care* (2022) – Submitted Dec 2022.

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- 2. K. Leiva, I. Gonzalez, J. Murillo, A. Espinosa, R.S. Kirsner, A. Godavarty, "Breath-holding as a stimulus to assess peripheral oxygenation flow using near-infrared spectroscopy imaging," *J. Biomedical Optics* (2022) Submitted Oct 2022.
- 3. K. Lieiva, D. Leizaola, I. Gonzalez, V. Dargam, H. Alirezaei, K. Kaile. E. Robledo, J. Hutcheson, A. Godavarty, "Spatial-temporal oxygenation mapping using a near-infrared optical scanner: Towards peripheral vascular imaging," *Annals of Biomedical Engineering* (2002) Submitted Sept 2022
- 4. E. A. Robledo, J. Murillo, R. V. Martin, K. Leiva, C. Beiner, M.A. Rodriguez, M. Fagundes, J. Panoff, M. Chuong, W. Wu, A. Godavarty, "Assessment of tissue oxygenation and radiation dermatitis pre-, during, and post-radiation therapy in breast cancer subjects," *Frontiers in Oncology* 12:879032 (2022) (in press) doi: 10.3389/fonc.2022.879032
- 5. K. Kaile, C. Fernandez, **A. Godavarty**, "Development of a smartphone-based optical device to measure hemoglobin concentration changes for remote monitoring of wounds," Biosensors, 11(6):165 (2021).
- K. Kaile, J. Mahadevan, K. Leiva, D. Khandavilli, S. Narayanan, V. Muthukrishnan, W. Wu, V. Mohan, A. Godavarty, "Tissue oxygenation measurements to aid scalpel debridement removal in patients with diabetes," J of Diabetes Sci Technology Feb 2021 doi: 10.1177/1932296821992050.
- 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).
- 8. 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).
- 9. 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.
- 10. 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.
- **11.** 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).
- **12.** 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).

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- 13. 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.
- **14.** 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.
- **15.** 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 a press release by Journal editor*.
- **16. 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).
- 17. 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.
- **18.** 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).
- **19. A. Godavarty**, S. Rodriguez, Y-J. Jung, S. Gonzalez, "Optical imaging for breast cancer prescreening," *Breast Cancer: Targets and Therapy* 7:1-17 (2015) (Invited paper).
- **20.** 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).
- 21. 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.
- 22. C. Zhang, U. Chaudhary, S. Das, S. Thomas, A. Godavarty, A. Agarwal, "Effect of Porosity on Photocatalytic Activity of Plasma-Sprayed TiO₂ Coating", *J. Therm. Spray. Tech.* 22: 1193-1200 (2013).
- 23. 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).
- 24. 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)
- 25. 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).
- **26.** 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).
- 27. 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).

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- 28. 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/
- 29. 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).
- **30.** 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
- **31.** 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).
- **32.** 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).
- **33.** 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).
- **34.** 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).
- **35.** 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).
- **36.** 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).
- 37. 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).
- 38. 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
- 39. 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).

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- 40. 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).
- 41. 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).
- 42. 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).
- 43. 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).
- 44. 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).
- 45. 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).
- 46. **A. Godavarty**, E. M. Sevick-Muraca, M. J. Eppstein, "Three-dimensional fluorescence lifetime tomography," *Medical Physics* 32(4): 992-1000 (2005).
- 47. **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).
- 48. 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).
- 49. 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).
- 50. **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)
- 51. 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 the year 2004)
- 52. **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)

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- 53. 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)
- 54. **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)
- 55. 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)
- 56. 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)
- 57. **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)
- 58. **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)
- 59. 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)
- 60. 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).

Book chapters (Total: 2)

- 61. 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)*.
- 62. 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)*.

<u>Conference Proceedings (Total: 80, 55 since 2010)</u>

63. K. Kaile, A. Trinidad, V. Ramnarayan, C.S. Shanthi Rani, R.M. Anjana, V. Mohan, G.Uma Sankari, K. Gini Venisha, A. Godavarty, "Smartphone oxygenation measuring device to difference low-risk atable and chronic diabetic foot ulcers from high-risk complicated ulcers – A pilot study in India," SPIE Photonics West 2023 (submitted) – Jan 2023.

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- 64. D. Leizaola, V. Dargam, K. Leiva, H. Alirezaei, J. Hutcheson, A. Godavarty, "Peripheral oxygenation differences in mice with chronic kidney disease," Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN) Technical Digest Series (Optica Publishing Group), paper JM3A.23 (2022) https://doi.org/10.1364/TRANSLATIONAL.2022.JM3A.23
- 65. E.Robledo, J. Murillo, R.V. Martin, K. Leiva, C. Beiner, W. Wu, J. Panoff, M. Chuong, M.A. Rodrigues, M. Fagundes, A. Godavarty, "Pre- and post-radiation therapy assessment of tissue oxygenation changes in breast cancer subjects," Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN) Technical Digest Series (Optica Publishing Group), paper TM4B.7 https://doi.org/10.1364/TRANSLATIONAL.2022.TM4B.7
- 66. K. Kaile, M. Soban, A. Mondal, A. Godavarty, "Machine learning algorithms to classify Fitzpatrick skin types during tissue oxygenation mapping," Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN) Technical Digest Series (Optica Publishing Group), paper JM3A.4 (2022). https://doi.org/10.1364/TRANSLATIONAL.2022.JM3A.4
- 67. K. Kaile, A. Trinidad, K. Leiva, A. Epsinoza, T.G. Zwick, J.e. Levine, M.A. Rodriguez, H. Lev-Tov, R. Kirsner, A. Godavarty, "A stand-alone smartphone based optical device to measure tissue oxygenation in diabetic foot ulcers," Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN) Technical Digest Series (Optica Publishing Group), paper TTu4B.7 (2022). https://doi.org/10.1364/TRANSLATIONAL.2022.TTu4B.7
- 68. K. Leiva, A. Trinidad, I. Gonzalez, A. Espinosa, T. Zwick, J.E. Levine, M.A. Rodriguez, H. Lev-Tov, R. Kirsner, A. Godavarty, "Comparison of oxygenation flow patterns in diabetic foot ulcer subjects and controls in response to breath-holding," Proc of SPIE 11954, Optical Biopsy XX: Toward real-time spectroscopic imaging and diagnosis; 1195407 (2022) https://doi.org/10.1117/12.2610362
- 69. K. Leiva, E.A. Robledo, C. Beiner, B. Meyer, J. Murillo, M.A. Rodrigues, M. Fagundes, J. Panoff, M. Chuong, W. Wu, A. Godavarty, "Asymmetry in oxygenation flow patterns between irradiated and contralateral breast tissues in relation to radiation dermatitis," Proc SPIE 11618, Photonics in Dermatology and Plastic Surgery 116180N (2021) https://doi.org/10.1117/12.2578781
- 70. K. Leiva, **A. Godavarty**, "Variations in oxygenation flow patterns from breath-hold paradigm as a potential biomarker in differentiating normal to diseases tissues," Proc SPIE 11631, Advanced Biomedical and Clinical Diagnostic and Surgical Guidance Systems IIX; 116310A (2021) https://doi.org/10.1117/12.2578854
- 71. K. Kaile, J. Mahadevan, K. Leiva, D. Khandavilli, S. Narayanan, V. Muthukrishnan, W. Wu, V. Mohan, A. Godavarty, "Effectiveness of scalpel debridement in diabetics using near-infrared imaging technology for ulcer prevention," Proc SPIE 11618, Photonics in Dermatology and Plastic Surgery 116180K (2021) https://doi.org/10.1117/12.2578798
- 72. K. Kaile, C. Fernandez, K. Leiva, M. Weigelt, A. Espinosa, R. Kirsner, A. Godavarty, "Assessment of tissue oxygenation in diabetic foot ulcers with smartphone based imaging,"

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- ." Proc SPIE 11632, Optics and Biophotonics in Low-Resource Settings VII; 1163209 (2021) https://doi.org/10.1117/12.2578774
- 73. K. Kaile, A. Godavarty, "Noise Removal Techniques in Smartphone Based NIR Imaging of Tissue Oxygenation Changes." Proc SPIE 11639, Optical Tomography and Spectroscopy of Tissue XIV 116391L (2021) https://doi.org/10.1117/12.2578816
- 74. E. Robledo, K. Leiva, C. Beiner, J. Murillo, M.A. Rodrigues, M. Fagundes, J. Panoff, M. Chuong, A. Godavarty, "Correlation of tissue oxygenation and skin toxicity to determine effectiveness of photon vs proton therapy in breast cancer subjects," Proc SPIE 11618, Photonics in Dermatology and Plastic Surgery 116180M (2021) https://doi.org/10.1117/12.2578731
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- 162. **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.

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PRESENTATIONS

Invited Talks (Total 29, 24 since 2010)

- 1. "Non-invasive monitoring of tissue oxygenation," 22nd Annual Diabetes Technology Meeting, Nov 3-5, 2022.
- 2. "A smartphone-based optical device for point-of-care assessment of healing in diabetic foot ulcers," European Public Health Webinar, Mar 25-26, 2022
- 3. "NIR optical imaging: Device development & translation to various biomedical application," Univ of Hull Guest Lecture, Mar31 2022
- 4. "NIR optical imaging: Device development & translation to various biomedical applications,"
 AMU Centenary Webinar on 'Prospects of STEM education in 21st century and contribution of women scientists in STEM,' APJ Abdul Kalam STEM ER Center, India, 13-14 Oct 2020
- 5. "Tissue oxygenation assessment of diabetic foot ulcers using a low-cost, hand-held, near infrared optical scanner," at Arizona State University, April 17, 2020
- 6. "Portable near-infrared devices to see the unseen: Innovations & commercialization pathways," Plenary Talk, Indian Institute of Technology, Kanpur, India, Oct 19, 2019.
- 7. "Effectiveness of RD treatment in head/neck cancer patients via tissue oxygenation measurements" at Miami Cancer Institute, Miami, FL, May 2018
- 8. Global Wound Care Congress, San Antonio, Texas, "Optical classification of diabetic wounds as healing or non-healing," 12-13th Sept 2016.
- 9. Global Wound Care Congress, San Antonio, Texas, "Automated segmentation of lower extremity ulcers using near-infrared optical imaging," 12-13th Sept 2016.
- 10. Mohan Diabetes Specialties Center, Chennai, India, "Optical assessment of diabetic foot ulcers using NIROS," 11th July 2016.
- 11. National Institute of Technology, Allahabad, India, "Non-invasive optical imaging technology: Breast cancer imaging and functional brain mapping," 29th July 2015
- 12. LSSF Webinar "Near-infrared Optical Scanner for Non-Invasive Tissue Imaging", 21st May 2013
- 13. SWE Women in Engineering Luncheon, FIU talk, 06th Mar 2013
- 14. "Hand-held optical scanner for non-invasive deep tissue imaging," STEM Panel Discussion Talk, Miami-Dade Medical Campus, 18 Mar 2013

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- 15. "NIR optical scanner (NIROS) for non-invasive deep tissue dynamic imaging," BioFlorida Saturday Exchange Meeting, 09th March 2013.
- 16. "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
- 17. "Breast cancer imaging using near-infrared (NIR) light," Women in Engineering Luncheon, Society of Women Engineers, FIU, 06th Mar 2013.
- 18. "Hand-held optical imager," Florida Board of Governors Meeting, Tallahassee, FL, June 2012.
- 19. "Hand-held optical imager," FIU Board of Trustees Meeting, FIU, June 2012.
- 20. "Hand-held optical imager for breast cancer imaging," *Adyar Cancer Institute*, Chennai, India, Aug 13 (2012).
- 21. "Non-invasive optical imaging technology: Breast cancer imaging and functional brain mapping," *Indian Institute of Technology Delhi,* New Delhi, India, July 30 (2012).
- 22. "Optical Imaging and tomography: Breast cancer imaging and functional brain mapping," *Indian Institute of Sciences*, Bangalore, India, Aug 8 (2012).
- 23. "Non-invasive optical imaging technology: Breast cancer imaging and functional brain mapping," *Indian Institute of Technology Chennai*, Chennai, India, Aug 14 (2012).
- 24. "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).
- 25. "Hand-held probe based optical imager towards diagnostic breast imaging," *Mechanical & Materials Engineering Department, Florida International University,* Miami, FL, March 6 (2009).
- 26. "Functional brain mapping using Optical imaging," *The Brain Institute* at *Miami Children's Hospital*, Miami, FL, Jan 8 (2007).
- 27. Biomedical Engineering: A New Direction for Graduate Studies" *Indian Institute of Technology Chennai,* Chennai, India, January 8 (2007).
- 28. "Optical-based molecular imaging: Applications in cancer diagnostics and brain imaging," *The Brain Institute* at *Miami Children's Hospital*, Miami, FL, Dec 9 (2004).
- 29. "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 (Total: 57, 34 since 2010)

30. K. Kaile, A. Trinidad, V. Ramnarayan, C.S. Shanthi Rani, R.M. Anjana, V. Mohan, G. Uma Sankari, K. Gini Venisha, A. Godavarty, "Smartphone oxygenation measuring device to difference low-risk atable and chronic diabetic foot ulcers from high-risk complicated ulcers – A pilot study in India," SPIE Photonics West 2023, San Francisco, Jan 28-Feb 2, 2023.

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- 31. E. Robledo, J. Murillo, R.V. Martin, K. Leiva, C. Beiner, W. Wu, J. Panoff, M. Chuong, M.A. Rodrigues, M. Fagundes, A. Godavarty, "Pre- and post-radiation therapy assessment of tissue oxygenation changes in breast cancer subjects," Optica Biophotonics Congress: Biomedical Optics, Fort Lauderdale April 24-27, 2022
- 32. K. Kaile, A. Trinidad, K. Leiva, A. Epsinoza, T.G. Zwick, J.e. Levine, M.A. Rodriguez, H. Lev-Tov, R. Kirsner, **A. Godavarty**, "A stand-alone smartphone based optical device to measure tissue oxygenation in diabetic foot ulcers," Optica Biophotonics Congress: Biomedical Optics, Fort Lauderdale April 24-27, 2022
- 33. K. Leiva, A. Trinidad, I. Gonzalez, A. Espinosa, T. Zwick, J.E. Levine, M.A. Rodriguez, H. Lev-Tov, R. Kirsner, **A. Godavarty**, "Comparison of oxygenation flow patterns in diabetic foot ulcer subjects and controls in response to breath-holding," *SPIE Photonics West, Bios,* Jan 22-27, San Francisco, CA, 2022
- 34. D. Leizaola, E.A. Robledo, R.B. Saager, **A. Godavarty**, "Near-infrared light propagation analysis of Fitzpatrick skin types using monte-carlo," National Conference on Undergraduate Research (Virtual), Apr 12, 2021
- 35. B. Meyer, K Leiva, E. A. Robledo, C.E. Beiner, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, **A. Godavarty**, "Comparison of tissue oxygenation changes captured by near-infrared optical scanner to the clinical diagnosis of radiation dermatitis in breast cancer subjects," National Conference on Undergraduate Research (Virtual), Apr 12, 2021
- 36. K. Leiva, E.A. Robledo, C. Beiner, B. Meyer, J. Murillo, M.A. Rodrigues, M. Fagundes, M. Chuong, **A. Godavarty**, "Asymmetry in oxygenation flow patterns between irradiated and contralateral breast tissues in relation to radiation dermatitis," *SPIE Photonics West, Bios*, March 6 11, 2021.
- 37. K. Leiva, **A. Godavarty**, "Variations in oxygenation flow patterns from breath-hold paradigm as a potential biomarker in differentiating normal to diseases tissues," *SPIE Photonics West, Bios*, March 6 11, 2021.
- 38. K. Kaile, K. Leiva, C. Fernandez, W. Wu, M. Weigelt, A. Espinosa, R. Kirsner, **A. Godavarty**. Tissue Oxygenation Measurements in Diabetic Foot Ulcers using a Smartphone Based NIR Imaging Device. *SPIE Photonics West, Bios*, March 6 11, 2021.
- 39. K. Kaile, J. Mahadevan, K. Leiva, D. Khandavilli, S. Narayanan, V. Muthukrishnan, W. Wu, V. Mohan, **A. Godavarty**, "Effectiveness of scalpel debridement in diabetics using near-infrared imaging technology for ulcer prevention," *SPIE Photonics West, Bios*, March 6 11, 2021.
- 40. E. Robledo, K. Leiva, C. Beiner, J. Murillo, M.A. Rodrigues, M. Fagundes, J. Panoff, M. Chuong, **A. Godavarty**, "Correlation of tissue oxygenation and skin toxicity to determine effectiveness of photon vs proton therapy in breast cancer subjects," *SPIE Photonics West, Bios* March 6 11,2021.
- 41. K. Leiva, K. Kaile, V. Roldan, M. Weigelt, A. Espinosa, R. Kirsner, W. Wu, **A. Godavarty**, "Invivo validation study of a low-cost, hand-held near infrared optical scanner for wound imaging," BMES Virtual Annual Meeting, Oct 14-17, 2020.

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- 42. K. Leiva, E. Robledo, C. Beiner, B. Meyer, J. Murillo, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, W. Wu, **A. Godavarty**, "Tissue oxygenation changes across weeks of radiation therapy in breast cancer subjects using a near-infrared optical scanner," BMES Virtual Annual Meeting, Oct 14-17, 2020.
- 43. E.A. Robledo, K. Leiva, J. Murillo, C.E. Beiner, M.A. Rodrigues, J. Panoff, M. Fagundes, W. Wu, M. Chuong, **A. Godavarty**, "Correlation of tissue oxygenation changes to clinical grading of radiation dermatitis in breast cancer subjects undergoing radiation therapy," BMES Virtual Annual Meeting, Oct 14-17, 2020.
- 44. 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).
- 45. 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).
- 46. 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).
- 47. 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", SPIE Photonics West(Feb 2-7, 2019), San Francisco, CA (Oral).
- 48. 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).
- 49. 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).
- 50. Anuradha Godavarty¹, Kevin Leiva¹, Kacie Kaile¹, Jagadeesh Mahadevan¹, Dinesh Khandavilli¹, Sivakumar Narayanan², Varalakshmi Muthukrishnan², and Mohan Viswanathan², "Tissue oxygenation to assess healing diabetic foot ulcers and effectiveness of scalpel debridement," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
- 51. 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).
- 52. 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).
- 53. **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).

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- 54. 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).
- 55. 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).
- 56. 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).
- 57. Y. Jung, M. Roman, J. Carrasquilla, S. J. Erickson, **A. Godavarty**, "Portable wide-field handheld NIR scanner," *SPIE Photonics West Bios Conference*, San Francisco, CA, Feb 2-7 (2013).
- 58. 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).
- 59. 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).
- 60. 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).
- 61. 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).
- 62. 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).
- 63. 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).
- 64. 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).
- 65. 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).
- 66. 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

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- Conference, Miami, FL, May 15-17 (2009). (First Place, Doctoral Award in SBEC 2009 Paper Competition)
- 67. 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).
- 68. 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).
- 69. 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).
- 70. 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).
- 71. **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).
- 72. 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, El Paso, TX, April 18-20 (2008).
- 73. 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*, El Paso, TX, April 18-20 (2008).
- 74. 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).
- 75. 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).
- 76. 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).
- 77. **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).
- 78. **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).

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- 79. **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).
- 80. **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 87*th *OSA (Optical Society of America) Annual Meeting*, Tucson, AZ, Oct 5-9 (2003).
- 81. **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).
- 82. **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).
- 83. 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).
- 84. **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).
- 85. **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).
- 86. 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).
- 87. **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).

Posters at National Meetings (Total: 58, 39 since 2010)

- 88. D. Leizaola, V. Dargam, K. Leiva, F. Nasir, J. Hutcheson, **A. Godavarty**, "A low-cost non-invasive optical technique to assess presence or absence of vascular calcification via peripheral tail imaging in mice," BMES Annual Meeting, San Antonio, TX, Oct 12-15, 2022
- 89. K. Kaile, M. Soban, A. Mondal, **A. Godavarty**, "Machine learning algorithms to classify Fitzpatrick skin types during tissue oxygenation mapping," Optica Biophotonics Congress: Biomedical Optics, Fort Lauderdale, April 24-27, 2022
- 90. D. Leizaola, V. Dargam, K. Leiva, H. Alirezaei, J. Hutcheson, **A. Godavarty**, "Peripheral oxygenation differences in mice with chronic kidney disease," Optica Biophotonics Congress: Biomedical Optics, Fort Lauderdale, April 24-27, 2022.

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- 91. K. Kaile, A. Trinidad, K. Leiva, A. Espinoza, T.G. Zwick, J.E. Levine, M.A. Rodriguez, H. Lev-Tov, R. Kirsner, **A. Godavarty**, "Smartphone oxygenation tool (SPOT) with integrated app for automated analysis of diabetic foot ulcers," Innovations in Wound Healing, Duck Key, FL, Dec 9-12 (2021).
- 92. K. Leiva, A. Trinidad, I. Gonzalez, A. Espinoza, T.G. Zwick, J.E. Levine, M.A. Rodriguez, H. Lev-Tov, R. Kirsner, **A. Godavarty**, "Breath-Hold Induced Oxygenated Flow Patterns in Control and Diabetic Foot Ulcer Subjects" Innovations in Wound Healing, Duck Key, FL, Dec 9-12 (2021).
- 93. K. Kaile, **A. Godavarty**, "Noise Removal Techniques in Smartphone Based NIR Imaging of Tissue Oxygenation Changes." *SPIE Photonics West*, *Bios* March 6 11 (2021).
- 94. K. Leiva, K. Kaile, V. Roldan, M. Weigelt, A. Espinoza, R. Kirsner, W. Wu, **A. Godavarty**, "Spatio-temporal mapping of oxygenation changes in foot ulcers," *Innovations in Wound* Healing, Key Largo, Dec 10-13, 2020.
- 95. K. Kaile, K. Leiva, C. Fernandez, W. Wu, M. Weigelt, A. Espinoza, R. Kirsner, **A. Godavarty**, "A smartphone-based oxygenation measuring device to assess healing status of foot ulcers," *Innovations in Wound* Healing, Key Largo, Dec 10-13, 2020.
- 96. K. Kaile, C. Fernandez, **A. Godavarty**. Smartphone Based Imaging Device for Physiological Tissue Oxygenation Measurements. *BMES Vi*rtual Annual Meeting, Oct 14-17, 2020.
- 97. D. Leizaola, E.A. Robledo, **A. Godavarty**, "Monte-carlo based near-infrared light propagation modeling for different skin types and melanin concentrations," BMES Virtual Annual Meeting, Oct 14-17, 2020.
- 98. B. Meyer, K. Leiva, E.A. Robledo, C.E. Beiner, J. Murillo, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, **A. Godavarty**, "Comparison of tissue oxygenation trends in response to radiation dermatitis using both an in-house near-infrared optical scanner and a commercial device," BMES Virtual Annual Meeting, Oct 14-17, 2020.
- 99. J. Murillo, E.A. Robledo, K. Leiva, C.E. Beiner, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, **A. Godavarty**, "Comparing the extent of oxygenation changes on irradiated and non-irradiated breast tissue undergoing radiation therapy," BMES Virtual Annual Meeting, Oct 14-17, 2020.
- 100. V. Roldan, K. Leiva, K. Kaile, M. Weigelt, A. Espinoza, R. Kirsner, **A. Godavarty**, "Spatial-temporal maps of oxygen saturation in foot ulcers using a near-infrared optical scanner," BMES Virtual Annual Meeting, Oct 14-17, 2020.
- 101. J. Barter, K. Kaile, E. Robledo, K. Leiva, J. Mahadevan, S. Narayanan, V. Muthukrishnan, V. Mohan, A. 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
- 102. J. Barter, E. Robledo, J. Mahadevan, S. Narayanan, V. Muthukrishnan, V. Mohan, A. Godavarty, "Assessment of Wound Healing in Diabetic Foot Ulcers Through the Use of

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- Subclinical Tissue Oxygenation Measurements Obtained with Near Infrared Spectroscopy," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
- 103. M. Saavedra, K. Leiva, K. Kaile, F. Perez-Clavijo, A. Godavarty, "Tissue Oxygenation Changes in a Large Diabetic Foot Ulcer: Longitudinal Case Study," BMES 50th Annual Meeting, Oct17-20 2018, Atlanta, GA.
- 104. P. Lozano, K. Leiva, **A. Godavarty**, "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.
- 105. C. Fernandez, R. Kwasinski, K. Leiva, R. Schutzman, E. Robledo, P. Kallis, L. Borda, F. Perez-Clavijo, R. Kirsner, **A. Godavarty**, "Tissue oxygenation maps of diabetic foot ulcers: Longitudinal ulcers," OSA Biophotonics Congress: Biomedical Optics, Hollywood, FL (Apr 2018)
- 106. 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).
- 107. 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).
- 108. 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).
- 109. 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).
- 110. 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.
- 111. 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
- 112. **Ruogu Fang**, Xing Pang, Arash Dadkhah, Jiali Lei, Elizabeth Solis, Suset Rodriguez, 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
- 113. 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.
- 114. **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).

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- 115. **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).
- 116. 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
- 117. 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.
- 118. **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).
- 119. 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).
- 120. 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).
- 121. 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).
- 122. 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).
- 123. 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).
- 124. 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)
- 125. 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).
- 126. 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).
- 127. **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*

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- Diagnostic and Biophotonics Methods from Bench to Bedside 2009, Bethesda, MD, Oct 1-2 (2009).
- 128. **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).
- 129. 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).
- 130. 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).
- 131. B. Zhu, S. Regalado, V. Sueiras, T-H. Nguyen, S. L. Ponder, and **A. Godavarty**, "Scattering Characterization of Tio₂/Polyurethane Optical Phantom Using Frequency-domain optical imaging", *BIOMED Topical Meeting*, *Optical Society of America*, St. Petersburg, FL, March 16-19 (2008).
- 132. 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).
- 133. 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).
- 134. 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).
- 135. 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)
- 136. 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).
- 137. 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).
- 138. **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).
- R. Roy, A. Godavarty, A. Thompson, E. M. Sevick-Muraca, "Penalty/modified barrier function method for diagnostic imaging using fluorescence-enhanced optical tomography,"

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- Second International Symposium on Biomedical Imaging: from Macro to Nano, Washington D.C., April 13 (2004).
- 140. 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).
- 141. **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).
- 142. **A. Godavarty**, "Molecular imaging using near-infrared fluorescence tomography," *Meet the Faculty Candidate, AIChE Annual Meeting*, San Francisco, CA, Nov 16-21 (2003).
- 143. 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).
- 144. **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),
- 145. 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).

Talks/Posters at Internal Meetings (within university or Florida state) (Total 85, 76 since 2010)

- 1. N. Amadi, K. Kaile, E.A. Robledo, A. Rodriguez, **A. Godavarty**, "Estimating optical properties using a single sphere integrating system," FIU BME Undergraduate Research Day, Sept 30, 2022 (Poster)
- 2. S. Spencer, K. Leiva, E.A. Robledo, C. Beiner, M.A. Rodrigues, M. Fagundes, J. Panoff, M. Chuong, W. Wu, **A. Godavarty**, "Assessment of oxygenated flow patterns in breast cancer subjects undergoing radiation therapy,"," FIU BME Undergraduate Research Day, Sept 30, 2022 (Poster)
- 3. F. Nazir, D. Leizaola, V. Dargam, K. Leiva, J. Hutcheson, **A. Godavarty**, "Near-infrared imaging detects altered flow patterns due to vascular calcification in chronic kidney disease," FIU BME Undergraduate Research Day, Sept 30, 2022 (Poster)
- 4. A. Trinidad, K. Kaile, **A. Godavarty**, "Development of smartphone applications to monitor oxygenation in diabetic foot ulcers," Life Science South Florida (LSSF) STEM Undergraduate Research Symposium, Apr 23, 2022 (Oral)

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- 5. N. Amadi, K. Kaile, **A. Godavarty**. "A 3D modeled case for a smartphone-based optical device to image diabetic foot ulcers." FIU Undergraduate Research Conference, Mar 22, 2022 (Poster).
- 6. I. Gonzalez, K. Leiva, K. Kaile, **A. Godavarty**, Application of surface noise removal techniques to the tissue oxygenation maps obtained from control subjects." Florida Undergraduate Research Conference, Mar 22, 2022 (Poster).
- 7. K. Kaile, A. Trinidad, K. Leiva, A. Espinosa, R. Kirsner, **A. Godavarty**, "A smartphone based optical device with integrated app measures tissue oxygenation in diabetic foot ulcers," BME Graduate Research Day, FIU, March 9, 2022 (Poster).
- 8. D. Leizaola, V. Dargam, K. Leiva, H. Alirezaei, J. Hutcheson, **A. Godavarty**, "Non-Contact Near-Infrared Analysis of Perfusion of Mice Tail During Progression of Chronic Kidney Disease" @ Miami Heart Day, FIU (February 18, 2022), BME Graduate Research Day (Mar 9, 2022), Graduate Student Appreciation Week, FIU (April 4-8, 2022) (Poster)
- 9. K. Leiva, A. Trinidad, I. Gonzalez, A. Espinosa, T. Zwick, J.E. Levine, M.A. Rodriguez, H. Lev-Tov, R. Kirsner, **A. Godavarty**, "Comparison of oxygenation flow patterns in diabetic foot ulcer subjects and controls in response to breath-holding," BME Graduate Research Day, Mar 9th 2022 (Oral)
- 10. A. Trinidad, K. Kaile, **A. Godavarty**, "A stand-alone smartphone based optical device to measure tissue oxygenation in Diabetic Foot Ulcers." Florida Undergraduate Research Conference (FURC), Feb 18, 2022 (Poster).
- 11. I. Gonzalez, K. Leiva, J. Murillo, A. Godavarty, "Optimization of a breath-hold paradigm for assessing tissue oxygenation changes," BME Undergraduate Research Day, FIU, Sept 24, 2021 (Poster)
- 12. A. Trinidad, K. Kaile, **A. Godavarty**, "Smartphone app designed for automated extraction of oxygenation data and wound area estimations," BME Undergraduate Research Day, FIU, Sept 24, 2021 (Poster)
- 13. H. Alirezaei, D. Leizaola, V. Dargam, K. Leiva, H.H. Ng, J. Hutcheson, **A. Godavarty**, "Oxygenation Changes During Progression of Chronic Kidney Disease in Mice Using Near Infrared Spectroscopy," BME Undergraduate Research Day, FIU, Sept 24, 2021 (Poster)
- 14. M Chavez, K. Kaile, **A. Godavarty**, "Standardized approach to assess performance of non-contact thermal measurements," BME Undergraduate Research Day, FIU, Sept 24, 2021 (Poster)
- 15. K. Kaile, K. Leiva, C. Fernandez, W. Wu, M. Weigelt, A. Espinosa, R. Kirsner, **A. Godavarty**, "Assessment of tissue oxygenation in diabetic foot ulcers and noise removal techniques with smartphone based imaging," FIU Graduate Student Appreciation Week (GSAW), Apr 2021 (Oral)
- 16. E.A. Robledo, K. Leiva, C. Beiner, J. Murillo, M.A. Rodrigues, M. Fagundes, J. Panoff, M. Chuong, W. Wu, **A. Godavarty**, "The impact of photon and proton therapy on tissue oxygenation in breast cancer subjects," FIU BME 10th Annual Graduate Research Day, Mar 12, 2021 (Poster).
- 17. K. Kaile, C. Fernandez, K. Leiva, W. Wu, M. Weigelt, A. Espinosa, R. Kirsner, **A. Godavarty**, "Near infrared imaging of diabetic foot ulcers using a smartphone oxygenation tool," FIU BME 10th Annual Graduate Research Day, Mar 12, 2021 (Poster).

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- 18. K. Leiva, K. Kaile, V. Roldan, M. Weigelt, A. Espinosa, R. Kirsner, W. Wu, **A. Godavarty**, "-Spatio-temporal mapping of oxygenation changes in foot ulcers," FIU BME 10th Annual Graduate Research Day, Mar 12, 2021 (Poster)
- 19. A. Trinidad, K. Kaile, **A. Godavarty**, "Smartphone app designed for automated oxygenation measurements," Life Science South Florida (LSSF) STEM Undergraduate Research Symposium, Apr 10, 2021 (Oral)
- 20. R. Naji, E. Robledo, K. Leiva, **A. Godavarty**, "Real-time visualization of oxygenation maps using a handheld near infrared optical scanner," Life Science South Florida (LSSF) STEM Undergraduate Research Symposium, Apr 10, 2021 (Oral)
- 21. R. Naji, E. Robledo, K. Leiva, **A. Godavarty**, "Real-time visualization of oxygenation maps using a handheld near infrared optical scanner," Undergraduate Research at FIU Conference, Mar 24-25, 2021 (Poster)
- 22. D. Leizaola, E.A. Robledo, R.B. Saager, **A. Godavarty**, "Near-infrared light propagation analysis of Fitzpatrick skin types using Montel-Carlo," Undergraduate Research at FIU Conference, Mar 24-25, 2021 (Poster)
- 23. B. Meyer, K. Leiva, C. E. Beiner, M.A. Rodirgues, J. Panoff, M. Fagundes, M. Chuong, A. Godavarty "Hemoglobin changes in response to radiation dermatitis in breast cancer subjects," Undergraduate Research at FIU Conference, Mar 24-25, 2021 (Poster)
- 24. A. Trinidad, K. Kaile, **A. Godavarty**, "Smartphone app designed for automated oxygenation measurements," Undergraduate Research at FIU Conference, Mar 24-25, 2021 (Poster)
- 25. M. Chavez, K. Kaile, **A. Godavarty**, "Thermal measurements obtained for wound analysis: a feasibility study," Undergraduate Research at FIU Conference, Mar 24-25, 2021 (Poster)
- 26. B. Meyer, K. Leiva, C. E. Beiner, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, A. Godavarty, "Comparison of tissue oxygenation changes captures by near-infrared optical scanner to clinical diagnosis of radiation dermatitis in breast cancer subjects," Florida Undergraduate Research Conference, Tallahassee, FL (virtual), Feb 27, 2021 (Poster)
- 27. D. Leizaola, E.A. Robledo, R.B. Saager, **A. Godavarty**, "Near-infrared light propagation analysis of Fitzpatrick skin types using Monte-Carlo," Florida Undergraduate Research Conference, Tallahassee, FL (virtual), Feb 27, 2021 (Poster)
- 28. D. Leizaola, E.A. Robledo, R.B. Saager, **A. Godavarty**, "Monte-Carlo based near-infrared light propagation modeling for different skin types and melanin concentrations," FIU 11th BME Undergraduate Research Day, Sept 25, 2020 (Oral)
- 29. A. Trinidad, K. Kaile, **A. Godavarty**, "Smartphone app designed for automated oxygenation measurements," FIU 11th BME Undergraduate Research Day, Sept 25, 2020 (Oral)
- 30. J.R. Murillo, E. A. Robledo, K. Leiva, C. E. Beiner, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, **A. Godavarty**, "Analyzing the extent of tissue oxygen saturation on irradiated and non-irradiated breast tissue in response to radiation therapy using a commercial NIRS device," ," FIU 11th BME Undergraduate Research Day, Sept 25, 2020 (Oral)
- 31. B. Meyer, K. Leiva, E.A. Robledo, C.E. Beiner, J. Murillo, M.A. Rodrigues, J. Panoff, M. Fagundes, M. Chuong, **A. Godavarty**, "Assessment of radiation dermatitis in irradiated vs contralateral chest tissue of breast cancer subjects using near-infrared optical scanner," FIU 11th BME Undergraduate Research Day, Sept 25, 2020 (Oral)
- 32. V. Roldan, K. Leiva, K. Kaile, M. Weigelt, A. Espinosa, R. Kirsner, **A. Godavarty**, "Data analysis of images obtained with two near-infrared devices for static and dynamic imaging with a

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- breath-hold paradigm in patients with diabetic foot ulcers,"," FIU 11th BME Undergraduate Research Day, Sept 25, 2020 (Oral)
- 33. P. Rodriguez, K. Kaile, **A. Godavarty**, "Development of a thermal imaging system to obtain 2D heat maps without contact," ," FIU 11th BME Undergraduate Research Day, Sept 25, 2020 (Oral)
- 34. 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.
- 35. 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.
- 36. 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.
- 37. B. Meyer, K. Leiva, K. Kaile, M. Saavedra, F. Perez-Clavijo, **A. Godavarty**, "Effect of revascularization on oxygenation flow in a chronic diabetic foot ulcer," FIU-BME 10th Annual Undergraduate Research Day, Oct 4^{th,} 2019
- 38. 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
- 39. 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
- 40. J. Barter, K. Kaile, E. Robledo, K. Leiva, J. Mahadevan, S. Narayanan, V. Muthukrishnan, V. Mohan, A. 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
- 41. P. Lozano, K. Leiva, **A. 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
- 42. 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
- 43. 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
- 44. 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

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- 45. 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
- 46. 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
- 47. 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
- 48. 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
- 49. 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
- 50. 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
- 51. 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)
- 52. 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
- 53. 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
- 54. 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
- 55. 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.

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- 56. 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.
- 57. 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.
- 58. Richard Schutzman, Anuradha Godavarty. "Spatial Co-Registration of Visible and Optical Images." Conference for Undergraduate Research at FIU, May 29th, 2017.
- 59. 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.
- 60. 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.
- 61. 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.
- 62. R. Schutzman, **A. Godavarty**. "Spatial Co-Registration of Visible and Optical Images." Annual Biomedical Engineering Undergraduate Research Day, March 3rd, 2017.
- 63. 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.
- 64. Rebecca Kwasinski, Cristianne Fernandez, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, **A. Godavarty**. "Hemodynamic Imaging of Venous Leg Ulcers." Annual Biomedical Engineering Undergraduate Research Day, March 3rd, 2017.
- 65. Cristianne Fernandez, Rebecca Kwasinski, Kevin Leiva, Richard Schutzman, Edwin Robledo, Penelope Kallis, Francisco Perez-Clavijo, Robert Kirsner, E.A. Pretto, **A. Godavarty**, "Non-Contact Optical Imaging of Diabetic Foot Ulcers." Annual Biomedical Engineering Undergraduate Research Day, March 3rd, 2017.
- 66. 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).
- 67. 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).
- 68. 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).

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- 69. S. Rodriguez, Y-J Jung, **A. Godavarty**, "Portable hand-held near-infrared scanner," Photonics in HealthCare-Year of Light Symposium, FIU (3 Apr 2015).
- 70. 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)
- 71. 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)
- 72. 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)
- 73. S. Rodriguez, **A. Godavarty**, "Portable hand-held wide-field near-infrared (NIR) scanner," CEC-FIU 30th Anniversary, Miami, FL, 30 Oct 2015 (poster).
- 74. 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).
- 75. 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).
- 76. 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)
- 77. 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).
- 78. A. Romero, **A. Godavarty**, "Automated 3-D laser scanner for breast imaging," *FIU McNair Symposium*, Miami, FL, Nov 9-10 (2008).
- 79. 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).
- 80. 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).

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- 81. 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).
- 82. 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).
- 83. **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).
- 84. 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.
- 85. **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).

AWARDS AND HONORS

- Senior Member, National Academy of Inventors, Spring 2021
- 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.

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- 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 (Total: 17, all since 2010)

USA Patents (8 issued, 2 invention disclosures)

- 1. "Skin color independent flow-based diffuse optical imaging." <u>Inventors</u>: **A. Godavarty**, K. Leiva (Invention Disclosure filed, Nov 2022) US Provisional Patent (filed Jan 2023)
- 2. "Near-infrared based peripheral vascular imaging technique to detect vascular calcification," <u>Inventors</u>: **A. Godavarty**, D. Leizaola, K. Leiva, V. Dargam, J. Hutcheson (Invention Disclosure filed, Nov 2022) US Provisional Patent (under preparation)
- 3. "Hand-held optical probe based imaging system with 3D tracking facilities," <u>Inventors</u>: A. Godavarty, S. Regalado. B. Jayachandran, B. Zhu, US Patent No. 9,709,733, July 2017.
- Hand-held optical probe based imaging system with 3D tracking facilities" (Automated and real-time coregistration software) CIP – Continuation-in-Part, <u>Inventors</u>: A. Godavarty, S. Regalado. US Patent No. 8,712,504, April 2014
- 5. "Second generation hand-held optical imager," <u>Inventors</u>: **A. Godavarty**, J. DeCerce US Patent No. 9,636,349, April 2014.
- 6. "Near-infrared optical scanner," <u>Inventors</u>: **A. Godavarty**, Y. Jung, J. Gonzalez, US Patent No. 10,674,918, June 2020.
- 7. "Near-infrared optical scope for hemodynamic imaging, pulse monitoring, and mapping spatio-temporal features," Inventors: **A. Godavarty**, Y. Jung, US Patent No. 10,258,242, April 2019.
- 8. "Integrated NIR and white light scanner for co-registered images of tissues," <u>Inventors</u>: A. Godavarty, US Patent No. 10,674,916, June 2020.
- 9. "Cellphone based tissue oxygenation measuring device," <u>Inventors</u>: **A. Godavarty**, K. Kaile, US Patent Publication No. 20200352515, Dec 2020, US Patent No. 11,464,453, Oct 2022
- 10. "Handheld devices for wound assessment using multi-modal imaging," <u>Inventors:</u> A. Godavarty, K. Kaile (Disclosure filed) 03, Dec 2020. Non-Provisional Patent filed 01 Feb 2022, US Patent No. 11,471,696, Oct 2022

Global Patents (3 issued, 4 pending)

- **11.** "Second generation hand-held optical imager," <u>Inventors</u>: **A. Godavarty**, J. DeCerce, R. Roche, EPO Patent No. EP 2579777 B1, July 2019
- **12.** "Second generation hand-held optical imager," <u>Inventors</u>: **A. Godavarty**, J. DeCerce, R. Roche, German National Patent No. 602011060912.2, Nov 2019.

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- **13.** "Gen-2 hand-held optical imager," <u>Inventors</u>: **A. Godavarty**, J. DeCerce, R. Roche, India Patent Application No. 78/DELNP/2013, Filed Jan 3013 (Patent Pending)
- **14.** "Near-infrared optical scanner" <u>Inventors</u>: **A. Godavarty**, Y. Jung, J. Gonzalez, India Patent Application No. 6555/DELNP/2014, (India Patent No. 385294), Feb 2022
- **15.** "Near-infrared optical scanner" <u>Inventors</u>: **A. Godavarty**, Y. Jung, J. Gonzalez, EPO Patent Application No. 13733558.4, Filed Aug 2014 (Patent Pending)
- **16.** "Near-infrared optical scope for hemodynamic imaging, pulse monitoring, and mapping spatio-temporal features," <u>Inventors</u>: **A. Godavarty**, Y. Jung, India Patent Application No. 201617026420, Filed Aug 2016 (Patent Pending)
- 17. "Near-infrared optical scope for hemodynamic imaging, pulse monitoring, and mapping spatio-temporal features," <u>Inventors</u>: A. Godavarty, Y. Jung, Europe Patent Application No. 15733318.8, Filed Aug 2016 (Patent Pending)

<u>RESEARCH FUNDING</u> (\$ 3,094,098 total, with \$2,849,098 external funds + \$ 245,000 internal since 2010)

- 1. "Smartphone-based optical scanner to physiologically assess diabetic foot ulcers," National Institutes of Health (NIH-NIBIB R01) (Role: PI) \$ 2,119,959 08/22 05/26
- 2. "Tissue oxygenation measurements corrected for skin tone using machine learning algorithms,"
 - **Coulter Bridge Grant** (Role: PI) **\$25,000** 02/24/2022-10/31/2022
- 3. "Smartphone-based oxygenation measuring device for wound care," Coulter MedTech Grant (Role: PI)\$ 10,000 06/01/21-05/31/22
- 4. "Development of tissue oxygenation indices for acute wounds and diabetic foot ulcers using near-infrared imaging approaches,"
 - National Institutes of Health (NIH-NIDDK, F31 Pre-Doctoral Award) (Role: Mentor, PI: Kevin Leiva) \$ 72,162 08/20-08/22
- "ICorps- Smartphone oxygenation tool for wound care,"
 National Science Foundation (NSF) ICorps, \$50,000 03/01/21-02/28/23 (Role: PI and Technical Lead)
- 6. "Validated tissue oxygenation biomarker in diabetic foot ulcers to assess healing using a low-cost hand-held optical imager,"
 - **NIDDK-DiaComp Consortium, \$100,000** 10/18-06/21 (Role: PI)
- 7. "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 (Role: PI)
- 8. "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 (Role: PI)
- 9. "Near-infrared optical scanner for wound and other bioimaging applications," **FIU CEC-BME Seed Funds**, **\$ 20,000**, 09/14-06/17 (Role: PI)

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- 10. "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.
- 11. "Wide-field ultra-portable NIR optical scanner"
 - **FIU Division of Research** (Role: Sole PI), **\$ 60,000** 09/12 08/13.
- 12. "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.
- 13. "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.
- 14. "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.
- 15. "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.
- 16. "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.
- 17. "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.
- 18. "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.
- 19. "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
- 20. "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.
- 21. "Novel Hand-Held Optical Imager for Breast Cancer Diagnostics: Translational & Commercialization Efforts"
 - Kauffman Professor Award (Role: Sole PI) \$ 15,000, 01/09 12/09.
- 22. "CTLM imaging system on a permanent loan to Optical Imaging Laboratory" Imaging Diagnostic Systems Inc., ~ \$ 150,000 valued, 2009.
- 23. "Breast cancer research using optical imaging technologies" **Jeromy Block Foundation** towards cancer research (Role: PI) \$ 1667, 08/08-07/10.

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- 24. "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.
- 25. "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.
- 26. "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.
- 27. "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.
- 28. "Investment towards optical imaging research (via purchase of an optical imaging instrument towards brain imaging studies)" Miami Children's Hospital, Miami ~ \$ 120,000, 2007.
- 29. "Novel tissue phantoms with known optical properties" Imaging Diagnostic Systems Inc., (Role: Sole PI) \$ 88,083 6/06-5/08.
- "Optical imaging in autistic children"
 University of Miami's Marino Autism Research Institute Grant (Role: PI) \$98,000 2/06-1/12.
- 31. "Bedside optical imaging of presurgical epilepsy patients"

 Miami Children's Hospital Seed Grant (Role: PI) \$ 40,000 2/06 8/08.
- 32. "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.
- 33. "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.
- 34. "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 (Total 74, 54 since 2010)

- 1. <u>Outstanding Doctoral Student Award</u>, College of Engineering and Computing, Dec 2022 (Kevin Leiva, PhD student)
- 2. <u>Dissertation Year Fellowship</u> at FIU, Spring 2023 (Kacie Kaile)
- 3. <u>Third place in BME Undergraduate Research Day Poster</u> at FIU, Fall 2022 (Sydni Spencer, UG student)
- 4. <u>Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research,</u> Internship (\$ 2000), Summer 2022 (Sydni Spencer, UG student)
- 5. <u>Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research,</u> Internship (\$ 2000), Summer 2022 (Faiza Nazir, UG student)

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- 6. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2000), Summer 2022 (Noble Amadi, UG student)
- 7. <u>First place in BME Undergraduate Research Day Poster</u> at FIU, Fall 2021 (Mariel Chavez— BS Student)
- 8. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2000), Summer 2021 (Isabella Gonzalez, UG student)
- 9. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2000), Summer 2021 (Raquel Veiga Martin, UG student)
- 10. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2000), Summer 2021 (Haniyeh Alirezaei, UG student)
- 11. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2000), Summer 2021 (Alexander Trinidad, UG student)
- 12. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2000), Summer 2021 (Mariel Chavez, UG student)
- 13. ARCH Scholarship (\$ 1000) Bridgette Meyer, UG student (Jan 2021)
- 14. <u>Third place in BME Undergraduate Research Day Poster</u> at FIU, Fall 2020 (Daniela Leizaola BS Honor's Student)
- 15. <u>Honorable Mention in BME Undergraduate Research Day Poster</u> at FIU, Fall 2020 (Juan Murillo BS Student)
- 16. <u>Honorable Mention in BME Undergraduate Research Day Poster</u> at FIU, Fall 2020 (Bridgette Meyer BS Honor's Student)
- 17. NIH-NIDDK F31 Pre-Doctoral Diversity Fellowship (\$ 72,162 for 2 years) Kevin Leiva, Doctoral Student (Aug 2020)
- 18. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 1000), Summer 2020 (Daniela Leizaola, UG student)
- 19. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 1000), Summer 2020 (Bridgette Meyer, UG student)
- 20. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 1000), Summer 2020 (Alexander Trinidad, UG student)
- 21. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2020 (Pablo Rodriguez, UG student)
- 22. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 1000), Summer 2020 (Juan Murillo, UG student)
- 23. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 1000), Summer 2019 (Valentina Roldan, UG student)
- 24. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2019 (Daniela Leizaola, UG student)
- 25. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2019 (Bridgette Meyer, UG student)
- 26. MBRS Biomedical Summer Research Award at FIU, Summer 2018 (\$ 3000) (Kevin Leiva, Ph.D. student)
- 27. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2018 (Priscilla Lozano, UG student)

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- 28. <u>Second place in BME Graduate Research Day Poster</u> at FIU, Spring 2018 (Kevin Leiva, Ph.D. Student).
- 29. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2017 (Cristianne Fernandez, UG student)
- 30. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2017 (Brian Pintado, UG student)
- 31. <u>Second place in BME Undergraduate Research Day Poster</u> at FIU, Spring 2017 (Cristianne Fernandez, BS Honor's Student).
- 32. FIU MARC U* STAR Fellowship for Undergraduate Research, Fall 2016-Spring 2017 (Richard Schutzman, UG student).
- 33. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2016 (Richard Schutzman, UG student)
- 34. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research, Internship (\$ 2400), Summer 2016 (Rebecca Kwasinski, UG student)
- 35. <u>Best Undergraduate Research Day Poster</u> at FIU, Spring 2016 (Jiali Lei, BS Honor's Student)
- 36. MBRS Biomedical Summer Research Award at FIU, Summer 2015 (\$ 3000) (Arash Dadkhah, Ph.D. student)
- 37. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research Internship (\$ 2400), Summer 2015 (Elizabeth Solis, UG student)
- 38. 2nd plate in Oral Presentation at FIU MARC U*STAR & MBRS RISE Student Biomedical Mini-Symposium, Graduate Research Presentations, Fall 2012 (Rigoberto Roche)
- 39. 2nd place in Poster Presentation at BME Graduate Research Day, Fall 2012 (Manuela Roman, MS student)
- 40. Dissertation Year Fellowship at FIU Spring 2013 (Ujwal Chaudhary, Ph.D. student)
- 41. Kaufmann Doctoral Award at FIU Fall 2012 (Ujwal Chaudhary, Ph.D. student)
- 42. <u>Dissertation Enhanced Acquisition Fellowship</u> at FIU Spring 2012 (Ujwal Chaudhary, Ph.D. student)
- 43. FIU Graduate Student Association Travel Award, Fall 2011 (Jean Gonzalez, MS student)
- 44. <u>2nd place in Poster Presentation</u> at BME Graduate Research Day, Fall 2011 (Rigoberto Roche, MS student)
- 45. MBRS Biomedical Summer Research Award at FIU, Summer 2011 (Ujwal Chaudhary, Ph.D. student)
- 46. <u>Post-Doctoral Fellowship Award</u> from American Cancer Society & Canary Foundation, Summer 2011 (Sarah Erickson)
- 47. <u>Outstanding Ph.D. Student</u> in College of Engineering and Computing, Spring 2011 (Sarah Erickson)
- 48. World's Ahead Graduate Student at FIU, Spring 2011 (Sarah Erickson)
- 49. FIU Graduate Student Association Travel Award, Spring 2011 (Michael Hall, MS student)
- 50. FIU Graduate Student Association Travel Award, Spring 2011 (Ujwal Chaudhary, MS student)
- 51. <u>Research Excellence Travel Award</u> for SPIE Photonics West, January 2011 (Sarah Erickson, Ph.D. Student)
- 52. <u>Session Best Paper Award</u> at the 14th World Multi-Conference on Systems, Cybernetics, and Informatics, July 2010 (Sarah Erickson, Ph.D. student)

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- 53. <u>Best Undergraduate Student</u> in Biomedical Engineering at FIU, May 2010 (Jean Gonzalez, UG student working in my lab)
- 54. 15">15">15 Place (Engineering Session) in 2010 Graduate Student Association (GSA) Scholarly Forum Paper Competition at FIU (\$ 250), Spring 2010 (Sarah Erickson, Ph.D. student).
- 55. <u>Lydia I. Pickup Scholarship for 2009-2010</u> by Society of Women Engineers (\$ 4000), Sept 2009 (Sarah Erickson, Ph.D. student).
- 56. <u>3rd Place (Engineering Session)</u> in 2009 Graduate Student Association (GSA) Scholarly Forum Paper Competition at FIU (\$ 250), Spring 2009 (Sarah Erickson, Ph.D. student).
- 57. <u>First Place, Doctoral Award</u> in SBEC 2009 Paper Competition at 25th Southern Biomedical Engineering Conference 2009, 15 -- 17 May 2009, Miami, Florida, USA (Sarah Erickson, Ph.D. student)
- 58. Nominated as <u>Outstanding Doctoral Student</u> from the BME department in Fall 2008 (Jiajia Ge, Ph.D. student).
- 59. Norman R Weldon Biomedical Engineering Undergraduate Student Summer Research Internship (\$ 2400), Summer 2009 (Jean Gonzalez, UG student)
- 60. <u>Dept of Defense Breast Cancer Research Program's Pre-Doctoral Award</u> (\$ 95,791), Jan 2009 Dec 2011 (Sarah Erickson, Ph.D. student)
- 61. Ronald E. McNair Award at FIU, Summer 2009 (Adrian Romero, UG student)
- 62. <u>Best Master's Student in College</u> of Engineering and Computing at FIU, May 2008 (Steven Regalado, MS student)
- 63. <u>Best Undergraduate Student</u> in Biomedical Engineering at FIU, May 2008 (Adrian Romero, UG student)
- 64. <u>University-Wide General Scholarship</u> (\$1000), Florida International University, 2006-2007 (Jiajia Ge, Ph.D. student)
- 65. <u>Best Master's Student in College of Engineering</u> at FIU, May 2006 (Bhavani Jayachandran, MS student)
- 66. <u>Best Teaching Assistant</u> for BME Labs, Spring 2006, FIU (MS student), 2006 (Bhavani Jayachandran, MS student)
- 67. <u>Florence Bayuk Graduate Fellowship</u> (\$15,000), Florida International University, 2005-2006 (Jiajia Ge, Ph.D. student)
- 68. <u>Presidential Fellowship</u> (\$70,000), Florida International University Graduate School, 2005-2008 (Sarah Erickson, Ph.D. student)
- 69. <u>Student Summer Research Award</u> of \$3000 (funded through the RISE biomedical Research Initiative), Florida International University, Summer 2005 (Jiajia Ge, Ph.D. student)
- 70. <u>Ralph Sanchez Scholarship</u>, FIU (MS student), \$ 1000 for the academic year 2005-2006 at FIU (Bhavani Jayachandran, MS student)
- 71. <u>Dean's List in College</u> of Engineering and Computing at FIU, Summer 2005- Fall 2006 (Steven Regalado, UG student)
- 72. <u>Tau Beta Pi Inductee</u> (Top 1/8th of class in College of Engineering and Computing at FIU, Fall 2005 (Steven Regalado, UG student)
- 73. <u>NSCS</u> (National Society of Collegiate Scholars) <u>Inductee</u> (Top 1/5th of class in entire FIU), Fall 2005 (Steven Regalado, UG student)
- 74. <u>CSEMS (Computer Science and Engineering Math Scholarship)</u> <u>Scholar</u> of at FIU (\$3125), Fall 2005-Spring 2006 (Steven Regalado, UG student).

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PRESS RELEASES (Total: 45, 25 since 2010)

- 1. "Diabetes Technology Meeting 2022: Executive Highlights," Closer Look, TJDST meeting in 09th Nov 2022
 - https://www.closeconcerns.com/knowledgebase/r/e2a7450d#Two digital tools for the treating and monitoring diabetic foot ulcers: a connected offloading device and a smartphone-enabled tissue oxygenation monitor (page-10)
- "Chemical engineering alumna named National Academy of Inventors senior member,"
 Texas A&M University, May 4, 2021. https://engineering.tamu.edu/news/2021/05/chemical-engineering-alumna-named-national-academy-of-inventors-senior-member.html
- 3. "FIU biomedical engineering professor working on impactful innovations in medical imaging named National Academy of Inventors Senior Member," FIU News, Feb 11, 2021 https://news.fiu.edu/2021/fiu-biomedical-engineering-professor-working-on-impactful-innovations-in-medical-imaging-named-national-academy-of-inventors-senior-member
- 4. "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
- 5. http://umiamihealth.org/physician-news/collaborative-clinical-study-tests-impact-of-novel-imaging-technology-on-diabetic-foot-ulcers/ 19 May 2017
- 6. "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 a similar topic).
- 7. "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
- 8. "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)
- 9. "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.
- 10. "Greater Miami Chamber of Commerce, Health Care Heroes," *South Florida Hospital News*, May 2012 (page 43), May 2011 (page 45), May 2010 (page 37)

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- 11. "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.
- 12. "FIU researcher and team invent a device to aid in detection of breast cancer," *Florida International University News*, March 2009, http://news.fiu.edu/?p=2638
- 13. "Cancer Catcher," Telecast on **WSVN Channel 7,** Miami, Feb 2009 http://www.wsvn.com/features/articles/medicalreports/MI113800
- 14. "Device uses a 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-developgroundbreaking-device-to-detect-breast-cancer
- 15. "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
- 16. "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).
- 17. "Investigadores de FIU crean dispositivo para detector cancer de seno," *The ExpressNews* (*Spanish Newspaper*), Nov 2008.
- 18. "New imaging device for breast cancer diagnosis," *Florida Biomedical Program*, Jan 2008, http://www.floridabiomed.com/NewsArchive.section/pages/newsarchivedetail A9F4EB30.html
- 19. "Imaging Diagnostic Systems and Florida International University Unite," *Medical Imaging Magazine*, Aug 2006, http://www.medicalimagingmag.com/MIN/2006-08-2_5.asp
- 20. "3-D fluorescence tomography tested in phantom breast model," pg: 32-33, *Biophotonics International*, Aug 2003.

TEACHING EXPERIENCE

Student Perception of Teaching Survey (SPOTS)

Carried out on a 5-point grading scale: Excellent = 5; Very Good = 4; Good = 3; Fair = 2; Poor = 1

Average SPOT score in last 5 years across **graduate courses**: **4.61**

Average SPOT score in last 5 years across undergraduate courses: 4.34

A. Graduate Courses (Total 8)

- <u>BME 5505C: Medical Imaging Instrumentation</u>, 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), Fall 2021 (Hybrid)

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- BME 6564: Optical Imaging in Biomedicine, Spring 2007, Spring 2009, Spring 2011, Spring 2016, Spring 2019, Spring 2021
- <u>BME 6905: Independent Study</u>, Fall 2005, Spring 2006, Summer 2006, Spring 2011, Summer 2015, Spring 2017, Fall 2018, Summer 2019, Spring 2020, Spring 2022
- 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, Fall 2020, Spring 2021, Fall 2021, Spring 2022, Summer 2022, Fall 2022
- 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, Fall 2021
- BME 7980: Biomedical Ph.D. 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, Fall 2020, Spring 2021, Summer 2021, Fall 2021, Spring 2022, Summer 2022, Fall 2022

B. <u>Undergraduate Courses (Total 10)</u>

- 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), Fall 2021 (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, Spring 2022
- BME 4912: Undergraduate Research, Fall 2013, Spring 2014, Spring 2017, Fall 2020
- BME 4931: Special Topics/Project, Fall 2010
- IDH 4905: Honor's Independent Studies, Fall 2013, Spring 2014

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STUDENTS/POST-DOCS SUPERVISION

A. Master's Students Major Advisor (Total: 13, 10 since 2010)

No.	Name	Degree	Graduation	Thesis Title
13.	Edwin Robledo	M.S.	Fall 2018-Fall 2021	Tissue oxygenation changes in
				radiation dermatitis treatment
12.	Christopher	M.S.	Fall 2018-Spring 2019	Assessment of
	Estrella			commercialization pathways for
				a low-cost, hand-held near-
				infrared optical scanner
11.	Kacie Kaile	M.S.	Spring 2018-Summer 2018	Cellphone based tissue
			(transferred to Ph.D.)	oxygenation measuring device
10.	Kevin Leiva	M.S	Fall 2016 – Fall 2017	Near-infrared optical scanner for
			(transferred to Ph.D.)	coregistered wound imaging
9.	Manuela Roman	M. S.	Spring 2013	Resolution studies of a hand-
				held optical imager
8.	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
7.	Jean Gonzalez	M.S.	Spring 2012 (Outstanding MS	Development and Testing of a
			student award in College of	Second Generation Hand-Held
			Engineering, CEC-FIU)	Optical Imager
6.	Michael Hall	M.S.	Spring 2012	Temporal mapping and
				connectivity using NIRS for
				language related tasks
5.	Pallavi Joshi	M.S	Spring 2011	Breast phantom models and
				fluorescence imaging studies
4.	Sergio Martinez	M.S.	Spring 2011	Performance enhancement in
				accuracy and imaging time of a
				hand-held probe-based optical
				imager
3.	Niravkumar Patel	M.S.	Fall 2007	Design and Development of a
				10-20 system based optical head
				cap.
2.	Steven Regalado	M. S.	Fall 2008	Real-Time Coregistered Imaging
			(Outstanding MS student	Using a Hand-Held Probe-Based
			award in College of	Optical Imager
			Engineering, CEC-FIU)	
1.	Bhavani	M.S.	Summer 2006 <i>(Outstanding</i>	Design and development of
	Jayachandran		MS student award in College	optical probes for non-invasive

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	of Engineering, CEC-FIU)	cancer diagnostic imaging.
	-,,	

PS: No co-advisor for any supervised MS students

B. Major Advisor for Doctoral Students (Total: 7, 6 since 2010)

No	Name	Degree	Graduation	Dissertation Title
7	Himaddri Shakhar Roy	Ph.D	Spring 2023-	Smartphone-based optical imaging of curved tissues
6	Daniela Leizaola	Ph.D	Fall 2021-	Vascular perfusion imaging studies
5	Kacie Kaile	Ph.D.	Fall 2018- Dissertation Year Fellowship (Spring 23- Summer 23)	Cellphone based tissue oxygenation measuring device
4	Kevin Leiva	Ph.D.	Spring 2018-Fall 2022 NIH F31 Pre-Doctoral Fellowship + Outstanding PhD student award in College of Engineering, CEC-FIU	Development of tissue oxygenation biomarker for assessment of wound healing
3	Ujwal Chaudhary	Ph.D.	Summer 2013 (Outstanding Ph.D. student in College of Engineering, CEC-FIU)	Functional near-infrared spectroscopy of joint attention and motor skills
2	Sarah Erickson	Ph.D.	Spring 2011 (Outstanding Ph.D. student in College of Engineering, CEC-FIU)	Fluorescence-enhanced optical tomography using a self coregistering hand-held optical imager
1	Jiajia Ge	Ph.D.	Fall 2008 (Nominated Outstanding Ph.D. student in BME department)	Fluorescence-enhanced optical imaging on 3-D phantoms using a hand-held probe based frequency-domain ICCD optical imager

C. <u>Supervised Post-Doctoral Researchers</u> (Total: 7, 5 since 2010)

No	Name	Support	Period	Research Area
7	Dr. Fernando Sebastian Chiwo Gonzalez	Post-Doc	Apr 2023 -	Multi-modal wound imaging using a smartphone-platform.
6	Dr. Yoany Rodriguez	Post-Doc	Oct 2016 - Oct 2017	Near-infrared optical imaging of lower extremity ulcers
5	Dr. Ujwal Chaudhary	Post-Doc	Aug-Dec 2013	Near-infrared optical imaging of venous occlusions

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4	Dr. Young-Jin Jung	Post-Doc (NIH	Jan 2012-Dec	Gen-2 hand-held optical imager
		grant)	2014	towards tomographic imaging
3	Dr. Sarah Erickson	ACS Post-Doc	June 2011-	Clinical translation of a hand-held
		Fellowship	onwards	optical imager towards breast
				cancer imaging
2	Dr. Jiajia Ge	Post-Doc (NIH	Jan-Apr 2009	Sensitivity/specificity analysis of
		grant)		hand-held optical imager towards
				cancer diagnostics
1	Dr. Banghe Zhu	Coulter's Young	Oct 2005-Mar	Developing optical imaging
		Inventor Awardee	2009	technologies towards breast
				imaging and brain mapping
				applications.

D. Other Graduate Student Supervision (Total: 17, 11 since 2010)

No	Name	Student Role	Period	Research Area
17	Alexander Trinidad	Post-Bacc researcher	Summer 2022	Develop LED boards for hand- held optical devices
16	Juan Murillo	Post-Bacc researcher	Spring 2021	Image analysis of radiation dermatitis in breast cancer subjects
15	Nicole Sevilla	Post-Bacc Research Engineer	Summer 2018-Summer 2019	Integrated NIROS device design and development
14	Edwin Robledo	Post-Bacc Research Engineer	Summer 2018	Radiation dermatitis and optical imaging
13	John Perez	Graduate Research Assistant	Spring 2017 – Fall 2017	Functional brain mapping using NIRS
12	Mandela Sealy (MBA)	Research Assistant	Spring 2017- Summer 2017	Market analysis of pressure ulcers and use of NIR imaging
11	Katrina Epnere	Graduate Research Assistant	Fall 2016	Statistical analysis and data management of NIROS data
10	Melake Daniel Tesfamariam	Graduate Research Volunteer	Fall 2016- Spring 2017	Non-contact pulse oximetry
9	Arash Dadkhah	Graduate Research Assistant	Spring 2015- Summer 2016	NIR imaging of diabetic foot ulcers
8	Xing Pang	Visiting	Fall 2015 -	Image segmentation and

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		Scholar		coregistration of diabetic wounds.
7	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
6	George Varghese (MBA student)	Summer Intern	Summer 2009	Pre-market analysis of our hand- held optical imaging technology towards strategic planning and commercialization.
5	Vishwani Sharma (MS student)	Graduate Research Assistant	Summer 2009	Cross-correlation software analysis towards brain mapping studies
4	Nitin Yadav (Ph.D. student)	Grad. Research Assistant	Fall 2007- Spring 2008	Functional brain mapping using near infrared imaging
3	Hai Zheng (Ph.D. student)	Grad. Research Assistant	Fall 2006- Summer 2008	Functional brain mapping using diffuse optical imaging technique
2	Swarnalatha Ramakoti (MS student)	Grad. Research Assistant	Spring - Fall 2006	Determination of tissue optical properties using frequency-domain optical imaging system
1	Amit Dahigaonkar (MS student)	Grad. Research Assistant	Fall 2005- Spring 2006	Noise filtration techniques in fluorescence optical tomography

E. <u>Undergraduate Student Supervision (Total: 59, 51 since 2010)</u>

#	Name	Student Role	Period	Research Area
59	Waleed	UG Research	Fall 2022-	Monte-Carlo simulations of various skin
	Abusaif	Assistant		tone oxygenations
58	Carlos	UG Trainee	Fall 2022	Trainee in 3D design and printing
	Cardenas			
57	Jose Perez-	UG Trainee	Fall 2022	Monte-Carlo simulations of various skin
	Calderin			tone oxygenations
56	Kevin Radcliffe	UG Trainee	Fall 2022-	Diabetes wound types and wound tracing
55	Isabela	Lab	Fall 2022-	Clinical and lab coordinator
	Ameglio	coordinator		
54	Alejandro	Undergrad	Summer	Smartphone app development for
	Vecchio	Lab Assistant	2022-Fall	diabetes & telemedicine
			2022	
53	Azhar Ali	Undergrad	Spring 2022	Smartphone app development for
		Lab Assistant		diabetes & telemedicine

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52	Chandler	Undergrad	Spring 2022	Smartphone app modifications for multi-
32	Wilson	Lab Assistant	Spring 2022	
E1	Faiza Nazir		Caring 2022	wavelength imaging
51	FdIZd INdZII	Undergrad Lab Assistant	Spring 2022- Fall 2022	Small animal imaging to assess peripheral vasculature
F0	Coolini Coolina			
50	Sydni Spencer	Undergrad	Spring 2022-	Data analysis of dynamic oxygenation in
40	A. I. I. A. I.	Lab Assistant	F. II. 2024	radiation therapy treated subjects
49	Noble Amadi	Undergrad	Fall 2021 -	Optical property measurements of
		Research	Fall 2022	phantoms
		Assistant	5 II 0004	
48	Nathaniel	Undergrad	Fall 2021 -	Data analysis of dynamic oxygenation in
	Alexander	Research	Spring 2022	radiation therapy treated subjects
		Assistant		
47	Haniyeh	Undergrad	Summer	Small animal imaging to assess peripheral
	Alirezaei	Research	2021-Fall	vasculature
		Assistant	2021	
46	Raquel Veiga	Undergrad	Summer	Statistical analysis of oxygen saturation
	Martin	Research	2021	maps from radiation dermatitis study
		Assistant		
45	Isabella	Undergrad	Summer	In-vivo breath-hold studies using NIROS
	Gonzalez	Research	2021-Spring	
		Assistant	2022	
44	Mariel Chavez	Undergrad	Fall 2020-	Phantom studies and thermal imaging
		Research	Spring 2022	
		Assistant		
43	Rayyan Naji	Undergrad	Fall 2020 -	Real-time automated near-infrared image
		Research	Spring 2021	analysis
		Assistant		
42	Alexander	Undergrad	Summer	App development for smartphone based
	Trinidad	Research	2020-Spring	optical device
		Assistant	2022	
41	Pablo	Undergrad	Summer	Thermal imaging device development
	Rodriguez	Research	2020	
		Assistant		
40	Valentina	Undergrad	Fall 2019-Fall	NIROS optimization analysis
	Roldan	Research	2020	
		Assistant		
39	Juan Murillo	Undergrad	Spring 2020-	Radiation dermatitis and optical imaging
		Research	Spring 2021	
		Assistant		
38	Bridgette	Undergrad	Spring 2019-	Dynamic optical imaging – data analysis
	Meyer	Research	Spring 2021	
	(Honor's	Assistant		
	Thesis)			
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37	Daniela Leizaola (Honor's Thesis)	Undergrad Research Assistant	Spring 2019- Spring 2021	Non-contact NIR imaging for pulse measurements
36	David Ortega	Undergrad Research Assistant	Spring 2019, Fall 2019- Spring 2020	Imaging set-up and optimization analysis for NIROS
35	Christian Fernandez	Undergrad Research Assistant	Fall 2018- Summer 2019	App development for smartphone based optical device
34	Manuel Vazquez	Undergrad Research Assistant	Summer 2018	Phantom validation studies of NIROS
33	Jorge Barter	Undergrad Research Assistant	Summer2018 - Fall 2019	GUI development/ modification of NIROS
32	Maria Saavedra Guevara	Undergrad Research Assistant	Summer 2018 – Spring 2019	Clinical and lab coordinator
31	Priscilla Lozano	Undergrad Research Assistant	Spring 2018 - Spring 2019	Oximeter vs. NIROS studies
30	Brian Pintado	Undergrad Research Assistant	Spring 2017- Summer 2017	GUI development/ modification for NIROS
29	Kacie Kaile	Undergrad Research Assistant	Spring 2017- Fall 2017	Rebuild and optimize NIR device for wound imaging
28	Natalie Rivera	Undergrad Research Assistant	Spring 2017- Fall 2017	Data analysis of NIR images from lower extremity ulcers
27	Cristianne Fernandez (Honor's Thesis)	Undergrad Research Assistant	Spring 2016- Spring 2018	Clinical imaging studies using NIROS (Diabetic leg ulcers)
26	Richard Schutzman	Undergrad Research Assistant	Spring 2016 -Spring 2017	Tracking and registration software development for NIROS
25	Edwin Robledo	Undergrad Research Assistant	Fall 2015 – Spring 2018	Optimization of NIROS circuit for hemodynamic imaging
24	Trevor Solorzano	Undergrad Research	Fall 2015 - Spring 2016	Design and 3D printing of component for next generation NIROS

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	(Mech Eng)	Assistant		
23	Rebecca Kwasinski (Honor's Thesis)	Undergrad Research Assistant	Fall 2015 – Spring 2018	Clinical imaging studies using NIROS (Venous leg ulcers)
22	Jiali Lei (Honor's Thesis)	Undergrad Research Assistant	Spring 2015 - Spring 2016	Develop GUI for near-infrared optical scanner
21	Elizabeth Solis	Undergrad Research Assistant	Fall 2014 - Fall 2015	Foot imaging using optical imaging
20	Stephanie Gonzalez	Undergrad Research Assistant	Fall 2014 – Spring 2015	Foot imaging using optical imaging
19	Kenneth Riggit	Undergrad Research Assistant	Fall 2013 – Spring 2014	Assistance in optical hand and foot imaging studies
18	Hanna Kaliada	Undergrad Research Assistant	Fall 2013 – Spring 2014	Assistance in optical hand and foot imaging studies
17	Gabrielle Clark	Undergrad Student Worker	Summer 2013	Assistance to optical imaging projects in the laboratory
16	Suset Rodriguez (Honor's Thesis)	Undergrad Research Assistant	Summer 2013 – Spring 2015	Breast imaging studies using the portable optical scanner
15	Maximilliano Velez Majia	Undergrad Research Assistant	Spring 2013 - Fall 2013	Experimental studies using optical scanner
14	Bryant Thomson	Undergrad Research Assistant	Fall 2012 – Spring 2013	Functional brain mapping towards cerebral palsy research
13	Rad Akhter	Undergrad Research Assistant	Fall 2011 – Summer 2013	Optical scanner for body imaging (instrumentation) and brain mapping data analysis
12	Jennifer Carrasquilla	Undergrad Research Assistant	Fall 2011 – Summer 2012	Optical scanner for body imaging (design)
11	Annie Nunez	Undergrad Research Assistant	Summer 2010-Spring 2011	CTLM vs. hand-held optical imaging studies
10	Manuela	Undergrad	Summer	In-vivo breast imaging studies using

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	Roman	Research Assistant	2010- Summer 2011	hand-held optical imager
9	Rigoberto Roche	Undergrad Research Assistant	Summer 2010- Spring 2011	Automated coregistered imaging and software
8	Lizeth Caldera	Undergrad Research Assistant	Summer 2009 – Fall 2009	Fluorescence optical imaging towards coregistered <i>in-vivo</i> studies
7	Joe DeCerce	Undergrad Research Assistant	Fall 2008- Fall 2009	Developing animated video clips towards brain mapping studies related to autism research
6	Andrea Sanchez	Undergrad Research Assistant	Fall 2008- Spring 2009, Fall 2009	Fluorescence optical imaging towards preliminary <i>in-vivo</i> studies
5	Sarah Boodram	Undergrad Student Worker	Summer 2008	Lab assistant in data post processing and analysis, and compiling research papers.
4	Adrian Romero	Undergrad Research Assistant & McNair Fellow	Spring 2008 - Summer 2008	Worked in the developed of an automated laser scanning system towards breast tissue imaging
3	Surabhi Agrawal	Undergrad Student Worker	Summer Intern for Summer 2006, 2007, 2008	Lab assistant in data post processing, analysis, and compiling research papers.
2	Steven Regalado	Undergrad Research Assistant	Fall 2005- Summer 2007	Develop the Gen-1 hand-held optical probe
1	Hugo Gambini	Undergrad Student Worker	Fall 2004- Spring 2005	Training in operating and trouble- shooting spectro-fluorometer and other optical instruments

F. Committee Member on MS/Ph.D. Candidate's Committees (Total: 26, 19 since 2010)

<u>No</u>	<u>Name</u>	Degree (Major)	Graduation Date	Faculty Role
26	Masrur Shoban	PhD (Computer	Fall 2022-	Dissertation Committee
		Science)		Member
25	Sophie Ashbrook	PhD (Biomedical)	Summer 2022-	Dissertation Committee
				Member
24	Ana Valentin	PhD (Biomedical)	Summer 2022-	Dissertation Committee

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				Member
23	Jonathan Cobos- Solis	MS (Biomedical)	Spring 2021-Fall 2022	Thesis Committee Member
22	Luis Guardia	MS (Biomedical)	Spring 2021- Discontinued	Thesis Committee Member
21	Mariacarla Gonzalez	PhD (Biomedical)	Fall 2019 -Spring 2022	Dissertation Committee Member
20	Leon Dawson	MS (Biomedical)	Spring 2017 – Spring 2019	Thesis Committee Member
19	Teshaun Francis	Ph.D. (Biomedical)	Spring 2016 -	Dissertation Committee Member
18	Mohammad Soltani	Ph.D. (Biomedical)	Discontinued	Dissertation Committee Member
17	Omkar Mankame	MS (Biomedical)	Spring 2016 – Spring 2018	Thesis Committee Member
16	Joseph Chue-Sang	Ph.D. (Biomedical)	Fall 2015 – Summer 2019	Dissertation Committee Member
15	Susan Stoff	Ph.D. (Biomedical)	Discontinued	Dissertation Committee Member
14	Yinchen Song	Ph.D. (Biomedical)	Fall 2014	Dissertation Committee Member
13	Jaimit Parikh	Ph.D. (Biomedical)	Fall 2014	Dissertation Committee Member
12	Chang Liu	Ph.D. (Biomedical)	Spring 2013	Dissertation Committee Member
11	Catalina Martinez	MS (Biomedical)	Fall 2011	Thesis Committee Member
10	Sridevi Nagaraja	Ph.D. (Biomedical)	Fall 2011	Dissertation Committee Member
9	Shradha Prabulkar	Ph.D. (Biomedical)	Summer 2011	Dissertation Committee Member
8	Yuan Tang	Ph.D. (Biomedical)	Summer 2010	Dissertation Committee Member
7	Vinayak Joshi	MS (Biomedical)	Spring 2008	Thesis Committee Member
6	Misael del Valle	MS (Biomedical)	Spring 2008	Thesis Committee Member
5	Yalin Ti	MS (Biomedical)	Spring 2008	Thesis Committee Member
4	Rozita Fallahinejad	MS (Biomedical)	Spring 2006	Thesis Committee Member
3	Rohit Chawla	MS (Biomedical)	Fall 2005	Thesis Committee Member
2	David Isaza	MS (Biomedical)	Summer/Fall 2005	Thesis Committee Member
1	Sarel Gilet	MS (Biomedical)	Fall 2005	Thesis Committee Member

PS: Italicized font indicates student has completed thesis/dissertation

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G. <u>Undergraduate Senior Design Project Faculty Advisor (Total: 15 teams, 12 teams since 2010)</u>

Team	Names	Period	Senior Design Project
15.	Nathaniel Alexander, Megan Boge, Rene Elvir, Catalina Zambrano, Sydney Zamorano	Spring 2022	Manufacturing process of a SCOBY Bio-Thread (2 nd place poster presentation)
14.	Isaac Ghobrial, Luis Miguel Ruiz, Andres Rodriguez, Diana Vance	Spring 2020	Thermal breast phantom
13.	Giselle Valdes, Josue Uribe, Ramiro Sanchez, Daniel Muniz	Spring 2019	System for registering and tracking bone movement
12.	Nicole Sevilla, Daniel Wilding, Nidhi Suthar, Jean Marc Augustin	Spring 2018	TinyOx. A wearable, low profile muscle oximetry monitor for morbidly obese individuals
11.	Caitlyn Myland, Justin Franco, Michael Mei, Aileen Anaya	Fall 2016- Spring 2017	UV Imaging System for NuTech Slides
10.	Somafa Bailey, Kevin Leiva, Andres Lopez, Carolina Moncion, Jonathan Rolon	Fall 2015- Spring 2016	Synchronized EEG-NIRS recording device for analysis of neurovascular coupling
9.	Celine Wassaf, Gabrielle Estevez-Iona, LaTerika Kelly, Isis Machado	Fall 2015 – Spring 2016	Optimizing a peristaltic pump for drug mixing
8.	Arman Hajjar, Matthew Quinto, Santiago Vanegas, Stewd Stephen	Spring 2015 – Fall 2015	Oxy-Synth: Chemically induced emergency oxygen generator (2 nd Place in Presentation)
7.	Stephanie Gonzalez, Kevin Maestre, Brandon Cardenas, William Noundou	Spring 2015	Versatile near-infrared optical scanner
6.	Astrid Rodriguez, Hanna Robla, Michael Sours, Carlos Garcia	Fall 2014- Spring	Air removal from a liquid drug injection system (1st place in presentation)

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		2015	
5.	Ana Pena, Karen de la Pena, David Llana, Rodrigo Ferreira	Fall 2010- Spring 2011	Optical brain imaging cap for children
4.	Rigoberto Roche, Amelia Lee, Pedro Montes, Sheidyn Ng	Fall 2010- Spring 2011	3D optical tracking system
3.	Konstantinos Sebekos, Maurice Hopwood, Manuel Romero, Elie Victor	Fall 2009 – Spring 2010	Catheter Rotational Positioning System (RotoCath)
2.	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
1.	Steven Regalado, Vivian Sueiras, Thu Nguyen	Spring 2007- Summer 2007	Developing standardized models for TiO ₂ /Polyurethane Optical Phantoms (Method Implemented by IDSI IncSponsor)

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. Optical Imaging Laboratory: 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 essential optical components for optics-based research, some of which include an 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. Spectrofluoroscopy Laboratory: A spectrofluoroscopy laboratory (~100 sq. ft.) has been established in Fall 2005 in the Engineering Center (EC 2362). The laboratory is equipped with a frequency-domain based spectrofluorometer for fluorescence lifetime studies. In Spring 2009, Imaging Diagnostic Systems Inc. (IDSI, Fort Lauderdale) 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. Optical Imaging Laboratory at MCH: An optical imaging laboratory has been established in the Brain Institute at Miami Children's Hospital (Room 3026, Ambulatory Care Building).

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MCH has invested \$ 120K in purchasing the optical imaging instrument (Imagent Inc.) for functional brain mapping studies using optical tools. This laboratory led to external funding of \sim \$138K towards brain research.

- 4. <u>Brain Imaging Laboratory (EC 3365)</u>: A functional brain imaging laboratory employing optical imaging tools was established in Fall 2010 for autism and cerebral palsy related brain research.
- 5. <u>Clinical Imaging Laboratory (EC 3130)</u>: Established in Oct 2010 towards clinical breast imaging studies using optical techniques on normal and breast cancer subjects and currently used for all in-vivo clinical imaging studies across various applications.

SERVICE (Professional)

- Associate Editor, Frontiers in Neuroscience Brain Imaging Methods, Sept 2022-onwards
- Program Committee Member and Session Presider, Optica (OSA) Biomed Photonics Congress 2022 on "Clinical and Translational Biophotonics" April 24-27, 2022
- Guest Editor on Special Issue, "— Special Issue "Smartphone, Wearable, or Hand-Held Diagnostic Bioimaging Sensors/Devices" BioSensors, MDPI, April 2020-May 2021
- 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 the 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)

REVIEWER ACTIVITIES

A. Research Proposals and Grants

- NIH P54 Review Panel (Virtual), Nov 2021
- NIH SBIR/STTR Review Panel, Aug 2021
- NIH F31/F30/F32 Review Panel (Virtual), 16th Mar 2021
- DBT Wellcome Grant, India Alliance Grant Reviewer, Aug 2019
- Ph.D. 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).

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- 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 the Italian Ministry of Health in association with National Institutes of Health (NIH), Sept 2009.
- Got an invitation from the Department of Defense to review the Synergistic Idea Award, submitted to the Congressional Directed Medical Research Program Breast Cancer program. I could not attend due to a 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. Bio-Algorithms and Med-Systems
- 8. BMC Psychology
- 9. Clinico Eco Outcome Research
- 10. Cortex
- 11. Cytometry
- 12. Frontiers in Human Neuroscience
- 13. Frontiers Neuroscience
- 14. IEEE Access
- 15. IEEE Journal of Selected Topics in Quantum Electronics
- 16. IEEE Technology Letters
- 17. IEEE Transactions on Circuits and Systems
- 18. IEEE Transactions on Medical Imaging
- 19. IEEE Journal of Biomedical and Health Informatics
- 20. International Journal of Computational Engineering Science
- 21. Journal of Cancer
- 22. Journal of Biomedical Optics
- 23. Journal of Biophotonics
- 24. Journal of Diabetes, Science, and Technology
- 25. Journal of Healthcare Engineering
- 26. Journal of Medical Devices
- 27. Journal of Optical Society of America A
- 28. Journal of Physiological Anthropology

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- 29. Medical Case Reports
- 30. Medical Physics
- 31. Methods and Applications
- 32. Neuroscience Letters
- 33. Optics Express
- 34. Optics Letters
- **35. PLOS**
- 36. Photonics Technology Letters
- 37. Physics in Medicine and Biology
- 38. Proceedings of National Academy of Science USA
- 39. Scientific Reports
- 40. Sensors
- 41. Technology in Cancer Research and Treatment
- 42. Wound Repair and Regeneration

PROFESSIONAL ADMINISTRATIVE EXPERIENCE

Department Level (Biomedical Engineering, FIU)

- BME Undergraduate Program Director, Summer 2016-Fall 2022 (BSBME ABET accreditation lead, 2021-2022)
- 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-Spring 2021
- Dean Transition Committee, Spring 2017-Spring 2019
- 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).

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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- onwards
- 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.

RESEARCH COLLABORATORS (2010-present)

Dr. Godavarty has established active research collaboration at *multiple* levels: *national* (other universities, industry, and clinic/hospitals), and *within FIU*. The FIU collaborations also exist at multiple levels, i.e., within the department, college, and outside the college. These collaborations have resulted in creative research productivity in publications and/or research grants *(s)*.

A.US Universities

- Dr. Robert S. Kirsner (Chair of Dermatology), University of Miami
- Dr. Daniel Messinger (Psychology) of the University of Miami

B. FIU

- Dr. Ananda Mondal (School of Computing and Information Sciences, College of Engineering & Computing)
- Dr. Joshua Hutcheson (Biomedical Engineering, College of Engineering & Computing)
- Dr. Charles Buscemi (College of Nursing)
- Dr. Wensong Wu (Mathematics and Statistics)
- Dr. Leonard Elbaum (Physical Therapy, College of Health & Urban Affairs)
- Dr. Martha Bloyer (Physical Therapy, College of Health & Urban Affairs)
- Dr. Anibal Gutierrez (Psychology)
- Dr. Ruogu Fang (Computer Science)

C. Clinic/Hospitals

- Dr. Michael Chuong (Radiation Oncologist), Miami Cancer Institute, Miami
- Dr. Noah Kalman (Radiation Oncologist), Miami Cancer Institute, Miami
- Dr. Joseph Panoff (Radiation Oncologist), Miami Cancer Institute, Miami
- Dr. Francisco Perez-Clavijo (Podiatric Partners), Podiatry Care Partners, Miami
- Dr. Steven Wigley, Wigley Foot and Ankle Care, Miami
- Dr. Ernesto Pretto (Chief, Anaesthesiology and Transplant Organs) Univ of Miami, Miami
- Dr. Richard Kiszonas (Radiologist) at Sylvester Comprehensive Cancer Center of the University of Miami.
- Dr. Cristina Lopez-Penalver (Breast Surgeon) at Baptist Hospital, Miami
- Dr. Gustavo Rey (Neuropsychologist) of Miami Children's Hospital, Miami

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D. INTERNATIONAL COLLABORATORS

- Dr. V. Mohan (Diabetologist) Dr. Mohan's Diabetes Specialties Center & Madras Diabetes Research Foundation, Chennai, India
- Dr. Ramnarayan (Surgeon), Dr. . Mohan's Diabetes Specialties Center & Madras Diabetes Research Foundation, Chennai, India
- Dr. Anjana Ranjit Mohan (Diabetologist), Dr. Mohan's Diabetes Specialties Center, Chennai, India
- Dr. Shanthirani (Epidemologist), Dr. Mohan's Diabetes Specialties Center, Chennai, India
- Dr. P.N. Someshwara Rao (Podiatric Surgeon) Chennai, India
- Dr. V. Muthukrishnan (Diabetologist) Dr. Mohan's Diabetes Specialties Center, Chennai, India
- Dr. S. Narayanan (Podiatric Surgeon, Dr. Mohan's Diabetes Specialties Center) Chennai, India

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