

Chrysanthe Preza

Contact Information

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Education

Washington University in St. Louis, St. Louis, MO:

- Doctor of Science in Electrical Engineering, August 1998. Dissertation title: “Phase Estimation Using Rotational Diversity for Differential Interference Contrast Microscopy.” Advisor: Donald L. Snyder (former Director of Electronic Signals and Systems Research Laboratory, Washington University in St. Louis; deceased).
- Master of Science in Computer Science, August 1991. Focus on artificial intelligence, digital image processing, computer systems organization, and formal concepts in computer science.
- Master of Science in Electrical Engineering, August 1990. Thesis title: “A Regularized Linear-Reconstruction Method for Optical Sectioning Microscopy.” Advisor: Michael I. Miller (Director of Biomedical Engineering at Johns Hopkins University).
- Bachelor of Science in Computer Science, cum laude, May 1987.
- Bachelor of Science in Electrical Engineering, cum laude, May 1987.

Professional Experience

Conducting research in information-theoretic computational imaging applied to light microscopy and spectroscopy and teaching a variety of electrical and computer engineering courses. Extensive experience in developing physics-based imaging models and processing methods for real imaging applications and implementation and testing of the methods via software engineering. Development and evaluation of optical systems and computational methods using the computational optical sensing and imaging (COSI) paradigm for different applications. Projects include: a) three-dimensional computational imaging microscopy for two different modalities: fluorescence, and phase imaging using computational differential interference contrast (DIC); b) instrument development of an adaptive multimodal microscope system suitable for high-resolution thick sample imaging; c) development of a novel structured-illumination module integrated with computational methods for super resolution microscopy with reduced data; d) development of physics-guided neural networks for computational imaging; and e) development of improved unmixing methods for hyperspectral imaging. Founder and principal investigator of the Computational Imaging Research Laboratory. Research advisor and mentor to several post-docs, graduate (PhD and MS) and undergraduate students training in computational imaging. Instructor of a variety of electrical and computer engineering undergraduate and graduate courses. Developer of undergraduate courses for undergraduate research and graduate courses in Fourier Optics, Fourier Methods in Imaging, Computational Optical Imaging, Image Processing, and Computational Methods for Inverse Problems in Imaging and of a required graduate course in Professional Development and Research Methods. Founding Director of the University of Memphis Vertically Integrated Projects Program for undergraduate research in the Herff College of Engineering, the first one to be implemented in the state of Tennessee, since fall 2022.

During my sabbatical at the University of Valencia in Spain (Aug. 29 – Oct. 28, 2025), I received hands on experience on the implementation of our novel microscope system (for which I hold a patent with my collaborators Drs. G. Saavedra and M. Martinez-Coral in the Department of Optics at the University of Valencia) on an optical table, collected and analyzed data to assess the performance of the system, and solidified new ideas for further instrument development. I provided mentoring and training on computational imaging to their graduate students who are pursuing PhD degrees in the Dept. of Optics. I spent the last weeks of my sabbatical (Nov. 4 – Dec. 12, 2025) at the Electrical and Systems Engineering Dept. at Washington University in St. Louis, where I explored imaging models in the presence of scattering effects with my collaborator Dr. J. A. O’Sullivan, discussed new image restoration methods with Dr. U. Kamilov’s group, met new faculty and learned about their research for possible new collaborations, collected data from various super-resolution microscopes at the Washington University Cellular Imaging Center, and presented a seminar at the Electrical and Systems Engineering Dept. seminar series.

Summary of Appointments

2017 – Present	Professor , Dept. of Electrical and Computer Engineering (primary) and Dept. of Biomedical Engineering, The University of Memphis.
2017 – 2025	Professor and Chair , The University of Memphis, Dept. of Electrical and Computer Engineering
2010 – 2017	Associate Professor , The University of Memphis, Dept. of Electrical and Computer Engineering (primary) and Dept. of Biomedical Engineering
2006 – 2010	Assistant Professor , The University of Memphis, Dept. of Electrical and Computer Engineering (primary) and Dept. of Biomedical Engineering
2006 – Present	Adjunct Faculty , The University of Tennessee Health Science Center, Orthopedic Surgery and Biomedical Engineering
2000 - 2006	Research Associate , Washington University, Electronic Signals and Systems Research Laboratory, Dept. of Elect. and System Engineering
2000 - 2006	Instructor , Washington University, Dept. of Electrical and System Engineering
2003 - 2004	Visiting Assistant Professor , University of Cyprus, Dept. of Electrical and Computer Engineering
1998 - 2000	Research Associate , Washington University, Institute for Biomedical Computing (IBC)
1987 - 1998	Research Assistant , Washington University, IBC

External Research Support to date exceeds \$11M

- **External funding from the NSF for which I am the principal investigator (PI) to date totals: \$ 2,706,215.**
 1. Title: “*REU Site: Artificial Intelligence in Multidisciplinary Engineering Research for Guided Exploration (AI-MERGE)*”, PI: C. Preza; co-PI: S. S. Ivey. NSF-IUSE, 10/01/2026-09/30/2029; Funds: **\$ 478,511**
The goal of this project is to prepare undergraduate students for the engineering workforce, graduate education, and research careers through AI-enabled, multidisciplinary research experiences. The project integrates the Vertically Integrated Projects (VIP) framework, tiered mentoring, and professional development to provide training in artificial intelligence and computational methods. By expanding access to high-impact undergraduate research, particularly for students from institutions with limited research opportunities, the project strengthens the future engineering workforce and advances AI-driven innovation.
 2. Title: “*Understanding the Role of Undergraduate Research and Mentoring in the Self-Efficacy, Identity, and Success of Engineering Undergraduate Students*”, PI: C. Preza; co-PIs: S. S. Ivey and C. O. Steward. NSF-IUSE, 10/01/2021-09/30/2025; Funds: **\$ 299,998**
The goal of this project was to adapt and develop a modified Vertically Integrated Projects (VIP) program in the school of Engineering at the University of Memphis to engage students at all academic years in team-based faculty-led interdisciplinary research for credit. In addition to research, the VIP program provided initiatives that promoted STEM skill development, diversity and inclusion. Results contributed to knowledge about STEM identity and self-efficacy gained from research experience and tiered mentoring and the impact of an inclusive culture on engineering student retention.
 3. Title: “*IDBR TYPE A - Improving 3D resolution and reducing sensitivity to spherical aberration in live, thick sample cellular imaging using novel methods in optical sectioning microscopy*”, PI: C. Preza; co-PI: O. Skalli, Univ. of Memphis; Collaborators: G. Saavedra and M. Martinez-Coral, Univ. of Valencia, Spain; C. Waters, Univ. of Tennessee Health Science Center (UTHSC). NSF, 09/01/14 - 08/31/19; Funds: **\$ 750,096**
The goal of this project was to develop a robust and flexible computational optical system with improved 3D resolution and reduced sensitivity to depth-induced aberrations that will greatly extend the capabilities of optical-sectioning microscopy for use in a wide range of biological applications.
 4. Title: “*CAREER: Integrated computational optical framework for quantitative space-variant imaging in live-cell fluorescence microscopy*”, PI: Chrysanthe Preza, Collaborators: C. Waters, Univ. of Tennessee Health Science Center, O. Skalli, Univ. of Memphis. NSF; 03/01/09 - 2/28/15; Funds: **\$ 791,402**
The goal of this project was to develop new computational methods to account for aberrations due to “thick” biological specimens. The methods developed were integrated with a novel optical non-scanning imaging system designed to enable fast live-cell fluorescence microscopy imaging with high, isotropic 3D resolution.
 5. Title: “*Collaborative Research: Multimode adaptive 3D microscopy for quantitative analysis of live-cellular dynamic processes in thick samples*”, PI: C. Preza, PI at University of Colorado at Boulder (leading institution): R. Piestun. Collaborators: C. Waters, UTHSC, R. Fischer NBHL, NSF, 06/01/09 - 05/31/13; Funds: **\$168,952**
The goal of this project was to investigate, develop, and evaluate a multi-modal microscope with greatly enhanced

three-dimensional resolution to enable visualization and measurement of live-cellular dynamic processes in thick samples that might otherwise go undetected.

6. Title: “Collaborative Research: Quantitative DIC Microscope for Measuring 3-Dimensional Cell Attributes”, PI: Chrysanthé Preza; PI at University of Colorado Boulder, C. Cogswell. NSF; 09/01/05 –08/31/09; Funds: **\$ 217,256**
Goal: This project developed an integrated optical and digital system that greatly extends the capabilities of differential interference contrast (DIC) microscopy for use in a wide range of biological applications.

- **External funding from the NSF for which I am co-principal investigator (co-PI) to date totals: \$ 1,115,997.**

1. Title: “MRI: Track 2 Acquisition of a High-Performance Computing Cluster for Fostering Interdisciplinary Collaboration on AI-driven and Data-intensive Research and Education in West Tennessee”. PI: X. Huang; Co-PIs: **C. Preza**, D. McKenna, V. Rus, and S. Kumar. NSF; 10/01/2023-09/30/2026, Funds: **\$ 1,115,997**

- **External funding from the ARL, ARO and DoD for which I am co-PI to date totals: \$ 7,431,986.**

1. Title: “MUAS ISR System Research and Development,” PI: E. L. Jacobs; Co-PIs: **C. Preza**, L. Wang, A. Robinson. US Army Research Laboratory (ARL); 2024-2026, Funds: **\$3,418,976**
2. Title: “Multi-UAS Multi-Sensor Intelligence, Surveillance, and Reconnaissance (ISR)- System Expansion,” PI: E. L. Jacobs; Co-PIs: **C. Preza**, L. Wang, A. Robinson. US Army Research Office (ARO); 2023-2025, Funds: **\$1,121,937**
3. Title: “Multi-UAS Multi-Sensor Intelligence, Surveillance, and Reconnaissance (ISR),” PI: E. L. Jacobs; Co-PIs: **C. Preza**, L. Wang, A. Robinson. US Army Research Office (ARO); 2021-2023, Funds: **\$2,707,363**
4. Title: “Compact Multiple UAV/Multiple Sensor System,” PI: E. L. Jacobs; Co-PI **C. Preza**, DoD DURIP; 2021-2022, Funds: **\$ 183,710**

Academic Honors

- Herff Outstanding Faculty Service Award, Herff College of Eng., the Univ. of Memphis, 2026.
- Elected Full Member of the Sigma Xi Scientific Research Honor Society, 2024.
- Elected Fellow of Optica - former the Optical Society of America (OSA) professional society, for outstanding and sustained research contributions in the field of computational imaging applied to microscopy, 2020.
- Elected Fellow of the SPIE professional society, 2019.
- Recipient of the Ravi and Eleanor Kanuri Professorship, The University of Memphis, 2018 – 2025.
- Recipient of the Ralph Faudree Professorship, The University of Memphis, 2015-2017.
- Herff Outstanding Faculty Research Award, Herff College of Eng., the Univ. of Memphis, 2010 & 2015.
- University of Memphis PI Millionaire, 2014.
- NSF CAREER Award, 2009.
- Ring Faculty Award, Herff College of Engineering, 2011-2013.
- Featured in the ECEDHA newsletter *Source*, January 2019.
- Featured in the OSA’s 2017 Women in Optics Monthly Planner
- Minorities and Women in Science Interview Series, OSA, April 2012.
- Best Poster Award, *Memphis BioImaging Symposium*, 2009.
- Journal of the Optical Society of America Publications Award, July 1999.
- B.S.E.E. cum laude, B.S.C.S. cum laude, 1987.
- Tau Beta Pi and Eta Kappa Nu, Engineering Honor Societies, 1986.
- Undergraduate Studies Scholarship, the Cyprus-America Scholarship Program (CASP) of the Cyprus Fulbright Commission, providing full tuition at Washington University in St. Louis and monthly stipend, 1983-1987.

Professional Service Activities

- Faculty Senator, representative for the Dept. of Electrical and Computer Engineering at the University of Memphis, 2026-present.
- Discussion Leader, Artificial Intelligence and Image Science, *Gordon Research Conference (GRC) on Image Science*, Advanced Technologies and Computational Methods in Imaging Across Scales and Modalities, April 26 - May 1, Lucca, Italy, 2026.
- Co-Chair (2023-2025) and Program Committee Member, *Imaging Systems*, part of the Optica, *Imaging and Applied Optics Congress*, 2023-present.
- Editorial Board Member for *Journal of Imaging*, *Computational Imaging* and *Computational Photography* section, 2023 – present.
- Executive Editor for *Biological Imaging*, *Cambridge University Press*, 2020 – 2024.

- Associate Editor for *IEEE Transactions on Computational Imaging (TCI)*, 2018 – 2023.
- Topical Editor for Optica/OSA's *Applied Optics*, 2016 – 2022.
- Feature Editor, feature issue on “Artificial Intelligence/Machine Learning in Optical Information Processing” in *Applied Optics*, 2021-2022.
- Lead Guest Editor, feature issue on “Modern Imaging” in *Applied Optics*, 2016-2017.
- Member, *External Advisory Board* of the Electrical and Systems Engineering Department, Washington University, St. Louis, 2020 – present.
- External Evaluator of a large research team at the INRIA-National Research Institute in Applied Mathematics and Computer Science in France, 2022.
- Co-Chair (2020-present) and Program Committee Member, *Computational Imaging*, SPIE Defense and Commercial Sensing (DCS), Commercial and Scientific Sensing and Imaging, 2017 – 2024.
- Co-Chair (2015 and 2016) and Program Committee Member, *Computational Optical Sensing and Imaging*, part of the Optica/OSA, Imaging and Applied Optics Congress, 2011, 2014 – 2017, 2022-2024.
- Co-Chair, *Data Analysis Program Subcommittee, Quantitative BioImaging*, Cambridge, UK, Jan. 6-9, 2020.
- Co-Chair, *Workshop on Computational Optical Imaging*, at the *2020 IEEE International Symposium on Biomedical Imaging (ISBI 2020)* Iowa City, Iowa, April 3-7, 2020.
- External Reviewer for promotion case of Research Scientist at the Marine Biological Laboratory, Woods Hole, MA, 2021.
- Inclusivity Committee Member, *Focus on Microscopy International Conference*, 2022-2025.
- Invited Participant, *NSF Workshop on Enabling Biological Discovery Through Innovations in Imaging and Computation*, Marine Biological Laboratory, Woods Hole, MA, Nov. 26-28, 2018.
- Instructor, Tutorial on “Digital Imaging Principles”, *Optical Microscopy and Imaging in Biomedical Sciences Course* at the Marine Biological Laboratory, Woods Hole, MA, 2016 & 2017.
- Discussion Leader, *Gordon Research Conference (GRC) on Image Science*, June 17 -22, Stonehill College in Easton, MA, 2018.
- Program Committee Member, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing*, BIOS, SPIE Photonics West, 2003, 2008, 2010– present
- Invited Participant, *IEEE Engineering in Medicine and Biology Society (EMBS) Forum on Grand Challenges in Biomedical Imaging*, March 1-2, Bethesda, Maryland, 2012.
- Program Committee Member, *IEEE International Conference of Electro/Information Technology*, IUPUI, Indianapolis, May 6-8, 2012.
- Invited Participant, *Workshop on Computationally Enhanced Optical Imaging*, Northeastern University, Boston, MA, Aug. 30, 2011.
- Invited Lecturer on *Computational Imaging, I-CAMP 2011 School*, Argentina-Uruguay, May 28-June 17, 2011.
- Conference Session Chair, *Medical Image Processing I*, Digital Image Processing and Analysis (DIPA), OSA Imaging and Applied Optics Congress, Tucson, Arizona, 2010.
- Program Committee Member, *International Conference on Computational Photography (ICCP)*, IEEE, 2010.
- Conference Session Chair, *Confocal, Multiphoton, and Nonlinear Microscopic Imaging*, European Conferences on Biomedical Optics, OSA and SPIE, Munich, 2007.
- Scientific and Organizing Committee Member, *Memphis BioImaging Symposium (MemBIS)*, 2007 – 2013; Conference Co-Chair, 2011-2013; Scientific Program Chair, 2010; Pre-conference Workshop Chair, 2009; Student Program Co-Chair, 2008.
- Participant, *National Effective Teaching Institute (NETI-1B)*, Tampa, FL, January 4-6, 2013 and (NETI-1), Sand Diego, CA, January 5-7, 2025.
- Invited Participant, *NSF ADVANCE Community Building Workshop for Junior Women Faculty in Engineering*, Virginia Beach, VA, July 21 – 24, 2009.
- Scientific Reviewer/Participation in Proposal Review Panels for the following:
Journal of the Optical Society of America, Applied Optics, Optics Express; IEEE Transactions on Image Processing; Journal of Microscopy; Central European Journal of Physics; IEEE International Symposium on Biomedical Imaging, 2011, 2012; *NSF Proposals in Infrastructure Innovation for Biological Research* 2019; *NSF Proposals in Instrument Development for Biological Research* 2014, 2015; *NSF Proposals in Advances in Bio Informatics* 2010; *NIH Proposals in Enabling Bioanalytical & Imaging Technologies* 2011, 2013.

Professional Affiliations (Current and Past)

- Fellow, International Society for Optical Engineering (SPIE)
- Fellow, Optica (former Optical Society of America - OSA)

- Member, Sigma Xi Scientific Research Honor Society
- Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, IEEE Women in Engineering
- Member, The Society of Women Engineers (SWE)
- Member, American Society for Engineering Education (ASEE)
- Member, Electrical and Computer Engineering Department Heads Association (ECEDHA)
- Member, Microscopical Society of America

Patent

Preza, C., Doblas, A., Martínez-Corral, M., Saavedra-Tortosa, G., and Barreiro, J. C., “Multi-focal light-sheet structured illumination fluorescence microscopy system,” US Provisional Patent No. 62/527,232 (2017), US Patent No. 11,287,627, (2022), US Patent (11,947,098), issued 2024.

Publications

Invited Book Chapter

Preza, C., King, S. V., Dragomir, N. M., Cogswell, C. J., “Phase Imaging Microscopy – Beyond Darkfield, Phase and Differential Interference Contrast (DIC) Microscopy,” in *Handbook of Biomedical Optics*, Boas, D. A., Pitris C., and Ramanujam, N., eds., Taylor and Francis Books, 2011.

Journal Publications

1. Atibi, A., Alqahtani, A and **Preza, C.**, “Enhanced 2D Image Reconstruction for 3D Structured Illumination Microscopy using the Plug-and-Play Priors Framework,” *Optics Express*, accepted, in print, June 2026.
2. Layazali, S. and **Preza, C.**, “Joint Hyperspectral Image Deconvolution and Unmixing via Plug-and-Play Priors,” *Remote Sens.*, **18** (13), June 2026.
3. Stewart, C., **Preza, C.**, and Ivey, S., “Vertically Integrated Projects, STEM Identity, and Self-Perceived Competence,” *Scholarship and Practice of Undergraduate Research (SPUR)*, **8** (3), doi: [10.18833/spur/8/3/7](https://doi.org/10.18833/spur/8/3/7), 2025.
4. Adaway, D. and **Preza, C.**, “Comparison of two three-dimensional imaging approaches used in fluorescence microscopy,” *QuaesitUM*, **12**(1), 10, 2025. (received best paper award)
5. Dabbs, G. and **Preza, C.**, “Noise analysis for hyperspectral unmixing,” *QuaesitUM*, **12**(1), 12, 2025.
6. Hossain, M., Younis, M., Robinson, A. L., Wang, L., **Preza, C.**, “Greedy Ensemble Hyperspectral Anomaly Detection,” *Journal of Imaging*, **10**(6), [10.3390/jimaging10060131](https://doi.org/10.3390/jimaging10060131), 2024.
7. Gimeno-Gomez, A., Dajkshosh, S. P., Van, C. T. S., Barreiro-Hervas, J. C., **Preza, C.** and Saavedra, G., “Management of the axial modulation of the illumination pattern in structured illumination microscopy using an extended illumination source,” *Optics Express*, **31**(22), 2023.
8. Adaway, D. J., Magu, B. W., Walton, B. N., Kebede, B. E., **Preza, C.**, “Exploring 3D Structured Illumination Microscopy Images using the ImageJ Software,” *Quaesitum*, **10**, 2023.
9. Iftekharruddin, K., **Preza, C.**, Awwal, A. A. S. and Zelinski, M. E., “Artificial Intelligence and Machine Learning in Optical Information Processing: introduction to the feature issue,” *Appl. Opt.* **61**, AIML1-AIML1, 2022.
10. Van, C. T. S., and **Preza, C.**, “Improved resolution in 3D structured illumination microscopy using 3D model-based restoration with positivity-constraint”, *Biomedical Optics Express*, **12**(12), doi.org/10.1364/BOE.442066, 2021.
11. Rahman, M.J., Morshed, B.I., **Preza, C.**, “A Smart Health (sHealth)-Centric Method toward Estimation of Sleep Deficiency Severity from Wearable Sensor Data Fusion,” *BioMedInformatics*, **1**, 106-126, 2021.
12. Shabani, H., Doblas, A., Saavedra, G. and **Preza, C.**, “Optical transfer function engineering for a tunable 3D structured illumination microscope,” *Optics Letters*, **44**(7), 1560-1563, 2019.
13. Doblas, A., Bedoya, S., and **Preza, C.**, “Wollaston prism-based structured illumination microscope with tunable-frequency,” *Applied Optics*, **58**(7), B1-B8, 2019.
14. Doblas, A., Shabani, H., Saavedra, G. and **Preza, C.**, “Tunable-frequency three-dimensional structured illumination microscopy with reduced data acquisition,” *Optics Express*, **26**(23), 30476-30491, 2018.
15. King, S. V., Yuan, S. and **Preza, C.**, “Performance evaluation of extended depth of field microscopy in the presence of spherical aberration and noise”, *J. Biomed. Opt.*, **23**(3), 036016, 2018.
16. Patwary, N., Doblas, A., and **Preza, C.**, “Image restoration approach to address reduced modulation contrast in structured illumination microscopy,” *Biomed. Opt. Express* **9**(4), 1630-1647, 2018.
17. Shabani, H., Doblas, A., Saavedra, G., **Preza, C.**, “Improvement of two-dimensional structured illumination microscopy with an incoherent illumination pattern of tunable frequency,” *Applied Optics*, **57**(7), B92-B101, 2018.
18. Patwary, N., Shabani, H., Doblas, A., Saavedra, G., and **Preza, C.**, “Experimental validation of a customized phase mask designed to enable efficient computational optical sectioning microscopy through wavefront encoding,” *Applied Optics, Modern Imaging feature*, **56**(9), D14-D23, doi: [10.1364/AO.56.000D14](https://doi.org/10.1364/AO.56.000D14), 2017.
19. Patwary, N., King, S. V., Saavedra, G., and **Preza, C.**, Reducing effects of aberration in 3D fluorescence imaging using

- wavefront coding with a radially symmetric phase mask”, *Optics Express*, 24(12), 12905-12921, doi: [10.1364/OE.24.012905](https://doi.org/10.1364/OE.24.012905), 2016.
20. Ghosh, S. and Preza, C., “Three-Dimensional Block-Based Restoration Integrated with Wide-field Fluorescence Microscopy for the Investigation of Thick Specimens with Spatially Variant Refractive Index,” *J. Biomed. Opt.*, 21(4), 046010, doi: [10.1117/1.JBO.21.4.046010](https://doi.org/10.1117/1.JBO.21.4.046010), 2016.
 21. King, S. V., Doblas, A., Patwary, N., Saavedra, G., Martinez-Corral, M. and **Preza, C.**, “Spatial light modulator phase mask implementation of wavefront encoded 3D computational-optical microscopy”, *Applied Optics*, 54(29), 8587-8595, doi: [10.1364/AO.54.008587](https://doi.org/10.1364/AO.54.008587), 2015.
 22. Patwary, N., and **Preza, C.**, “Image restoration for three-dimensional fluorescence microscopy using an orthonormal basis for efficient representation of depth-variant point-spread functions”, *Biomed. Opt. Express* 6(10), 3826-3841, doi: [10.1364/BOE.6.003826](https://doi.org/10.1364/BOE.6.003826), 2015.
 23. Ghosh, S. and **Preza, C.**, “Fluorescence microscopy point spread function model accounting for aberrations due to refractive index variability within a specimen,” *J. Biomed. Opt.*, 20(7), 075003, doi: [10.1117/1.JBO.20.7.075003](https://doi.org/10.1117/1.JBO.20.7.075003), 2015.
 24. Ghosh, S. and **Preza, C.**, “Characterization of a 3D DH-PSF for fluorescence microscopy in the presence of spherical aberration,” *Journal of Biomedical Optics*, 18(3):036010, doi: [10.1117/1.JBO.18.3.036010](https://doi.org/10.1117/1.JBO.18.3.036010), 2013.
 25. Furxhi, O., Jacobs, E. L. and **Preza, C.**, “Image plane coded aperture for Terahertz imaging,” *Optical Engineering*, 51(9), doi: [10.1117/1.OE.51.9.091612](https://doi.org/10.1117/1.OE.51.9.091612), 091612-1, 2012.
 26. Yuan, S. and **Preza, C.**, “Point-spread function engineering to reduce the impact of spherical aberration on 3D computational fluorescence microscopy imaging,” *Optics Express*, 19(23), 23298-23314, doi: [10.1364/OE.19.023298](https://doi.org/10.1364/OE.19.023298), 2011.
 27. King, S. V., Libertun, A. R., Piestun, R., Cogswell, C. J., **Preza, C.**, “Quantitative phase microscopy through differential interference imaging,” *Journal of Biomedical Optics*, Vol. 13(2), 024020, doi: [10.1117/1.2907328](https://doi.org/10.1117/1.2907328), 2008.
 28. Fox, D. J. Jr., Tysver Velde, H., **Preza, C.**, O’Sullivan, J. A., Smith, W. H., and Woolsey, T. A., “Computational hyperspectral interferometry for studies of brain function: proof of concept,” *Applied Optics*, Vol. 45, No. 13, 3009-3021, doi: [10.1364/AO.45.003009](https://doi.org/10.1364/AO.45.003009), 2006.
 29. Preza, C. and Conchello, J.-A. “Depth-Variant Maximum-Likelihood Restoration for Three-Dimensional Fluorescence Microscopy,” *Journal of the Optical Society of America A*, Vol. 21, No. 9, 1593-1601, September, 2004.
 30. Fuhrmann, D. R., **Preza, C.**, O’Sullivan, J. A., Snyder, D. L., and Smith, W.H., “Spectrum Estimation from Quantum-Limited Interferograms,” *IEEE Transactions on Signal Processing*, 52(4), 950-961, April, 2004.
 31. Homem, M. R. P., Mascarenhas, N. D. A., Costa, L. F., and **Preza C.**, “Biological Image Restoration in Optical-Sectioning Microscopy Using Prototype Image Constraints,” *Real Time Imaging*, special issue on *Imaging in Bioinformatics*, 8(6), 475-490, 2002.
 32. Preza, C., “Rotational-diversity phase estimation from differential-interference-contrast microscopy images,” *Journal of the Optical Society of America A*, 17(3), 415-424, 2000.
 33. Preza, C., Snyder, D. L., and Conchello, J.-A. “Theoretical development and experimental evaluation of imaging models for differential-interference-contrast microscopy,” *Journal of the Optical Society of America A*, 16(9), 2185-2199, 1999.
 34. McNally, J. G., **Preza, C.**, Conchello, J.-A. and Thomas, Jr., L. J., “Artifacts in Computational Optical-Sectioning Microscopy,” *Journal of the Optical Society of America A*, 11(3):1056-1067, 1994.
 35. Preza, C., Ollinger, J. M., McNally, J. G., and Thomas, Jr., L. J., “Point-Spread Sensitivity Analysis for Computational Optical-Sectioning Microscopy,” *Micron and Microscopica Acta*, Special issue, 23(4):501-513, 1992. (Invited paper).
 36. Preza, C., Miller, M. I., Thomas, Jr., L. J., and McNally, J. G., “Regularized Linear Method for Reconstruction of Three-Dimensional Microscopic Objects from Optical Sections,” *Journal of the Optical Society of America A*, 9(2):219-228, 1992.

Journal Publications under Review/Revision/Preparation

1. Hossain, M., Robinson, A. L, **Preza, C.**, and Wang, L., “Hybrid Neural Ensembles for Robust Hyperspectral Anomaly Detection through Domain Adaptation and Generalization,” *under review, Sensors Special issue on Advanced Neural Architectures for Anomaly Detection in Sensory Data*, April 2026.
2. Park, J. H., Wickman, R., Yunis, O., Hyun, D., **Preza, C.**, and Herickhoff, C. D., “A Machine Learning Approach to Aid Abdominal Sound Speed Estimation,” *Ultrasonic Imaging*, *under revision*, 2026.

Peer-Reviewed Conference Publications

1. Stewart, C., **Preza, C.**, and Ivey, S., “Three Years of Lessons Learned from an NSF-IUSE Funded Vertically Integrated Projects (VIP) Program at University of Memphis,” *2026 ASEE Annual Conference*, 2026. - accepted
2. Atibi, A., Alqahtani, A., and **Preza, C.**, “Tunable 3D structured illumination microscopy (TSIM) system with fast single-slice processing,” in *Optica Imaging Congress 2024 (3D, AOMS, COSI, ISA, pcAOP)*, IW4D.4, <https://doi.org/10.1364/ISA.2025.IW4D.4>, 2025.

3. Hossain, M., Robinson, A. L., Wang, L., and **Preza, C.**, "Improving semantic segmentation through task adaptation for UAV hyperspectral agricultural imagery," Proc. SPIE 13475, *Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping X*, 1347507 <https://doi.org/10.1117/12.3053426>, 2025.
4. Stewart, C., **Preza, C.**, and Ivey, S., "Board # 306: Two Years of Lessons Learned from an NSF-IUSE Funded Vertically Integrated Projects (VIP) Program at University of Memphis," *2025 ASEE Annual Conference*, Montreal, Canada, 2025.
5. Atibi, A., Alqahtani, A., and **Preza, C.**, "Integration of the plug and play image reconstruction method with a novel tunable structured illumination microscope," in *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXXII*, SPIE Proc. Vol. 13325, 133250B <https://doi.org/10.1117/12.3042277>, 2025.
6. Park, J. H., Wickman, R., Yunis, O., Hyun, D., **Preza, C.**, and Herickhoff, C. D., "Abdominal sound speed estimation through machine learning," *2024 IEEE Ultrasonics, Ferroelectrics, and Frequency Control Joint Symposium (UFFC-JS 2024)*, Taipei, Taiwan, 2024, pp. 1-3, doi: 10.1109/UFFC-JS60046.2024.10794120, 2024.
7. Hossain, M., Robinson, A. L., Wang, L., **Preza, C.**, Investigation of unsupervised and supervised hyperspectral anomaly detection," Proc. SPIE 13138, *Applications of Machine Learning 2024*, 1313817, <https://doi.org/10.1117/12.3029916>, 2024.
8. Stewart, C., **Preza, C.**, and Ivey, S., "Board 357: Psychosocial and Skills-Based Outcomes of Participating in Vertically Integrated Projects (VIP)," *2024 ASEE Annual Conference*, Portland, Oregon, <https://strategy.asee.org/46940>, 2024.
9. Atibi, A., Alqahtani, A. and **Preza, C.**, "Image Reconstruction in Structured Illumination Microscopy Using The Plug-and-Play Methods," in *Optica Imaging Congress 2024 (3D, AOMS, COSI, ISA, pcAOP)*, Technical Digest Series (Optica Publishing Group, 2024), paper CTh5A.2, <https://doi.org/10.1364/COSI.2024.CTh5A.2>, 2024.
10. Atibi, A., Alqahtani, A. and **Preza, C.**, "Assessment of a Novel Tunable 3D Structured Illumination Microscopy (TSIM) System," in *Optica Imaging Congress 2024 (3D, AOMS, COSI, ISA, pcAOP)*, Technical Digest Series (Optica Publishing Group, 2024), paper IM3G.4, <https://opg.optica.org/abstract.cfm?URI=ISA-2024-IM3G.4>, 2024.
11. Atibi, A., Alqahtani, A., M. Younis and **Preza, C.**, "Impact of regularization on achieved resolution in 3D tunable structured illumination microscopy (TSIM)," *2024 IEEE International Symposium on Biomedical Imaging (ISBI)*, Athens, Greece, 2024, pp. 1-5, doi: 10.1109/ISBI56570.2024.10635764, 2024.
12. Kabede, B. and **Preza, C.**, "Improved resolution in 3D structured illumination microscopy using a 3D-based U-Net," in *Optica Imaging Congress (3D, COSI, DH, FLatOptics, IS, pcAOP)*, Technical Digest Series (Optica Publishing Group), paper ITu2E.3, 2023.
13. Dajkhosh, S. P., M. Hossain, and **Preza, C.**, "USR: Unrolled Super-Resolution with Deep Priors for Structured Illumination Microscopy," in *Optica Imaging Congress (3D, COSI, DH, FLatOptics, IS, pcAOP)*, Technical Digest Series (Optica Publishing Group), paper JTU4A.42, 2023.
14. **Preza, C.**, Ivey, S. and Stewart, C., "Board 314: Implementing the Vertically Integrated Projects (VIP) Model at a Public Urban Research University in the Southeastern United States," *2023 ASEE Annual Conference*, Baltimore, Maryland, 2023.
15. Van, C. T. S. and **Preza, C.**, "3D model-based restoration for structured illumination microscopy based on a 3D illumination pattern," *Imaging and Applied Optics Congress 2021, OSA Technical Digest (Optical Society of America, 2021)*, paper 3Th4D. 1, 2021.
16. Mohammed, J., Van, C. T. S., and **Preza, C.**, "Evaluation of different illumination designs for tunable 3D structured illumination microscopy through model-based restoration," Proc. SPIE 11649, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXVIII*, 116490M, <https://doi.org/10.1117/12.586217>, 2021.
17. Kessler, E., Braasch, L. G., Tollefsen, D., and **Preza, C.**, "Creation of an Inventory Assessing Epistemic Beliefs about the Co-Construction of Knowledge in Team Science Contexts, Proceedings of the 15th International Conference of the Learning Sciences-ICLS 2021.
18. Van, C. T. S., Shabani, H., and **Preza, C.**, "Experimental Verification of 3D Model-Based Restoration for 3D-SIM with Data Reduction," in *Imaging and Applied Optics 2020 (COSI)* of OSA Technical Digest Series (Optical Society of America, 2020), paper CF4C.3, 2020.
19. Van, C. T. S., Shabani, H., and **Preza, C.**, "Improved resolution in structured illumination microscopy with 3D model-based restoration," *Computational Optical Imaging workshop at the 2020 IEEE International Symposium on Biomedical Imaging (ISBI 2020)*, Iowa City, Iowa, April 3, 2020.
20. Shabani, H., Labouesse, S., Sentenac, A. and **Preza, C.**, "Three-dimensional deconvolution based on axial-scanning model for structured illumination microscopy," *2019 IEEE 16th International Symposium on Biomedical Imaging (ISBI 2019)*, Venice, Italy, pp. 552-555, 2019.
21. Doblas, A., Shabani, H., Saavedra, G., and **Preza, C.**, "Recent advances in tunable 3D structured illumination microscopy," *2018 20th International Conference on Transparent Optical Networks ICTON*, Bucharest, Romania, 2018, pp. 1-4, [doi: 10.1109/ICTON.2018.8473675](https://doi.org/10.1109/ICTON.2018.8473675).
22. Bedoya, S., Doblas, A., Saavedra, G., and **Preza, C.**, "Tunable structured illumination system based on a Wollaston prism," *Imaging and Applied Optics Congress 2018 (IS)*, OSA Technical Digest (Optical Society of America, 2018), paper ITu2B.3, 2018.
23. Sola-Pikabea, J., Doblas, A., Saavedra, G., Martinez-Corral, M., and **Preza, C.**, "Optimal design of incoherent tunable-frequency structured illumination microscope scheme," *2018 IEEE 15th International Symposium on Biomedical Imaging (ISBI 2018)*, [10.1109/ISBI.2018.8363613](https://doi.org/10.1109/ISBI.2018.8363613), 2018.
24. Doblas, A., Dutta, A., Saavedra, G. and **Preza, C.**, "Tradeoff between insensitivity to depth-induced spherical aberration and resolution of 3D fluorescence imaging due to the use of wavefront encoding with a radially symmetric phase mask," Proc. SPIE 10499, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXV*, 104990F, 2018.
25. Shabani, H., Doblas, A., Saavedra, G. and **Preza, C.**, "Preprocessing method to correct illumination pattern in sinusoidal-based structured illumination microscopy," Proc. SPIE 10499, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXV*, 104991Z, 2018.

26. Shabani, H., Doblas, A., Saavedra, G. and **Preza, C.**, "3D structured illumination microscopy using an incoherent illumination system based on a Fresnel biprism," Proc. SPIE 10499, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXV*, 1049903, 2018.
27. Patwary, N., Doblas, A., Saavedra, G. and **Preza, C.**, "Evaluation of the use of wavefront encoding to reduce depth-induced aberration in structured illumination microscopy" Proc. SPIE 10499, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXV*, 104991A, 2018.
28. Shabani, H., Doblas, A. and **Preza, C.**, "Simultaneous optical sectioning and super resolution in 2D-SIM using tunable structured illumination," in *Imaging and Applied Optics 2017 (COSI)* of OSA Technical Digest Series (Optical Society of America, 2017), paper CW4B, 2017.
29. Doblas, A. and **Preza, C.**, "Incoherent-based tunable frequency structured illumination microscopy," in *Imaging and Applied Optics 2017 (IS)* of OSA Technical Digest Series (Optical Society of America, 2017), paper ITh4, 2017.
30. Patwary, N., Doblas, A., and **Preza, C.**, "Computational approach to address reduced modulation contrast in structured-illumination microscopy," in *Imaging and Applied Optics 2017 (COSI)* of OSA Technical Digest Series (Optical Society of America, 2017), paper [JTU5A](#), 2017.
31. King S. V., Taylor, C. A., Doblas, A., Shabani, H., Patwary, N., Saavedra, G. and **Preza, C.**, "Implementation of an incoherent 3-D patterned illumination design in a Structured Illumination Microscope," Proc. SPIE 10070, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXIV*, 1007004, [doi:10.1117/12.2252910](#), 2017.
32. Shabani, H., Patwary, N., Doblas, A., Saavedra, G. and **Preza, C.**, "Comparison of two structured illumination techniques based on different 3D illumination patterns," Proc. SPIE 10070, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXIV*, 1007013, [doi:10.1117/12.2253199](#), 2017.
33. Doblas, A., Saavedra, G. and **Preza, C.**, "Comparison of 3D structured patterns with tunable frequency for use in Structured Illumination Microscopy," Proc. SPIE 10070, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXIV*, 100700H, [doi:10.1117/12.2252109](#), 2017.
34. Patwary, N., King, S. V., Shabani Hasti and **Preza, C.**, "Experimental Implementation of Wavefront Encoding in 3D Widefield Fluorescence Microscopy Using a Fabricated Phase Mask Designed to Reduce System Depth Variability," *Imaging and Applied Optics Congress, Computational Optical Sensing and Imaging (COSI)*, OSA Technical Digest (online) paper CW2D.3, [doi:10.1364/COSI.2016.CW2D.3](#), 2016.
35. Ghosh, S. and **Preza, C.**, "Block-Based Restoration Method for Wide-field Microscopy of Samples with Variable Refractive Index," *Imaging and Applied Optics Congress, Computational Optical Sensing and Imaging (COSI)*, OSA Technical Digest (online) paper CM3D.3, [doi:10.1364/COSI.2016.CM3D.3](#), 2016.
36. Patwary, N. and **Preza, C.**, "Reducing restoration artifacts in 3D computational microscopy using wavefront encoding," in *Computational Imaging XIV*, IS&T International Symposium on Electronic Imaging, 1-6(6), [doi:10.2352/ISSN.2470-1173.2016.19.COIMG-157](#), 2016.
37. Shabani, H., Sánchez-Ortiga, E., **Preza, C.**, "Investigating the performance of reconstruction methods used in structured illumination microscopy as a function of the illumination pattern's modulation frequency," Proc. SPIE 9713, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXIII*, 9713, 971305, [doi:10.1117/12.2213411](#), 2016.
38. Patwary, N. and **Preza, C.**, "Wavefront encoded computational optical sectioning microscopy reduces depth variability in 3D imaging," *Imaging and Applied Optics Congress, Computational Optical Sensing and Imaging (COSI)* Conference, OSA Technical Digest (online) paper CM2E.4, [doi:10.1364/COSI.2015.CM2E.4](#), 2015.
39. King, S. V., Hossain, Md S., and **Preza, C.**, "Dual acquisition of fluorescence and quantitative phase microscopy with high-speed switchable optics for DIC," *Optics in the Life Sciences*, OSA Technical Digest (online), Novel Techniques in Microscopy, paper NW3C.4., [doi:10.1364/NTM.2015.NW3C.4](#), 2015.
40. Ghosh, S., and **Preza, C.**, "Space-Variant Image Formation for 3D Fluorescence Microscopy Using a Computationally Efficient Block-Based Model," 2015 IEEE 12th International Symposium on Biomedical Imaging (ISBI) From Nano to Macro, 7163990, 789-792, [doi:10.1109/ISBI.2015.7163990](#), 2015.
41. Ghosh, S., and **Preza, C.**, "A block-based forward imaging model for improved sample volume representation in computational optical sectioning microscopy," Proc. SPIE 9330, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXII*, 93300T, [doi:10.1117/12.2077001](#), 2015.
42. Patwary, N., King, S. V. and **Preza, C.**, "3D microscope imaging robust to restoration artifacts introduced by optically thick specimens," Proc. SPIE 9330, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXII*, 93300O, [doi:10.1117/12.2077845](#), 2015.
43. Hossain, Md S., King, S. V. and **Preza, C.**, "An integrated approach to determine prior information for improved wide-field imaging models from computational interference microscopy," SPIE 9330, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXII*, 933014, [doi:10.1117/12.2077322](#), 2015.
44. Patwary, N. and **Preza, C.**, "Computationally tractable approach to PCA-based depth-variant PSF representation for 3D microscopy image restoration," *Classical Optics*, OSA Technical Digest (online), Computational Optical Sensing and Imaging, paper CW1C.5, Optical Society of America, [doi:10.1364/COSI.2014.CW1C.5](#), 2014.
45. **Preza, C.**, "Computational imaging for 3D fluorescence microscopy," *Imaging and Applied Optics*, OSA Technical Digest (online), Imaging Systems and Applications, paper IW2C, [doi:10.1364/ISA.2014.IW2C.1](#), 2014.
46. Hossain, Md S., King, S. V. and **Preza, C.**, "Enhanced Extended Depth-of-Field Microscopy via modeling of SLM effects on the applied phase mask," *Imaging and Applied Optics*, OSA Technical Digest (online), Imaging Systems and Applications, paper IW4C.4, Optical Society of America, [doi:10.1364/ISA.2014.IW4C.4](#), 2014.
47. King, S. V., Doblas, A., Patwary, N., Saavedra, G., Martínez-Corral, M. and **Preza, C.**, "Implementation of PSF Engineering in High-Resolution 3D Microscopy Imaging with a LCoS (Reflective) SLM," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXI*, BIOS, SPIE 8949-39, [doi:10.1117/12.2040723](#), 2014.

48. Doblas, A., King, S. V., Patwary, N., Saavedra, G., Martínez-Corral, M. and **Preza, C.**, "Investigation of the SQUBIC phase mask design for depth-invariant widefield microscopy point-spread function engineering," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXI*, BiOS, SPIE 894914, (doi:10.1117/12.2038610), 2014.
49. Patwary, N., Doblas, A., King, S. V. and **Preza, C.**, "Reducing depth-induced spherical aberration in 3D widefield fluorescence microscopy by wavefront coding using the SQUBIC phase mask," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXI*, BiOS, SPIE 8949-37, doi:10.1117/12.2040191, 2014.
50. Ghosh, S., Schaefer, L., Schuster, D. and **Preza, C.**, "Further developments in addressing depth-variant 3D fluorescence microscopy imaging," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXI*, BiOS, SPIE 8949-26, 2014.
51. King, S. V. and **Preza, C.**, "Experimental Verification of PSF Engineering Using a Spatial Light Modulator," *OSA Computational Optical Sensing and Imaging (COSI)* Conference, Arlington, Virginia, 2013.
52. Yuan, S. and **Preza, C.**, "Computational 3D Microscopy Imaging Using a PCA Depth-Variant PSF Model," *OSA Imaging Systems and Applications (IS)* Conference, Arlington, Virginia, 2013.
53. Rahman, M. M., Schaefer, L., Schuster, D. and **Preza, C.**, "Comparison of computational methods developed to address depth-variant imaging in fluorescence microscopy," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XX*, BiOS, SPIE 8589, id. 85890A 7, doi: 10.1117/12.2005227, 2013.
54. Yuan, S. and **Preza, C.**, "Improved Extended Depth-of-Field Microscopy through PSF Engineering and Robust Processing," in *Imaging and Applied Optics* Technical Papers, OSA Technical Digest (online) (Optical Society of America, 2012), paper CM2B.3.
55. Yuan, S. and **Preza, C.**, "Computational optical sectioning microscopy using an engineered PSF with reduced depth variability - proof of concept," *IEEE 9th International Symposium on Biomedical Imaging (ISBI)*, 6235916, 1739 – 1742, 2012.
56. Ghosh, S., Quirin, S., Grover, G., Piestun, R. and **Preza, C.**, "Computational imaging for fluorescence microscopy using double helix PSF engineering," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XIX*, BiOS, SPIE 8227, 82270F, 2012.
57. Yuan, S. and **C. Preza**, "Point-spread function engineering to reduce the impact of depth-induced aberrations on high-NA 3D extended depth-of-field microscopy," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XIX*, BiOS, SPIE 8227, 822702, doi: 10.1117/12.908908, 2012.
58. Yuan, S. and **C. Preza**, "Performance evaluation of an image estimation method based on principal component analysis (PCA) developed for quantitative depth-variant fluorescence microscopy imaging," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XIX*, BiOS, SPIE 8227, 82270H, doi: 10.1117/12.909638, 2012.
59. Yuan, S. and **C. Preza**, "PSF Engineering to Reduce the Impact of Depth-Induced Aberrations on Wide-field Microscopy Imaging," in *Imaging and Applied Optics*, OSA Technical Digest (CD) (Optical Society of America, 2011), paper CTuA3, 2011.
60. Ghosh, S. and **C. Preza**, "Frequency content of the double-helix PSF for 3D microscopy in the presence of spherical aberration," in *Imaging and Applied Optics*, OSA Technical Digest (CD) (Optical Society of America, 2011), paper CTuB3, 2011.
61. **Preza, C.**, "Simulating Structure Illumination Microscopy in the Presence of Spherical Aberrations," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XVIII*, BiOS, SPIE 7904, 79040D, 2011.
62. Yuan, S. and **Preza, C.**, "3D Fluorescence Microscopy Imaging Accounting for Depth-Varying Point Spread Functions Predicted by a Strata Interpolation Method and a Principal Component Analysis", *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XVIII*, BiOS, SPIE 7904, 79040M, 2011.
63. Ghosh, S., Grover, G., Piestun, R. and **Preza, C.**, "Effect of double-helix point-spread functions on 3D imaging in the presence of spherical aberrations," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XVIII*, BiOS, SPIE 7904, 79041D, 2011.
64. Yuan, S., Chen, Y., **Preza, C.**, and Tang, C., "Study on blood-flow pulsation using laser speckle contrast imaging", *Dynamics and Fluctuations in Biomedical Photonics VI*, BiOS, SPIE 7898-15, 2011.
65. Mukherjee, A. and **Preza, C.**, "Computational 3D Fluorescence Microscopy Imaging", *Imaging Systems (IS)*, *Imaging and Applied Optics*, OSA Optics and Photonics Congress, IWC2, 2010.
66. Myneni, V. and **Preza, C.**, "3D Reconstruction of Fluorescence Microscopy Image Intensities Using Multiple Depth-Variant Point-Spread Functions", *Digital Image Processing and Analysis (DIPA)*, *Imaging and Applied Optics*, OSA Optics and Photonics Congress, DTuA2, 2010.
67. **Preza, C.** and O'Sullivan, J. A., "Implementation and evaluation of a penalized alternating minimization algorithm for computational DIC microscopy", *Computational Imaging VIII*, IS&T/SPIE Electronic Imaging, SPIE 7533, pp. 75330E-1 to 75330E-11, 2010.
68. **Preza, C.** and Myneni, V., "Quantitative depth-variant imaging for fluorescence microscopy using the COSMOS software package," *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XVII*, BiOS, SPIE 7570, pp. 757003-1 to 757003-8, 2010.
69. Mukherjee, A., Myneni, V., Crosby, L. M., Waters, C. M., and **Preza, C.**, "Improved 3-D microscope imaging through computational methods", *Memphis BioImaging Symposium*, 2009.
70. Myneni, V. and **Preza, C.**, "Computational depth-variant imaging for quantitative fluorescence microscopy," in *Computational Optical Sensing and Imaging (COSI)*, OSA Technical Digest (CD), Optical Society of America, paper # CThC4, 2009.
71. **Preza, C.** and O'Sullivan, J. A., "Computational Differential Interference Contrast (DIC) Microscopy for Quantitative Imaging," in *Computational Optical Sensing and Imaging (COSI)*, OSA Technical Digest (CD), Optical Society of America, paper # CThB5, 2009.
72. **Preza, C.** and O'Sullivan, J. A., "Quantitative phase and amplitude imaging using differential-interference contrast (DIC) microscopy", in *Computational Imaging VII*, Charles A. Bouman, Eric L. Miller, Ilya Pollak, eds., Electronic Imaging, Proc. SPIE Vol. 7246, 724604, 2009.
73. O'Sullivan, J. A. and **Preza, C.**, "Alternating Minimization Algorithm for Quantitative Differential-Interference Contrast (DIC) Microscopy", in *Computational Imaging VI*, Charles A. Bouman, Eric L. Miller, Ilya Pollak, eds., Electronic Imaging, Proc. SPIE Vol. 6814, 68140Y 2008.

74. Preza, C. and O'Sullivan, J. A., "Quantitative determination of specimen properties using computational differential-interference contrast (DIC) microscopy", in *Confocal, Multiphoton, and Nonlinear Microscopic Imaging III*, Tony Wilson, Ammasi Periasam, eds., Proc. SPIE-OSA Biomedical Optics, Proc. SPIE Vol. 6630, 66300E, 2007.
75. King, S. V., Libertun, A. R., **Preza, C.**, and Cogswell, C. J., "Calibration of a phase-shifting DIC microscope for quantitative phase imaging", in *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XIV*, Proc. SPIE Vol. 6443, 64430M, 2007.
76. Preza, C., King, S. V., and Cogswell, C. J., "Algorithms for extracting true phase from rotationally-diverse and phase-shifted DIC images," in *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XIII*, Proc. SPIE Vol. 6090, 60900E, 2006.
77. Fox, D. J. Jr., Woolsey, T. A., **Preza, C.**, O'Sullivan, J. A., Tysver Velde, H., and Smith, W. H., "Computational Hyperspectral Microscopy for Studies of Neural and Biological Function," in *Adaptive Optics: Analysis and Methods/Computational Optical Sensing and Imaging / Information Photonics / Signal Recovery and Synthesis Topical Meetings on CD-ROM* (The Optical Society of America, Washington, DC), presentation # CTuB2, 2005.
78. Preza, C., Patsalis, C. P., Sismani C., Evangelidou P., and Pitris, C., "Three-dimensional FISH Imaging of Chromosomes Using Computational Optical Sectioning Microscopy", in *Diagnostic Imaging and Image Analysis*, II Mediterranean Conference on Medical Physics, Limassol, Cyprus, April, 2004.
79. Preza, C. and Conchello, J.-A., "Image Estimation Accounting for Point-Spread Function Depth-Variation in Three-Dimensional Fluorescence Microscopy," in *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing X*, C. J. Cogswell, J.-A. Conchello, T. Wilson, eds., Proc. SPIE Vol. 4964, pp. 135-142, 2003.
81. Preza, C., van Munster, E. B., Aten, J. A., Snyder, D. L., and Rosenberger, F. U., "Determination of Direction-Independent Optical Path-Length Distribution of Cells Using Rotational-Diversity Transmitted-Light Differential Interference Contrast (DIC) Images," in *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing*, C. J. Cogswell, J.-A. Conchello, T. Wilson, eds., Proc. SPIE 3261A, 60-70, 1998.
82. Preza, C., Snyder, D. L., Rosenberger, F. U., Markham, J., and Conchello, J.-A., "Phase Estimation from Transmitted-Light DIC Images Using Rotational Diversity," in *Image Reconstruction and Restoration II*, T. J. Schulz, ed., Proc. SPIE 317097-107, 1997.
83. Preza, C., Snyder, D. L., and Conchello, J.-A., "Image Reconstruction for Three-Dimensional Transmitted-Light DIC Microscopy," in *Three-Dimensional Microscopy: Image Acquisition and Processing IV*, C. J. Cogswell, J.-A. Conchello, T. Wilson, eds., Proc. SPIE 2984220-231, 1997.
84. Preza, C., Snyder, D. L., and Conchello, J.-A., "Imaging Models for Three-Dimensional Transmitted-Light DIC Microscopy," In *Proceedings of the IS&T/SPIE Symposium on Electronic Imaging: Science & Technology*, volume 2655, 245-257, 1996.
85. Preza, C., Miller, M. I., and Conchello, J.-A., "Image Reconstruction for 3-D Light Microscopy with a Regularized Linear Method Incorporating a Smoothness Prior," in *Biomedical Image Processing and Biomedical Visualization*, R. S. Acharya and D. B. Goldgof, Eds., Proc. SPIE 1905:129-139, 1993.
86. Preza, C., Ollinger, J. M., McNally, J. G., and Thomas, Jr., L. J., "Point-Spread Sensitivity Analysis for 3-D Fluorescence Microscopy," in *Biomedical Image Processing and Three-Dimensional Microscopy*, R. S. Acharya, C. J. Cogswell, and D. B. Goldgof, Eds., Proc. SPIE, 1660:158-169, 1992.

Other Conference Publications and Presentations (selected)

1. Preza, C., Ivey S., Stewart, C. O., "Developing Research Skills and Workforce Readiness Through Vertically Integrated Projects (VIP) Participation at the University of Memphis," *2026 Annual VIP Consortium Meeting* at Georgia Tech, Atlanta, Georgia, May 28, 2026.
2. Stewart, C., Caucci, G. M., Asemanyi, A., Ivey, S. S., and **Preza, C.**, When Engineering Students Reflect: What Words Reveal About STEM Education Experience, *19th International Conference on Language and Social Psychology (ICLASP19-Tucson)*, at the University of Arizona in Tucson, Arizona, May 19–22, 2026.
3. Atibi, A., Adaway, D., and **Preza, C.**, "Improved optical sectioning in ApoTome microscopy using a plug and play method to integrate physical and learned models," in *Focus on Microscopy*, Stockholm, April 1, published online 2026.
4. Adaway, D., Atibi, A., and **Preza, C.**, "A Comparative Study of Image Restoration Methods for 3D Fluorescence Microscopy," in *ASEE-SE 2026*, Memphis, TN, March 8-10, 2026 (received 2nd place in Undergraduate Poster Competition)
5. Dabbs, G. and **Preza, C.**, "The Impact of Noise in Hyperspectral Anomaly Detection," in *ASEE-SE 2026*, Memphis, TN, March 8-10, 2026 (received 3rd place in Undergraduate Poster Competition)
6. Preza, C., Ivey S., Stewart, C. O., "Three years of lessons learned from the Vertically Integrated Projects (VIP) program implementation at the Herff College of Engineering at the University of Memphis," *2025 Annual VIP Consortium Meeting* at Georgia Tech, Atlanta, Georgia, May 8-9, 2025.
7. Park, J. H., Wickman, R., Yunis, O., Hyun, D., **Preza, C.**, and Herickhoff, C. D., "A Machine Learning Approach to Aid Abdominal Sound Speed Estimation," Available at SSRN: <https://ssrn.com/abstract=5102599> or <http://dx.doi.org/10.2139/ssrn.5102599>, 2025.
8. Atibi, A., Alqahtani, A., and **Preza, C.**, "Single-slice processing of tunable structured illumination microscopy (TSIM) data using a plug and play image reconstruction method," in *Focus on Microscopy*, Taipei, Taiwan, April 14, published online, 2025.
9. Sonnenberg-Klein, J., Coyle, E. J., Crowther, K., Dikun, M., Fredricksen, J., Kim, C., Michaels, A., Mote, T., **Preza, C.**, & Sectamraju, L. (2025, January). *Model for Scalable and Equitable Undergraduate Research: Vertically Integrated Projects, Perspectives from Multiple Institutions at Multiple Stages of Program Establishment* [Round Table Session]. Undergraduate Education at Research Universities (UERU) 2025 National Conference, Washington, D.C., January 22-23, 2025.
10. Preza, C., Ivey S., Stewart, C. O. "Impact of Vertically Integrated Projects (VIP) program on engineering student skillsets," *2024 Annual VIP Consortium Meeting* at Georgia Tech, Atlanta, Georgia, May 9-10, 2024.
11. Saavedra, G. and **Preza, C.**, "Novel Structured Illumination Microscopy System," in *Optica Imaging Congress 2024 (3D, AOMS, COSI, ISA, pcAOP)*, Technical Digest Series (Optica Publishing Group), paper IM3G.1, 2024.

12. Atibi, A., Alqahtani, A., and **Preza, C.**, “Performance evaluation of a novel tunable 3D structured illumination microscopy (TSIM) system,” *Focus on Microscopy*, published online, 2024.
13. Dajkhosh, S. P., and **Preza, C.**, “Image reconstruction for structured illumination microscopy using an unrolled GAN,” *Computational Imaging, Computational Imaging VII, SPIE Defense and Commercial Sensing (DCS)*, **12523**, 63-74, 2023.
14. Younis, M., Hossain, M., Robinson, A.L., Wang, L., **Preza, C.**, “Hyperspectral Unmixing-Based Anomaly Detection,” *Computational Imaging VII, SPIE Defense and Commercial Sensing (DCS)*, **12523**, p. 1252302, 2023.
15. Gimeno-Gomez, A., Dajkhosh, S. P., Younis, M., Van, C. T. S., Barreiro-Hervas, J. C., **Preza, C.** and. Saavedra, G., “Performance comparison of tunable Wollaston-based and three-wave interference structured illumination microscopes,” *Focus on Microscopy*, published online, 2023.
16. Preza, C., Ivey S., Stewart, C.O. “Lessons learned from the first implementation year of the VIP Program at the University of Memphis,” 2023 Annual VIP Consortium Meeting at Georgia Tech, Atlanta, Georgia, May 11-12, 2023.
17. Kabede, B. and **Preza, C.**, “3D data processing using deep-learning for 3D structured illumination microscopy,” *Emerging Imaging Techniques at the Intersection of Physics and Data Science, Image Science Gordon Research Conference*, June 2022.
18. Dajkhosh, S. P., and **Preza, C.**, “Performance evaluation of 3D physics-informed channel attention GAN using 3D structured illumination microscopy datasets,” *Emerging Imaging Techniques at the Intersection of Physics and Data Science, Image Science Gordon Research Conference*, June 2022.
19. Preza, C. and Ivey, S., “University of Memphis VIP Program starting in August 2022,” 2022 Annual VIP Consortium Meeting at Georgia Tech, Atlanta, Georgia, May 25-27, 2022.
20. Gimeno-Gomez, A., Van, C. T. S., Dajkhosh, S. P., **Preza, C.**, Barreiro-Hervas, J. C. and. Saavedra, G., “Structured illumination microscopy by use of a spatially incoherent source with arbitrary shape,” *Focus on Microscopy*, published online, 2022.
21. Gimeno-Gomez, A., Yun, H., Van, C. T. S., **Preza, C.**, Barreiro-Hervas, J. C. and. Saavedra, G., “3D Structured Illumination Microscope with Tunable Frequency and Reduced Data Acquisition Based on a Wollaston Prism,” *Focus on Microscopy*, 2021.
22. Van, C. T. S. and **Preza, C.**, “Improved Resolution in 3D structured illumination microscopy using 3D model-based restoration,” *Focus on Microscopy*, March 28, published online, 2021.
23. Gimeno-Gomez, A., Yun, H., Van, C. T. S., Shabani, H., **Preza, C.**, Barreiro-Hervas, J. C. and. Saavedra, G., “Flexible 3D structured illumination with reduced data acquisition by means of a Wollaston prism,” *Focus on Microscopy*, 2020.
24. Preza, C., “Recent Advances in 3D structured illumination microscopy with reduced data-acquisition”, *Computational Imaging XVIII, Electronic Imaging 2020*, Burlingame, CA, January 27-28, 2020.
25. Van, C. T. S., Shabani, H. and **Preza, C.**, “3D model-based restoration methods for 3D-SIM,” *Quantitative BioImaging (QBI) 2020*, Oxford, UK, January 6-9, 2020.
26. Shabani, H., Doblas, A., Saavedra, G., and **Preza, C.**, “Tunable 3D Structured Illumination Microscope Using a Fresnel Biprism: OTF Design,” *Focus on Microscopy*, P2-B-1/20, London, England, April 16, 2019.
27. Shabani, H., Doblas, A., Saavedra, G., and **Preza, C.**, “Investigating the impact of structured illumination design on the synthetic optical transfer function’s compact support”, *Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXVI, San Francisco, CA*, February 5, 2019.
28. Bedoya, S., Doblas, A., Saavedra, G. and **C. Preza**, “Tunable structured illumination system based on a Wollaston prism,” *Image Science Gordon Research Conference*, Easton, MA, June 17-22, 2018.
29. Shabani, H., Doblas, A., Saavedra, G., and **Preza, C.**, “Novel structured illumination improves 3-D resolution in fluorescence microscopy,” *Image Science Gordon Research Conference*, Easton, MA, June 17-22, 2018.
30. Doblas, A., Sola-Pikabea, J., Shabani, H., Saavedra, G., Martinez-Corral, M., and **Preza, C.**, “Incoherent structured illumination system with a tunable 3D pattern,” *Computational Imaging III, SPIE Commercial & Scientific Sensing and Imaging*, talk 10669-12, Orlando, FL, 15 April 2018.
31. Shabani, H., Doblas, A., Saavedra, G., and **Preza, C.**, “3D Tunable structured illumination microscope using a Fresnel biprism,” *Focus on Microscopy*, Singapore, March 27, 2018.
32. Preza, C., “3D Image Restoration Using Multiple Space-Varying Point Spread Functions,” in *Mathematics in Imaging Conference, Imaging and Applied Optics Congress*, Optical Society of America, *invited talk*, 2017.
33. Preza, C., Patwary, N., Shabani, H., Doblas, A., and Saavedra, G., “PSF engineering using a fabricated SQUBIC phase mask to reduce the effect of spherical aberration in 3D wide field fluorescence Imaging,” *Focus on Microscopy, Bordeaux, France*, April 10 2017.
34. Doblas, A., Shabani, H., Saavedra, G., and **Preza, C.**, “Improvement of 2D-SIM achieved based on tunable structured illumination,” *Focus on Microscopy*, *Bordeaux, France*, April 10 2017.
35. Shabani, H., Patwary, N., Doblas, A., Saavedra, G. and **Preza, C.**, “Investigating the effect of different 3D illumination patterns on structured illumination microscopy performance,” *Quantitative BioImaging (QBI)*, Texas A&M University, College Station, TX, Jan. 5-7, 2017.
36. Patwary, N., Shababi, H., Doblas, A., Saavedra, G. and **Preza, C.**, “Implementation of PSF engineering using a fabricated phase mask to reduce the effect of spherical aberration in 3D wide field fluorescence microscopy,” *Quantitative BioImaging (QBI)*, Texas A&M University, College Station, TX, Jan. 5-7, 2017.
37. Ghosh, G. and **Preza, C.**, “Imaging thick specimens using optical-sectioning microscopy coupled with block-based 3D image restoration,” *Quantitative BioImaging (QBI)*, Texas A&M University, College Station, TX, Jan. 5-7, 2017.
38. Ghosh, G. and **Preza, C.**, “An N -Interface point spread function model suitable for wide-field fluorescence imaging of thick specimen with variable refractive index,” *Quantitative BioImaging (QBI)*, Texas A&M University, College Station, TX, Jan. 5-7, 2017.
39. Ghosh, S. and **Preza, C.**, “Enabling imaging of optically thick samples using computational optical sectioning microscopy,” *Image Science Gordon Research Conference*, Stonehill College, Easton, MA, June 5-10, 2016.
40. Shabani, H., Sánchez-Ortega, E. and **Preza, C.**, “Assessing super-resolution and optical sectioning capability in structured illumination microscopy,” *Image Science Gordon Research Conference*, Stonehill College, Easton, MA, June 5-10, 2016.

41. Ghosh, S. and **Preza, C.**, Imaging thick specimens using wide-field fluorescence microscopy coupled with block-based 3D image restoration,” *Focus on Microscopy*, Taipei, Taiwan, 2016.
42. King, S. V., Patwary, N. and **Preza, C.**, “Quantitative wide-field fluorescence and phase microscopy using liquid crystal and display technology,” *EMN Meeting on Liquid Crystal*, Orlando, Florida, 2016.
43. King, S. V., Skalli, O. and **Preza, C.**, “3D imaging suitable for cellular uptake of spherical nanoparticles by accounting for spherical aberration,” *Focus on Microscopy*, Göttingen, Germany, 2015.
44. Patwary, N., King, S. V. and **Preza, C.**, “Improving 3D fluorescence imaging using a computational-optical approach to account for depth-induced aberrations,” *Quantitative BioImaging 2015*, Institut Pasteur, Paris, France, 2015.
45. Preza, C., Patwary, N., Doblas, A., King, S.V., Saavedra, G. and Martinez-Coral, M., “Addressing Depth-Induced Spherical Aberration in Computational Optical Sectioning Microscopy Using Wavefront Coding,” *Focus on Microscopy*, Sidney, Australia, April 13-16, 2014.
46. Preza, C., Schaefer, L. H., Schuster, D., Ghaffar, A.-U., Yuan, S., and Lobo, G. J., “Impact of Spherical Aberration on Structured-Illumination Microscopy”, *Focus on Microscopy*, Singapore, April 1-4, 2012.
47. Preza, C. and Yuan, S., “Reducing the Impact of Spherical Aberration on Extended depth-of-field Microscopy Using PSF Engineering”, in *Focus on Microscopy*, Singapore, April 1-4 2012.
48. Preza, C., Yuan, S., Sporer, M. H., Mukherjee, A., Crosby, L. M., and Waters, C. M., “Investigating the use of structured-illumination microscopy as implemented in the Zeiss ApoTome attachment to image thick lung tissue slices”, *Focus on Microscopy*, Konstanz, Germany, April 2011.
49. Preza, C., Ghosh, S., Grover, G., Quirin, S., Piestun, R., “Extraction of depth information in the presence of spherical aberration using double-helix point spread function coding in 3D fluorescence microscopy imaging”, *Focus on Microscopy*, Konstanz, Germany, April 2011.
50. Preza, C., Mukherjee, A., Myneni, V., Crosby, L. M., and Waters, C. M., “3D cell imaging with computational optical-sectioning microscopy and structured-illumination microscopy”, *Focus on Microscopy*, Shanghai, China, March 2010.
51. Myneni, V. and **Preza, C.**, “Computational imaging for depth-variant fluorescence microscopy,” *Focus on Microscopy*, Krakow, Poland, April 2009.
52. Preza, C., King S. V., Libertun, A. R., and Cogswell C. J., “Computational Imaging for DIC Microscopy: Current Use in Live-Cell Imaging”, *Focus on Microscopy*, Osaka-Awaji, Japan, April 2008.
53. Cogswell C. J., King S. V., Libertun, A. R., Piestun, R., and **Preza, C.**, “Quantitative DIC Microscopy: Improving Versatility for Live-Cell Imaging,” *Focus on Microscopy*, Valencia, Spain, April 2007.

Conference Publications under Preparation or Review

1. Adaway, D., Atibi, A., and **Preza, C.**, “Improved optical sectioning in ApoTome microscopy using a computational method that integrates physical and learned models,”

Selected Invited Presentations given by C. Preza

1. “Computational imaging enables engineering of 3D microscopy systems with improved performance,” *Invited talk presented at the Dept. of Electrical and Systems Engineering Seminar Series, Washington University*, St. Louis, Missouri, November 14, 2025.
2. “Computational imaging enables engineering of efficient 3D microscopy systems,” *Invited talk presented at the Dept. of Electrical and Computer Engineering Seminar Series, University of Cyprus*, Nicosia, Cyprus, October 13, 2025.
3. “Efficient image restoration in 3D structured illumination microscopy using plug and play methods to integrate physical and learned models,” *Invited talk presented at the Carpathian Biophotonics Meeting (CBM 2025)*, Sinaia, Romania, September 9, 2025.
4. “Computational imaging enables efficient structured illumination microscopy,” *Invited talk presented at the International Conference on Computational Photography (ICCP 2025)*, University of Toronto, Toronto, July 21, 2025.
5. “Engineering 3D microscopy systems using computational imaging,” *Invited Plenary talk at the Annual International Conference on Optics, Photonics, and Lasers (AICOPL2025)*, Rome, Italy, March 13, 2025.
6. “Optical-transfer function engineering for 3D structured illumination microscopy,” *Invited talk presented at Computational Optical Sensing and Imaging, 2022 Optica Imaging and Applied Optics Congress*, Vancouver, Canada, July 12, 2022.
7. “Engineering microscopes using computational imaging,” *Invited talk at the weekly seminar series hosted by the Stanford Center for Image Systems Engineering (SCIEN), at Stanford University*, Stanford, California, May 18, 2022.
8. “Becoming an Electrical and Computer Engineering professor: my journey as a woman in academia,” *Invited Keynote talk at the Mentoring for Leadership Luncheon event, organized by the Evidence-informed Promotion of Inclusive Climate (EPIC) Project, at the Indiana University - Purdue University Indianapolis*, Indianapolis, Indiana, April 29, 2022.
9. “3D model-based restoration for structured illumination microscopy based on a 3D illumination pattern,” *Invited talk presented at the 3D Image Acquisition and Display: Technology, Perception and Applications conference of the OSA Imaging and Applied Optics Congress, virtual*, July 22, 2021.
10. “Model-based restoration for 3D structured illumination microscopy with reduced data,” *Invited talk presented at Computational Microscopy with Applications to Materials and other Scientific Problems, SIAM Conference on Imaging Sciences*, Toronto, Canada (virtual), July 13, 2020.
11. “Recent Advances in 3D structured illumination microscopy with reduced data-acquisition”, *Invited talk presented at the Recent Progress in Computational Microscopy session of the Computational Imaging XVIII Conference*, Burlingame, CA, Jan 28, 2020.
12. “Recent advances in 3D structured illumination microscopy,” *Invited talk presented at the Dept. of Physics Seminar Series, The University of Houston*, Houston, TX, November 13, 2018.

13. "Recent advances in tunable 3D structured illumination microscopy," *Invited talk presented at 20th Anniversary International Conference on Transparent Optical Networks ICTON 2018*, University Politehnica Bucharest, Bucharest, Romania, July 1-5, 2018.
14. "Computational and computational-optical approaches to improve 3D imaging in fluorescence microscopy," *Invited talk presented at SPIE Commercial & Scientific Sensing and Imaging*, Orlando, Florida, April 15-19, 2018.
15. "Computational 3D microscopy: beyond deconvolution microscopy," *Invited talk presented at the 25th Symposium of SPIE Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXV*, San Francisco, CA, January 29, 2018.
16. "3D Image Restoration Using Multiple Space-Varying Point Spread Functions," *Invited talk presented at Mathematics in Imaging of the OSA Imaging and Applied Optics Congress*, San Francisco, CA, June 26-29, 2017.
17. "Computational microscopy of optically thick samples," *Invited talk presented at the International Conference on Computational Photography (ICCP) 2017*, Stanford University, Palo Alto, CA, May 12-14, 2017.
18. "Computational imaging for 3-D microscopy of thick samples," *Invited talk presented at the 14th Annual Advanced Imaging Methods (AIM) Workshop*, University of California at Berkeley, Berkeley, CA, January 24-27, 2017.
19. "Digital Imaging Principles," *Invited Lecture presented at the Optical Microscopy and Imaging in Biomedical Sciences course at the Marine Biology Laboratory*, Woods Hole, MA, September 12, 2016 and September 11, 2017.
20. "Advances in computational imaging for quantitative 3D fluorescence microscopy," *Invited talk presented at the Golden Jubilee Annual Meeting of the Israeli Society for Microscopy (ISM)*, Haifa, Israel, May 2016.
21. "Computational imaging for quantitative 3D fluorescence microscopy," *Invited seminar organized by IEEE Kolkata Section and IET (UK) Kolkata Network*, Meghnad Saha Institute of Technology, Kolkata, India, December 19, 2015.
22. "Computational imaging for 3D fluorescence microscopy: beyond deconvolution microscopy," *Invited tutorial presentation at the Quantitative BioImaging 2015*, Institut Pasteur, Paris, France, 2015.
23. "Computational imaging for 3D fluorescence microscopy," *Invited talk at Imaging Systems and Applications*, of the Imaging and Applied Optics Congress, OSA, Seattle, 2014.
24. "Computational Imaging for 3D Fluorescence Microscopy," *Invited seminar given at the Seminar Series of the Physics Dept.*, Rhodes College, January 24, 2014.
25. "3D point spread function characterization for widefield fluorescence microscopy," *Invited tutorial presentation at the Quantitative BioImaging 2013*, University of New Mexico, Albuquerque, New Mexico, 2013.
26. "3D Fluorescence Microscopy Imaging Using Double-Helix Point-Spread Function Engineering," *Invited seminar given at the Optical Fibers and Signal Processing Group*, The Univ. of Valencia, Spain, July 5, 2012.
27. "New Computational Methods for Structured-Illumination Microscopy," *Invited seminar given at the Dept. of Optics*, The Univ. of Valencia, Spain, April 30, 2012.
28. "Computational Imaging Overview and Application to Microscopy," *Three invited lectures given at the I-CAMP 2011 School*, School of Engineering at the University of the Republic, Montevideo, Uruguay, May 28 - June 3, 2011.
29. "Correction of Depth-Induced Aberrations in 3D Fluorescence Microscopy Imaging," *Invited seminar given at the Seminar Series of the Physics Dept.*, The Univ. of Mississippi, Oxford, April 26, 2011.
30. "Correction of Depth-Induced Aberrations in 3D Fluorescence Microscopy Imaging," *Invited seminar given at the Seminar Series of the Department of Electrical and Computer Engineering*, Purdue School of Engineering and Technology, Indiana University / Purdue University at Indianapolis, December 9, 2010.
31. "Correction of Depth-Induced Aberrations in 3D Fluorescence Microscopy Imaging," *Invited seminar given at the Seminar Series of the Department of Electrical and Computer Engineering*, The University of Alabama, Tuscaloosa, Alabama, November 19, 2010.
32. "Alternating Minimization Algorithm for Quantitative Differential-Interference Contrast (DIC) Microscopy," *Invited seminar given at the Computational Optical Imaging and Sensing Seminar Series of the Electrical & Comp. Eng. Dept.*, Univ. of Colorado, Boulder, October 13, 2008.
33. "Computational Imaging for Microscopy," *Invited seminar given at the Chemical Engineering Departmental Seminar Series*, Tennessee Technological University, Cookeville, Tennessee, September 30, 2008.
34. "Computational Optical Sectioning Microscopy," *Invited seminar given at the Electrical & Comp. Eng. Departmental Seminar Series*, Univ. of Colorado, Boulder, Colorado, March 6, 2007.
35. "Computational Imaging for Light Microscopy," *Invited seminar given at the Joint Biomedical Engineering Program of The Univ. of Memphis & The Univ. of Tennessee, Health Science Center*, Memphis, Tennessee, September 8, 2006.
36. "Computational Imaging for Depth-Varying Fluorescence Microscopy," *Invited seminar given at CDM Optics, Inc.*, Boulder, Colorado, March 17, 2006.
37. "Computational Imaging for Microscopy," *Invited seminar given at the Electrical & Comp. Eng. Dept.*, University of Colorado, Boulder, Colorado, March 14, 2006.
38. "Computational Imaging for Microscopy," *Invited seminar given at the Electrical & Comp. Eng. Dept.*, Michigan Technological Univ., Houghton, Michigan, February 16, 2006.
39. "Computational Imaging," *Invited seminar given at the Electrical & Comp. Eng. Dept.*, Texas A&M University, College Station, Texas, Nov. 4, 2005.
40. "Computational Imaging for Fluorescence Microscopy," *Invited seminar at Ikonisys, Inc.*, New Haven, Connecticut, July 9, 2004.
41. "Computational Imaging," *Invited seminar given at the Electrical & Comp. Eng. Dept.*, Purdue University, West Lafayette, Indianapolis, May 5, 2003.
42. "Computational Imaging for Microscopy," *Invited seminar given at the Electrical and Computer Engineering Department*, University of Cyprus, Nicosia, Cyprus, March, 2003.
43. "Imaging Models for Transmitted-Light DIC Microscopy", *Invited seminar given at the Center for Light Microscope Imaging and Biotechnology*, Carnegie Mellon University, Pittsburgh, Pennsylvania, July 10, 1996.
45. "Comparison of Image Restoration Algorithms," *Invited presentation given at the IBC's Tutorial on Image Restoration for Three-Dimensional Microscopy*, Institute for Biomedical Computing, Washington University, St. Louis, MO, April 26-27, 1996.

46. “Regularized Linear Method for Computational Optical-Sectioning Microscopy,” *Invited seminar given at the Center for Light Microscope Imaging and Biotechnology*, Carnegie Mellon University, Pittsburgh, Pennsylvania, April 2, 1992.

Research Assistants Supervised

Current

Post-Doctoral Associates: Priyanka Mann

4 Graduate Research Assistants: Arash Atibi, Sina Layazali, Gerrell Dabbs, David Adaway

1 Undergraduate Research Assistant: Mohammad Hossain through my Vertically Integrated Projects (VIP) Team (memphis.edu/vip/teams/).

Past

At The University of Memphis

2 Research Assistant Professors: Ana Doblas (Assistant Professor at Univ. of Massachusetts, Dartmouth); Sharon V. King (Imaging Scientist, St. Jude Children’s Research Hospital).

6 Post-Doctoral Associates: Abdulaziz Alqahtani, Cong Tuan Son Van (NIH); Abel Kamagara; Sharon V. King; Shuai Yuan; Jing Zheng

Graduate Students:

5 PhD Students: Md Juber Rahman (Data scientist at FedEx); Md Sabbir Bin Zaman (Employed at Amazon); Hasti Shabani (Assistant Professor at Shahid Beheshti University, Iran); Nurmohammed Patwary (Senior Algorithm Engineer, KLA Corporation, CA); Sreya Ghosh (Data scientist/analytics engineer at Shopify; former post doc at Univ. of California San Diego)

26 MS Students: Mohammed Younis; S. Parisa Dajkhosh; Bereket Kebede; Jules Mohammed, Kranthi Battu, Sebastian Bedoya Lopez; Ananya Dutta; Hanieh Shabanian; Bhuvaneshwari Bhaskaran; Christopher A. Taylor; Md. Shohag Hossain; Matthew Bledsoe; Md. Mizanur Rahman; Gregorio Lobo; Monica V. Zugravu; Amaradri Mukherjee; Rakesh Duggirala; Abhilash K. Challa; Vimeetha Myneni; Siva P. Kintada; Aaryani Tipirneni; Moshir Rahman; Udaya Gollamudi; Yipin Zhou; Daqi Dong; Karththika R. Muthukuri.

20 Undergraduate Research Assistants: David Adaway (Honors Undergraduate Thesis, VIP and ABM), Gerrell Dabbs (VIP and ABM), Lauricko Alexander (VIP), Isaac Kimathi (VIP), Andy M. Zampou (VIP), Aryan Prajapati (VIP), Chinoso Okoli (VIP), Eduardo Espinoza (VIP), Haleigh Sisson (VIP), Rosalia Nwaobi (VIP), Anjali Abraham (VIP), Pavel Qaladize (VIP), Bilha Maghu (VIP), Joshua Kelly; Mark H. Sporer; Andrew Jenkins; Timothy Mathis; Gregorio Lobo (Honors Undergraduate Thesis); Matthew Fergusson; Christopher A. Taylo

At Washington University

Graduate Students: Sibo Li; Murillo R. Homem

Doctoral Dissertations and Master’s Theses/Project Supervised as Major Advisor

1. Arash Atibi, Ph.D. candidate, “Plug-and-Play Priors Method for Image Reconstruction in Structured Illumination Microscopy,” the University of Memphis, expected completion fall 2027.
2. Sina Layazali, Ph.D. candidate, “Joint Hyperspectral Image Deconvolution and Unmixing via Plug-and-Play Priors,” the University of Memphis, expected completion spring 2027.
3. Md Juber Rahman, Ph.D., “Artificial Intelligence-enabled edge-centric solution for automated assessment of sleep using wearables in smart health,” the University of Memphis, 2021. Co-Advisor.
4. Md Sabbir Bin Zaman, Ph.D., “A Hardware-software co-designed wearable for real-time physiological data collection and signal quality assessment,” the University of Memphis, 2021. Co-Advisor.
5. Hasti Shabani, Ph.D., “Three-dimensional (3D) Image Formation and reconstruction for structured illumination microscopy using a 3D tunable pattern,” the University of Memphis, 2019.
6. Nurmohammed Patwary, Ph.D., “Contribution to three-dimensional fluorescence microscopy imaging using wavefront encoding and structured illumination,” the University of Memphis, 2017.
7. Sreya Ghosh, Ph.D., “3D Block-based restoration (BBR) method addressing space-variance in fluorescence microscopy due to thick samples with non-uniform refractive index,” the University of Memphis, 2015.
8. Mohammed Younis, MS thesis, “Investigation for hyperspectral data unmixing and its impact on the task of anomaly detection,” the University of Memphis, 2023. Conference paper and journal article.
9. S. Parisa Dajkhosh, MS thesis, “Structured illumination microscope image reconstruction using unrolled physics-informed generative adversarial network (UPIGAN),” the University of Memphis, 2023. Conference papers.
10. Bereket Kebede, MS thesis, “Comparison of 3D and 3D-based U-Net architectures for image restoration in structured illumination microscopy,” the University of Memphis, 2023. Conference papers.

11. Jules Mohammed, MS project, "Structured Illumination Microscopy using Deep Learning," the University of Memphis, 2021.
12. Sebastian Bedoya Lopez, MS project, "Prototype of a Wollaston prism-based structured illumination microscope," the University of Memphis, 2019.
13. Hanieh Shabanian, MS project, "Study of Differential Interference Contrast Microscopy and Alternating Minimization Algorithm," the University of Memphis, 2017.
14. Ananya Dutta, MS project, "A novel engineered imaging system to reduce the impact of depth-induced spherical aberration, the University of Memphis, 2017. Conference publication.
15. Christopher Adam Taylor, MS thesis, "Investigation of a tunable -3-D patterned illumination design implementation for structured illumination microscopy," the University of Memphis, 2016. Conference paper.
16. Md Shohag Hossain, MS project, "An integrated approach to determine prior information for improved wide-field imaging models from computational interference microscopy," the University of Memphis, 2015. Conference papers.
17. Matthew Bledsoe, MS thesis, "Application of an Alternating Minimization Algorithm to Experimental DIC Microscopy Data for the Quantitative Determination of Sample Optical Properties," the University of Memphis, 2014.
18. Nurmohammed Patwary, MS thesis, "Performance analysis of PCA-based image reconstruction in 3D widefield fluorescence microscopy," the University of Memphis, 2014. Conference papers.
19. Gregorio Lobo, MS project, "Experimentation and Testing of Principal Component Analysis Algorithm Implemented in Computational Optical Sectioning Microscopy Open Software (COSMOS)," the University of Memphis, 2013. Conference abstract.
20. Muhammad Mizanur Rahman, "Comparison of Computational Methods Developed to Address Depth-variant Imaging in Fluorescence Microscopy," the University of Memphis, 2013. Conference paper.
21. Sreya Ghosh, MS thesis, "A study on the use of double helix point spread functions in 3D fluorescence microscopy," the University of Memphis, 2011. Conference papers.
22. Vimeetha Myneni, MS thesis, "Performance Analysis of depth-variant expectation maximization algorithm for 3D fluorescence microscopy," the University of Memphis, 2009. Conference papers.

Academic Service

At the Univ. of Memphis

Faculty Senate	April 2026 – present
Vertically Integrated Projects (VIP) Program, Founding Director	Aug. 2022 – present
University of Memphis Research Council (UMRC)	Nov. 2018 – present
Women+'s Mentorship Network – Advisory Board	Jan. 2023 – present
Herff College of Engineering Executive Council	Jan. 2023 – 2025
VIP High School Summer Summit Organizer	July 2023, 2024
University of Memphis STRIDE Committee	Jan. 2021 – 2023
Herff College of Engineering Administrative Council	Jan. 2017 – Dec. 2022
University Council for Graduate Studies	Aug. 2014 – May 2016
Faculty Advisory Committee for Research	Jan. 2009
Center for Research on Women (CROW)- Affiliate Faculty	Jan 2012 – 2016
Herff College of Engineering Student Handbook Committee	Fall 2007
Herff College of Engineering Diversity Committee, Chair in 2018	Aug. 2006 – 2010, 2018
Herff College of Engineering Retention Committee	Aug. 2010 - 2013
Herff College of Engineering Graduate Coordinators Committee	Aug. 2013 - 2016
HCOE Graduate Studies Workflow Team	Aug. 2013 – 2016
Chair, Electrical and Computer Eng. (EECE) Dept.	Aug. 2017 – 2025
EECE ABET Committee, Chair	Aug. 2017 – 2025
Associate Chair, ECE Dept.	Jan. 2016 – Aug. 2017
Coordinator for Graduate Studies, ECE Dept.	Aug. 2013 – Aug. 2016
EECE ABET Committee	Aug. 2016 - 2025
EECE Undergraduate Curriculum Committee	Aug. 2006 – 2013
EECE Graduate Curriculum Committee	Aug. 2006 – 2016
EECE Executive Committee	Aug. 2014 - 2025
Technical Area Group	Jan. 2007 - 2012
Capstone Design Committee	2007 & 2009
EECE Seminar Series Organizer	Aug. 2007 – 2025

At Washington University

ABET Committee, Coordinator
Electrical and Systems Engineering Advisory Board

Sep. 2004 - June 2006
2020-present

Administrative Accomplishments as Dept. Chair

- Founded the Vertically Integrated Projects Program for undergraduate research in the Herff College of Engineering (memphis.edu/vip), at the University of Memphis, and continue to expand it in my capacity as Program Director 2022-present.
 - To date, 90 undergraduate students from 4 departments, 15 graduate student mentors, and 9 faculty mentors have participated in the program. VIP students produced 3 student-authored papers published in the University of Memphis undergraduate research journal, 70 campus presentations (10 received recognition by placing 1st and/or 2nd) and 6 co-authored conference papers and publications. On campus presentations were at: the *Works in Progress Symposium* for undergraduate research reporting event (in fall 2023, 2024, and 2025), the *Student Research Forum* (in Spring 2024 and 2025), and the inaugural *VIP Day* in spring 2025.
- The department's research productivity increased steadily, and during my last two years as chair (2023-2025) the department had reached new levels of funded research.
- Led successful faculty searches and hired three tenured-track faculty and five non-tenured track faculty 2019-2025.
- Mentored new faculty members for CAREER NSF proposal submission, and one faculty earned an award in 2021.
- Facilitated fund raising of \$10K from MLGW in support of a senior design project, 2025.
- Led effort for two successful External Reviews of the Graduate MS and PhD Programs in Electrical and Computer Engineering at the University of Memphis, in 2017 and in 2024.
- Increased enrollment of PhD Students by 47% since 2022. Maintained a stable undergraduate enrollment and degrees awarded in both programs <https://preview.memphis.edu/eece/accreditation/index.php>.
- Led effort in creating two new Graduate Certificate Programs in 2024: Intelligence Engineering and Applications Graduate Certificate; Modern Energy and Power Systems Graduate Certificate.
- Participated in the effort to create and implement a new Minor in Mechatronics for Mechanical Engineering students and Electrical and Computer Engineering in collaboration with the Mechanical Engineering department at the University of Memphis, 2023-2024.
- Created new concentrations in the BS in Electrical Engineering and the BS in Computer Engineering degrees in the Department of Electrical and Computer Engineering at the University of Memphis to provide micro-credentials to our students, 2023-2024.
- Revised undergraduate curriculum in the Dept. of Electrical and Computer Engineering at the University of Memphis to eliminate long prerequisite chains and expedite student graduation rate, 2022-2023.
- Revised graduate curriculum in the Dept. of Electrical and Computer Engineering at the University of Memphis to emphasize preparation of graduate students for research success, in 2018 and in 2023.
- Led effort for a successful ABET Accreditation Review of the BS in Electrical Engineering and the BS in Computer Engineering degrees at the University of Memphis, 2021.
- Introduced recitation classes for two gateway undergraduate courses in the Department of Electrical and Computer Engineering at the University of Memphis to reinforce learning and improve student retention, 2021.
- Revised ABET assessment and program improvement procedures based on the new ABET 1-7 criteria and to make them sustainable and more effective for the Department of Electrical and Computer Engineering at the University of Memphis, 2019.
- Led effort to modernize instructional lab equipment in the Dept. of Electrical and Computer Engineering at the University of Memphis, 2018-2025.
- Promoted active learning and inquiry-based instruction in classes in the Dept. of Electrical and Computer Engineering at the University of Memphis, 2017-2025.

Outreach and Synergistic Activities

- Vertically Integrated Projects (VIP) Program, High School Summer Summit organizer, 2023, 2024
- Local Chapter of the Daughters of Penelope, Education Committee, Chair, 2007- 2024
Responsibility: Review applications for University Education Scholarships and recommend scholarship recipient (<http://www.daughtersofpenelope.org/>).
- Women+'s Mentorship Network, The University of Memphis, supporting and participating in events.
- Center for Research on Women (CROW), The University of Memphis, Affiliate Faculty, 2009 –2015

Supporting and participating in CROW events.

- Girls Experiencing Engineering (GEE), Instructor, June 2010 & 2012
Designed and instructed a two-day *Imaging Science Focus Session* with hands on activities for high school girls using our COSMOS software package.

Courses Taught

At Washington Univ., the Univ. of Cyprus and since fall 2006 at the Univ. of Memphis.

Courses Proposed and Developed

- **Vertically Integrated Projects (VIP)** every semester since fall 2022-present. The course prepares and engages undergraduate and graduate students in ambitious, long-term, large-scale, multidisciplinary project teams that are led by faculty, at the UofM. The VIP model, based on active learning, allows students to engage in research while earning credit and enables tiered mentoring from students at all academic years, thereby providing the opportunity of role modeling from upper-level undergraduate and graduate students as well as faculty. Special instructional units prepare undergraduate students on how to engage in effective and ethical research as part of a research team.
- **Professional Development/Research Methods**, (required graduate level course) every fall 2014 - present. Electrical and computer engineering research methods, development issues and ethics in academia and engineering practice. Students learn how to conduct literature search, write progress reports, publications, and proposals as well as prepare and give oral and poster presentations.
- **Inverse Problems in Imaging/Computational Methods for Inverse Problems** (special topic graduate level courses), fall 2008, spring 2015. A study of the principles of linear inverse problems, computational methods of their approximate solution, and practical application in imaging. Study of optimization methods and regularization principles for the solution of ill-posed inverse problems.
- **Computational Optical Imaging** (special topic graduate level course), fall 2010. A study of special topics in computational optical imaging including compressive sensing, structured illumination, wavefront encoding to extend the depth of field, correct aberration and provide super resolution in imaging systems.
- **Fourier Methods in Imaging** (special topic graduate level course), spring 2013. Mathematical tools to model and predict the action of imaging systems. Representation of images and systems in both continuous and discrete domains. Characterization of systems and their effect on the quality of their output images.
- **Signals and Systems I** (required junior level course), fall 2010-2013, spring 2011-2014. Elementary concepts of continuous-time signals and systems. Analysis of linear time-invariant systems: convolution, Fourier series, Fourier transforms and Laplace transforms. Principles of sampling and modulation.
- At the Univ. of Cyprus (2003-2004):
 - Introduction to Electrical and Computer Engineering** (required freshman level course), spring 2003, fall 2003. Fundamental aspects of engineering including physics and physical devices, mathematical modeling, analytical problem solving, engineering design, and laboratory experimentation. Course topics and skills are integrated in design projects on contemporary applications.
 - Introduction to Information Technology** (freshman level course), spring 2004. Basic concepts on information representation (A/D conversion, binary representation), storage (magnetic, optical), transmission (wired, fiber-optic, radio and satellite), and security for various forms of information (audio, image, and video). Basic principles of operation for: high-tech devices (mobile phones, GPS devices etc.), telephone and computer networks, and the World Wide Web.

Courses Revised

- **Image Processing** (graduate level course), fall 2012, spring 2014 & 2016. Theory and applications of digital image processing, sampling, quantization, enhancement, modeling and restoration of images; use of segmentation, descriptors, and pattern recognition.
- **Fourier Optics** (graduate level course), spring 2007-2010. Analysis of two-dimensional linear systems, scalar diffraction theory, Fresnel and Fraunhofer diffraction; Fourier transforming properties of lenses, spatial frequency analysis of optical systems, optical information processing and holography.
- **Signals and Systems (Transform Methods)** (junior level course), fall 2001, 2006-2009 and spring 2010. Elementary concepts of continuous-time and discrete-time signals and systems. Analysis of linear time-invariant systems: convolution, Fourier series, Fourier transforms, Laplace and Z transforms. Principles of sampling and modulation.
- **Communication Theory** (senior/graduate level course), spring 2001-2003, 2009, 2015, & 2025. Amplitude and angle modulation for the transmission of continuous-time signals. Analog-to-digital conversion and pulse code modulation. Transmission of digital data. Introduction to random signals and noise and their effects on communication. Overview of various communication technologies.

Other Courses

- **Random Signals and Noise** (graduate level course), fall 2012. Statistical methods for describing and analyzing random

signals and noise; auto-correlation, cross-correlation, and spectral density functions; optimal linear filter theory.

- **Electrical Engineering Senior Design Projects** (senior level course), spring 1999. Working in teams, students address design tasks assigned by faculty (this semester, students were given specifications to design and build a motion detector). Projects are chosen to emphasize the design process, with the designers choosing one of several paths to a possible result. Collaboration with industry and all divisions of the University is encouraged.
- **Introduction to Electrical Networks** (sophomore/junior level course), fall 2004, 2005 and spring 2005, 2006. Elements, sources, and interconnects. Ohm's and Kirchhoff's laws, superposition and Thevenin's theorem; the resistive circuit, transient analysis, sinusoidal analysis, and frequency response.
- **Electrical and Electronic Circuits Laboratory** (sophomore level course), spring 2002, 2005 and fall 2002. Lectures and laboratory exercises on introductory networks and basic electronics.
- Guest Lectures on "Computational imaging for 3D microscopy" as part of **Light Microscopy: Theory and Applications** (graduate level Biology course) spring 2012.
- Guest Lectures on "Optics of microscopes" as part of **Optical Imaging** (grad. level course), spring 1991, 1994, and 1997.
- Guest Lecture on "Three-dimensional microscopy and deconvolution" as part of **Optical Bioelectric Imaging** (graduate level course in Biomedical Engineering), fall 2005.

Research Collaborators

Current

Genaro Saavedra – University of Valencia, Spain
Ron Driggers – University of Arizona
Orges Furxhi – Consultant, Colorado
Cong Tuan Son Van – NIH
Xiaolei Huang – The University of Memphis
Eddie Jacobs – The University of Memphis
Carl Herickhoff – The University of Memphis
Stephanie Ivey – The University of Memphis
Aaron Robinson – The University of Memphis
Omar Skalli – The University of Memphis
Craig Stewart – The University of Memphis
Lan Wang – The University of Memphis
Deranda Lester – The University of Memphis

Past

Jason Braasch – The University of Memphis
Carol J. Cogswell – University of Colorado at Boulder
Jose-Angel Conchello – Harvard University Center for Brain Science
Manuel Martinez-Coral – University of Valencia, Spain
Nicoleta Dragomir – Victoria University, Australia
Ana Doblaz – The University of Memphis
Daniel R. Fuhrmann – Michigan Tech
Khan M. Iftexharuddin – Old Dominion University
Bashir Morshed – Texas Tech
Sharon V. King – St. Jude Children's Research Hospital
Robert Kozma – The Univ. of Memphis
James G. McNally – Helmholtz-Zentrum Berlin, Germany
Michael I. Miller – Johns Hopkins University
John Ollinger – Walter Reed National Military Medical Center
Joseph A. O'Sullivan – Washington University in St. Louis
Rafael Piestun – University of Colorado at Boulder
Lutz H. Schaefer – Advanced Imaging Methodology Consultation, Canada
Dietwald Schuster - Hochschule Regensburg - University of Applied Sciences
Donald L. Snyder – Washington University in St. Louis
William H. Smith – Washington University in St. Louis
Deborah Tollefsen – The University of Memphis
Christopher Waters – Univ. of Tennessee Health Science Center (currently at Augusta University)
Thomas A. Woolsey – Washington University in St. Louis