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Personal Information

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1) **Education**

Ph.D., North Carolina State University, 1996-2002, Materials Science and Engineering
M.D., Wake Forest University, 1996-2001, Medicine
B.A., North Carolina State University, 1994-1996, Chemistry (Summa Cum Laude)

2) **Professional Experience - Employment History**

2021-present, Distinguished Professor, Department of Biomedical Engineering, University of North Carolina-Chapel Hill and North Carolina State University
2009-2021, Professor, Department of Biomedical Engineering, University of North Carolina-Chapel Hill and North Carolina State University
2006-present, Associate Member of the Faculty, Department of Materials Science and Engineering, North Carolina State University
2005-2009, Associate Professor, Department of Biomedical Engineering, University of North Carolina-Chapel Hill and North Carolina State University
2003-2005, Assistant Professor, Bioengineering Program and School of Materials Science and Engineering, Georgia Institute of Technology

3) **Honors**

2022: Materials Research Society Fellow
2022: TMS Functional Materials Division Distinguished Scientist/Engineer Award
2022: Stevens Initiative Virtual Exchange Academy Participant
2021: ASME Fellow
2021: NCSU Impact Scholar
2021: NCSU Inclusive Excellence Certificate
2020: NIDA Innovation to Impact (I2I) Member
2020: National Academy of Inventors Senior Member
2019: NCSU Academy of Excellence in Global Engagement
2019-2021: RTI University Scholar
2019: UNC Global Partnership Award
2019: NCSU Provost's Faculty Fellow
2019: Harry C. Kelly Memorial Fund Award
2019: R&D-100 Award for Novel Nanodiamonds for Nansensing and Quantum Computing
2018: NCSU Community Engaged Faculty Fellow
2018-2020: Visiting Advanced Joint Research Faculty Award at the Indian Institute of Technology-BHU
2018: UNC Rajkumar Faculty Fellowship
2018: TMS Functional Materials Division Distinguished Service Award
2018: TMS Brimacombe Medalist Award
2018: R&D-100 Award for New Materials Harder than Diamond and Superior High-Temp Superconductor
2017: Fulbright Specialist Program at the University of Otago (New Zealand)
2017: American Ceramic Society Fellow
2017: R&D-100 Award for Q-carbon and Diamond Related Products

2017: Burroughs Wellcome Fund Travel Grant with the Technical University of Vienna
2017, 2019: Invited Participant Arab-US Frontiers of Engineering Symposium
2016: Invited Participant EU-US Frontiers of Engineering Symposium
2016: Royal Academy of Engineering Distinguished Visiting Fellow at University College London
2016: ASME Swanson Fellow at America Makes
2016: Visiting Professor at Nanyang Technological University
2015: Fulbright Specialist Program at the National Polytechnic Institute (Mexico City)
2014: Fulbright-Brazil Scientific Mobility Program at the University of Sao Paulo
2014: NCSU Certificate of Reflective Teaching
2012: American Ceramic Society Robert L. Coble Award
2012: American Institute for Medical & Biological Engineering Fellow
2011: American Ceramic Society Richard M. Fulrath Award
2010: NCSU Alcoa Foundation Engineering Research Achievement Award
2010: ASM-IIM Visiting Lecturer
2010: American Ceramic Society Global Star Award
2009: ASM International Fellow
2009: TMS Structural Materials Division JOM Best Paper Award
2008: NCSU Sigma Xi Faculty Research Award
2007: American Association for the Advancement of Science Fellow
2007: UNC Jefferson-Pilot Fellowship in Academic Medicine
2006, 2008, 2017: Invited Participant National Academies Keck Futures Initiative
2006: National Science Foundation Faculty Early Career Development (CAREER) Award
2006: UNC Junior Faculty Development Award
2005: Office of Naval Research Young Investigator Award
2004: Georgia Tech Class of 1969 Teaching Fellow
2004: The Minerals, Metals & Materials Society (TMS) Young Leader
2002: Alpha Sigma Mu Metallurgy Honor Society

4) **Bibliography and products of scholarship**

Edited books:

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22. Narayan RJ (Editor). Biomedical Materials (2nd Edition). Springer, 2020 (ISBN: 978-3-030-49206-9)
21. Osaka A, Narayan R (Editors). Bioceramics: From Macro to Nanoscale. Elsevier, 2020 (ISBN: 978-0081029992)
20. Narayan R (Editor). Rapid Prototyping of Biomaterials: Principles and Applications (2nd Edition). Elsevier, 2019 (ISBN: 978-0081026632)
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15. Balani K, Verma V, Agarwal A, Narayan R (Editors). Biosurfaces: A Materials Science and Engineering Perspective. Wiley, 2015 (ISBN: 978-1118299975)
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13. Narayan R (Editor). Diamond Based Materials for Biomedical Applications. Elsevier, 2013 (ISBN: 978-0-85709-340-0)

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10. Narayan R, Bandyopadhyay A, Bose S (Editors). Biomaterials Science: Processing, Properties, and Applications. Wiley, 2011 (ISBN: 978-1-118-06001-8)
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8. Calvert P, Narayan R (Editors). Computer Aided Biomanufacturing. Wiley, 2011 (ISBN: 978-3-527-40906-8)
7. Narayan R, Singh M, McKittrick J (Editors). Advances in Bioceramics and Biotechnologies. Wiley-American Ceramic Society, 2010 (ISBN: 978-0470905487)
6. Narayan R, Jayasinghe S, Jin S, Mullins W, Shi D (Editors). Micro- and Nanoscale Processing of Biomaterials (Volume 1239). Materials Research Society, 2010 (ISBN: 978-1-60511-212-1)
5. Narayan RJ, Boland T, Lee YS (Editors). Printed Biomaterials: Novel Processing and Modeling Techniques for Medicine and Surgery. Springer, 2010 (ISBN: 978-1-4419-1394-4)
4. Narayan R, Colombo P (Editors). Advances in Bioceramics and Porous Ceramics II (Ceramic Engineering and Science Proceedings). Wiley, 2010 (ISBN: 978-0-470-58435-4)
3. Narayan R, Colombo P (Editors). Advances in Bioceramics and Porous Ceramics (Ceramic Engineering and Science Proceedings). Wiley, 2009 (ISBN: 978-0-470-45756-6)
2. Narayan R, Kumta PN, Wagner WR (Editors). Advances in Biomedical and Biomimetic Materials: Ceramic Transactions (Ceramic Transactions Series). Wiley, 2009 (ISBN: 978-0-470-40847-6)
1. Narayan RJ (Editor). Biomedical Materials. Springer, 2009 (ISBN: 978-0-387-84871-6)

Chapters:

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241. Zhang B, Nguyen AK, Narayan RJ, Huang J. Direct ink writing of vancomycin loaded polycaprolactone/ polyethylene oxide/ hydroxyapatite 3D scaffolds. Journal of the American Ceramic Society. https://doi.org/10.1111/jace.18048
240. Pandey PC, Yadav HP, Shukla S, Narayan RJ. Electrochemical sensing and removal of cesium from water using Prussian blue nanoparticle-modified screen-printed electrodes. Chemosensors. 2021;9:253.
239. Shukla S, Pandey PC, Narayan RJ. Tunable quantum photoinitiators for radical photopolymerization. Polymers. 2021;13:2694.

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237. Zhang B, Chung SH, Barker S, Craig D, Narayan RJ, Huang J. Direct ink writing of polycaprolactone/ polyethylene oxide-based 3D constructs. Progress in Natural Science: Materials International. 2021;31:180-91.
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5) **Teaching Activities**

Course Director:

Spring 2022, UNC/NCSU BME 590 (Introduction to Nanobiotechnology), 9 students

Spring 2022, UNC/NCSU BME 335 (Biomaterials), 62 students
Fall 2021, UNC/NCSU BME 540 (Introduction to Nanobiomaterials), 5 students
Summer 2021, UNC/NCSU BME 590 (Introduction to Nanobiotechnology), 8 students
Spring 2021, UNC/NCSU BME 335 (Biomaterials), 60 students
Fall 2020, UNC/NCSU BME 540 (Introduction to Nanobiomaterials), 12 students
Spring 2020, UNC/NCSU BME 590 (Introduction to Nanobiotechnology), 17 students
Spring 2020, UNC/NCSU BME 540 (Introduction to Nanobiomaterials), 4 students
Spring 2020, UNC/NCSU BME 335 (Biomaterials), 17 students
Fall 2019, UNC/NCSU BME 540 (Introduction to Nanobiomaterials), 10 students
Spring 2019, UNC/NCSU BME 335 (Biomaterials), 2 students
Spring 2019, UNC/NCSU BME 540 (Introduction to Nanobiomaterials), 10 students
Fall 2018, UNC/NCSU BME 540 (Introduction to Nanobiomaterials), 5 students
Spring 2018, UNC/NCSU BME 590 (Introduction to Nanobiomaterials), 15 students
Fall 2017, UNC/NCSU BME 540 (Introduction to Nanobiomaterials), 10 students
Spring 2017, UNC/NCSU BME 590 (Introduction to Nanobiomaterials), 10 students
Fall 2017, UNC/NCSU BME 590 (Introduction to Nanobiotechnology), 5 students
Summer 2017, UNC/NCSU BME 590 (Introduction to Nanobiomaterials), 6 students
Spring 2017, UNC/NCSU BME 203 (Introduction to the Materials Science of Biomaterials), 45 students
Spring 2017, UNC/NCSU BME 590 (Introduction to Nanobiomaterials), 15 students
Summer 2016, UNC/NCSU BME 590 (Introduction to Nanobiotechnology), 5 students
Spring 2016, UNC/NCSU BME 203 (Introduction to the Materials Science of Biomaterials), 35 students
Spring 2016, UNC/NCSU BME 590 (Introduction to Nanobiomaterials), 10 students
Spring 2015, UNC/NCSU BME 203 (Introduction to the Materials Science of Biomaterials), 35 students
Spring 2015, UNC/NCSU BME 590 (Introduction to Nanobiomaterials), 10 students
Spring 2014, UNC/NCSU BME 203 (Introduction to the Materials Science of Biomaterials), 35 students
Spring 2014, UNC/NCSU BME 590 (Introduction to Nanobiomaterials), 10 students
Spring 2014, UNC/NCSU BME 590 (Introduction to Nanobiotechnology), 2 students
Spring 2013, UNC/NCSU BME 203 (Introduction to the Materials Science of Biomaterials), 60 students
Fall 2011, UNC/NCSU BME 590 (Nanobiotechnology), 7 students
Fall 2011, UNC/NCSU BME 203 (Introduction to the Materials Science of Biomaterials), 60 students
Fall 2010, UNC/NCSU BME 590 (Biomaterials), 10 students
Spring 2010, UNC/NCSU BME 740 (Advanced Biomaterials), 15 students
Fall 2009, UNC/NCSU BME 495 (Biomaterials), 15 students
Fall 2008, UNC/NCSU BME 495 (Biomaterials), 15 students
Spring 2008, UNC/NCSU BME 795 (Advanced Biomaterials), 15 students
Fall 2007, UNC/NCSU BME 495 (Biomaterials), 15 students
Fall 2006, UNC/NCSU BME 495 (Biomaterials), 15 students
Spring 2006, UNC/NCSU BME 795 (Advanced Biomaterials), 15 students
Fall 2005, UNC/NCSU BME 495 (Biomaterials), 15 students
Spring 2005, Georgia Tech MSE 4803/BMED 4823 (Introduction to Biomaterials), 100 students
Fall 2004, Georgia Tech MSE 6774/BMED 6774 (Biomaterials: Structure and Function), 20 students
Summer 2004, Georgia Tech MSE 2001 (Principles and Applications of Engineering Materials), 100 students
Spring 2004, Georgia Tech MSE 4803/BMED 4823 (Introduction to Biomaterials), 50 students
Fall 2003, Georgia Tech MSE 6610 (Biomaterials) and Georgia Tech MSE 8803 (Special Topics), 20 students
Spring 2003, Georgia Tech MSE 2001 (Principles and Applications of Engineering Materials), 100 students

Continuing education lectures:

Tutorial on 3D Printing, Society for Biomaterials 2022 Annual Meeting, April 27, 2022
Workshop on Translation of 3D-Printed Materials for Medical Applications, Materials Research Society (MRS), January 19, 2022
Workshop on 3D Printing for Medical Applications, Materials Research Society (MRS) and the Society For Biomaterials (SFB), October 5, 2021
Tutorial on 3D Printing, Society for Biomaterials 2021 Annual Meeting, April 20, 2021

Lecture on 3D Printing, World Biomaterials Congress, December 9, 2020
Tutorial on Biomaterials, University of Bologna, July 1, 2020
Tutorial on Biomaterials, Indus University, December 19-20, 2019
Tutorial on 3D Printing, Society for Biomaterials 2019 Annual Meeting, April 3, 2019
Tutorial on 3D Printing, Materials Research Society Fall Meeting, November 25, 2018
Lecture on 3D Printing, Vienna University of Technology, October 1, 2018
Lecture on 3D Printing, Indian Institute of Technology (Banaras Hindu University), August 13, 2018
Tutorial on 3D Printing, Society for Biomaterials 2018 Annual Meeting, April 11, 2018
Lecture on 3D Printing, MD&M West, February 8, 2018
Lecture on 3D Printing, Additive Manufacturing Americas, December 6, 2017
Lecture on 3D Printing, Otago 3D Printing in Medicine Summer Course, November 20, 2017
Lecture on 3D Printing, MD&M East, June 14, 2017
Tutorial on Bioprinting, RAPID 2017, May 8, 2017
Tutorial on 3D Printing, Ceramics Expo 2017, April 23, 2017
Tutorial on 3D Printing, Society for Biomaterials 2017 Annual Meeting, April 5, 2017
Lecture on 3D Printing, World Biomaterials Congress, Montreal, May 17, 2016
Lecture on 3D Printing, Design & Manufacturing Houston, October 14, 2015
Lecture on 3D Printing, Medical Devices Summit Midwest, October 2, 2014
Lecture on 3D Printing, Additive Manufacturing: Medical and Healthcare, May 19, 2014
Tutorial on 3D Printing, Society for Biomaterials 2014 Annual Meeting, April 23, 2014
Lecture on 3D Printing, MD&M West, February 10, 2014
Lecture on 3D Printing, Regulatory Affairs Professionals Society Annual Meeting, October 2, 2013
Lecture on 3D Printing, BIOMEDevice Boston Conference, April 11, 2013
Tutorial on 3D Printing, Society for Biomaterials 2013 Annual Meeting, April 10, 2013
Lecture on 3D Printing, MD&M West, February 13, 2013
Lecture on 3D Printing, BIOMEDevice San Jose Conference, December 5, 2012
Tutorial on 3D Printing, Medical Device Manufacturing and R&D Summit, June 21, 2011
Tutorial on 3D Printing, Society for Biomaterials 2009 Annual Meeting, April 25, 2009
Tutorial on 3D Printing, Society for Biomaterials 2007 Annual Meeting, April 18, 2007
Tutorial on Biology for Materials Scientists and Engineers, TMS 2007 Annual Meeting & Exhibition, February 25, 2007
Tutorial at NSF Summer Institute on Nanomechanics and Materials, Northwestern University, August 2-4, 2006
Tutorial on Nanotechnology Applications in Environmental Health (Oak Ridge Center for Advanced Studies and Environmental Protection Agency), Research Triangle Park, April 20, 2006

6) Service

Editorial appointments:

Editor-in-chief, Biomaterials Forum magazine (Society for Biomaterials)
Editor-in-chief, Biomedical Materials & Devices (Springer Nature)
Editor-in-chief, Elsevier Encyclopedia of Biomedical Engineering
Editor-in-chief, Elsevier Encyclopedia of Sensors & Biosensors
Editor, RSC Book Series on Biomaterials Science
Subject Editor, Elsevier Reference Module in the Biomedical Sciences
Associate Editor, Applied Physics Reviews (AIP)
Associate Editor, Biophysics Reviews (AIP)
Editorial Board Member, International Journal of Bioprinting
Editorial Board Member, Biosensors & Bioelectronics X
Associate Editor, Materials Research Society Advances (Cambridge University Press) (2015-2019)
Editor-in-chief, Materials Science and Engineering C (2007-2018)

Professional society activities:

Member, American Society for Mechanical Engineers Bioengineering Task Force
Member, ASM International Handbook Committee
Member, ASM International Emerging Technology Awareness Committee
Member, TMS Content Development and Dissemination Committee
Member, ASM Technical Committee and Academic Engagement (TCAE) Board Task Force
Chair, Materials Research Society Bio Staging Task Force on 3D/Bioprinting
Chair, MRS/Society for Biomaterials Webinar Series
Chair, Materials Research Society 2016 Spring Meeting
Past Chair, Bioceramics Division, American Ceramic Society
Past Chair, TMS Functional Materials Division
Chair, Materials Research Society 2016 Spring Meeting
Past Member of the Editorial Board, Advanced Materials & Processes (ASM International)
Past Chair, ASM International Emerging Technology Awareness Committee
Past President, North Carolina Tissue Engineering and Regenerative Medicine Society (NCTERMS)
Past Chair, TMS Biomaterials Committee
Past Committee Head, Materials and Processes for Medical Devices Magazine (ASM International)
Past Member, TMS Programming Committee, Membership Committee, Academic Alliance Committee, Nanomaterials Technical Advisory Group
Past Member, American Ceramic Society Publishing Subcommittee

Conference organization activities:

Organizer, 2022 Materials Science and Technology (TMS and ACerS Annual Meeting) Symposium "Next Generation Biomaterials”
Organizer, Materials Research Society 2022 Spring Meeting Symposium “3D Printing of Passive and Active Medical Devices”
Organizer, 2022 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Organizer, Materials Research Society 2021 Fall Meeting Symposium "New Types of Polymers, Composites and Hybrid Materials for Additive Manufacturing"
Organizer, Materials Research Society 2021 Spring Meeting Symposium “Next-Generation Materials and Technologies for Medical 3D Printing and Bioprinting”
Organizer, 2021 Materials Science and Technology (TMS and ACerS Annual Meeting) Symposium "Next Generation Biomaterials”
Organizer, 2021 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Organizer, Materials Research Society 2020 Spring/Fall Meeting Symposium “Advances in 3D Printing for Medical Applications”
Organizer, 2020 Materials Science and Technology (TMS and ACerS Annual Meeting) Symposium "Next Generation Biomaterials”
Organizer, 2020 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Organizer, 2019 American Ceramic Society Innovations in Biomedical Materials Meeting
Organizer, 2019 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials”
Organizer, 2019 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Organizer, Materials Research Society 2018 Fall Meeting Symposium “3D Printing of Active and Passive Medical Devices”
Organizer, 7th International Congress on Ceramics (2018 Meeting) Symposium “Advances in Bioceramics”
Organizer, 2018 International Conference on Ceramic Materials and Components for Energy and Environmental Applications Symposium "Global Innovations in Biomaterials, Biomanufacturing, and Biotechnologies"

Organizer, 2018 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 2018 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium "Next Generation Bioceramics"
Organizer, Materials Research Society 2017 Fall Meeting Kavli Symposium "3D Printing of Biomedical Materials and Devices"
Organizer, 2017 American Institute of Physics Horizons Workshop on 3D Printing
Organizer, 2017 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 12th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 12) Symposium "Nano-Biotechnology and Ceramics in Biomedical Applications"
Organizer, 2017 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium "Next Generation Bioceramics"
Organizer, 2016 American Ceramic Society Innovations in Biomedical Materials Meeting
Organizer, 2016 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 2016 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium "Next Generation Bioceramics"
Organizer, Materials Research Society 2015 Fall Meeting Symposium "Micro- and Nanoscale Processing of Materials for Biomedical Devices"
Organizer, 2015 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 2015 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium "Next Generation Bioceramics"
Organizer, 2014 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
International Advisory Board Member, 2014 Forum on New Materials Symposium "Medical Applications of Novel Biomaterials and Nano-biotechnology"
Organizer, 2014 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium "Next Generation Bioceramics"
Organizer, Materials Research Society 2013 Fall Meeting Symposium "Micro- and Nanoscale Processing of Materials for Biomedical Devices"
Organizer, 2013 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 2013 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium "Next Generation Bioceramics"
Organizer, 8th Pacific Rim International Conference on Advanced Materials and Processing (PRICM 8) Symposium "Biomaterials, Smart Materials, and Structures"
Organizer, 10th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 10) Symposium "Nano-Biotechnology and Ceramics in Biomedical Applications"
Organizer, 2013 THERMEC (International Conference on Processing & manufacturing of Advanced Materials) Symposium "Biomimetic Materials, Nanostructured Biomaterials, and Biological Interactions"
Organizer, 2012 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 2012 American Ceramic Society Innovations in Biomedical Materials Meeting
Organizer, 2012 North Carolina Tissue Engineering and Regenerative Medicine Society Annual Meeting
Organizer, 2012 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium "Next Generation Bioceramics"
Organizer, Materials Research Society 2011 Fall Meeting Symposium "Micro- and Nanoscale Processing of Biomedical Materials"
Organizer, 2011 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"

Organizer, 2011 American Association for the Advancement of Science Annual Meeting Symposium “Use of Lasers in Surgery, Regenerative Medicine, and Medical Device Fabrication”
Co-organizer, Nano-Biomaterial CHAMPS (Characterization, Hierarchy, Advanced Material Processing and Surfaces) Workshop at the Indian Institute of Technology-Kanpur
Organizer, 2011 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Co-organizer, Materials Research Society 2010 Fall Meeting Symposium “Multiscale Mechanics of Hierarchical Biological, Bioinspired and Biomedical Materials"
Organizer, 2010 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 3rd International Congress on Ceramics Symposium "Ceramics for Medicine, Biotechnology and Biomimetics"
Organizer, 2010 Society for Biomaterials Annual Meeting Session "Micro and Nano Biomaterials Synthesis and Characterization"
Organizer, 2010 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Organizer, Materials Research Society 2009 Fall Meeting Symposium “Microscale and Nanoscale Processing of Biomaterials”
Organizer, 2009 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials"
Organizer, 8th Pacific Rim Conference on Ceramic and Glass Technology Symposium “Nano-Biotechnology and Ceramics in Biomedical Applications”
Organizer, 2009 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Organizer, 2008 International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites Symposium “Next Generation Bioceramics”
Organizer, 2008 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials: Advanced Processing, Characterization, and Modeling of Materials for Medical Devices"
Co-organizer, 2008 Materials Research Society Fall Meeting Symposium “Mechanics of Biological and Biomedical Materials”
Organizer, 2007 American Association for the Advancement of Science Annual Meeting Symposium “Novel Materials and Processes for Medical Prostheses”
Organizer, 2007 Society for Biomaterials Annual Meeting Workshop "Recent Developments in Rapid Prototyping of Biomaterials"
Co-organizer, 2007 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium "Next Generation Biomaterials: Advanced Processing, Characterization, and Modeling of Materials for Medical Devices"
Co-organizer, 2007 Regenerate International Conference and Exposition “Continue the Momentum” Symposium “3D Patterned Scaffolds”
Session Chair, 2007 International Cocoa Beach Conference on Advanced Ceramics and Composites Symposium “Bioactive and Anti-Microbial Ceramics”
Organizer, 2006 American Association for the Advancement of Science Annual Meeting Symposium “Lasers in Medicine”
Organizer, 2006 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium “Advanced Biomaterials Processing”
Organizer, 2005 Materials Science and Technology (TMS, ASM-International Annual Meeting, and ACerS Annual Meeting) Symposium “Next Generation Biomaterials”
Co-organizer, 2005 TMS Annual Meeting Symposium “Biological Materials Science”
Organizer, 2004 TMS Annual Meeting Symposium “Nanostructured Materials for Biomedical Applications”

Selected talks:

Keynote Talk, TMS Annual Meeting, Anaheim, March 2022
Invited Talk, The 2nd International Electronic Conference on Biosensors (IECB), February 2022
Invited Talk, 46th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Virtual, January 2022
Research Seminar, Pohang University of Science and Technology, Virtual, November 2021
Invited Talk, Materials Science & Technology Annual Meeting, Virtual, October 2021
Invited Talk, University Policy Towards World Class University (at Sebelas Maret University), October 2021
Invited Talk, Microneedle & Transdermal Summit, October 2021
Invited Speaker in Plenary session, 6th International Conference on Advanced Materials for Better Future, September 2021
Invited Talk, North American Membrane Society 2021 Meeting, August 2021
Invited Talk, XXIX International Materials Research Congress, August 2021
Invited Talk, International Conference on Processing & Manufacturing of Advanced Materials (Thermec'2021), Virtual, May 2021
Invited Talk, 8th International Congress on Ceramics, Virtual, March 2021
Invited Talk, TMS Annual Meeting, Virtual, March 2021
Invited Talk, 45th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Virtual, January 2021
Research Seminar, Purdue University, Virtual, January 2021
Invited Talk, ASTM International Conference on Additive Manufacturing (ICAM 2020), Virtual, November 2020
Invited Talk, Carolina Science Symposium, Virtual, November 2020
Invited Talk, Materials Science & Technology Annual Meeting, Virtual, November 2020
Invited Talk, 6th International Conference on Microneedles, Virtual, November 2020
Plenary Talk, International Conference on Advanced Materials for Better Future, Virtual, October 2020
Research Seminar, Vellore Institute of Technology, Virtual, October 2020
Invited Talk, ACS Fall Virtual Meeting, Virtual, August 2020
Invited Talk, TMS Annual Meeting, San Diego, March 2020
Research Seminar, Virginia Tech, Blacksburg, February 2020
Invited Talk, 44th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2020
Plenary Talk, Frontiers in Materials Processing, Applications, Research & Technology, Ahmedabad, December 2019
Invited Talk, Composites at Lake Louise 2019 Meeting, Banff, November 2019
Invited Talk, Materials Science & Technology Annual Meeting, Portland, October 2019
Invited Talk, XVI ECerS Conference, Turin, June 2019
Invited Talk, Materials Research Society Spring Meeting, Phoenix, April 2019
Invited Talk, TMS Annual Meeting, San Antonio, March 2019
Invited Talk, Society of Plastics Engineers' ANTEC Meeting, Detroit, March 2019
Invited Talk, 43rd International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2019
Invited Talk, Materials Science & Technology Annual Meeting, Columbus, October 2018
Invited Talk, CMCEE 2018 (12th International Conference on Ceramic Materials and Components for Energy and Environmental Applications), Singapore, July 2018
Invited Talk, THERMEC 2018 (Conference on Processing & Manufacturing of Advanced Materials), Paris, July 2018
Invited Talk, CIMTEC 2018 (International Conference on Modern Materials and Tecnologies), Perugia, June 2018
Invited Talk, 7th International Congress on Ceramics, Foz do Iguaçu, June 2018
Invited Talk, 42nd International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2018
Keynote Talk, TERMIS North America Meeting, Charlotte, December 2017
Invited Talk, Materials Research Society Fall Meeting, Boston, December 2017
Research Seminar, University of Canterbury, Christchurch, November 2017
Research Seminar, University of Otago, Christchurch, November 2017
Research Seminar, Auckland Bioengineering Institute, Auckland, November 2017

Invited Talk, Sigma Xi Chapter at Arconic, New Kensington, October 2017
Plenary Talk, International Conference on Advanced Materials for Better Future, Surakarta, September 2017
Keynote Talk, Frontiers in Materials Processing, Applications, Research & Technology, Bordeaux July 2017
Invited Talk, TMS Annual Meeting, San Diego, February 2017
Invited Talk, 41st International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2017
Seminar, University of Cambridge, November 2017
Keynote Talk, International Society for Biofabrication 2016 Meeting, Winston-Salem, October 2016
Invited Talk, Materials Science & Technology Annual Meeting, Salt Lake City, October 2017
Plenary Talk, International Conference on Advanced Materials for Better Future, Surakarta, October 2016
Seminar, Nanyang Technological University, Singapore September 2016
Invited Talk, International Materials Research Congress, August 2016
Invited Talk, American Ceramic Society Innovations in Biomedical Materials Meeting, Chicago, July 2016
Keynote Talk, Bioprinting & 3D Printing in the Life Sciences, Singapore, July 2016
Research Seminar, Nanyang Technological University, Singapore, July 2016
Research Seminar, University College London, London, July 2016
Invited Talk, THERMEC 2016 (Conference on Processing & Manufacturing of Advanced Materials), Graz, June 2016
Invited Talk, 4th International Conference on Microneedles, London, May 2016
Invited Talk, TMS Annual Meeting, Nashville, February 2016
Invited Talk, 40th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2016
Invited Talk, Composites at Lake Louise, Banff, November 2015
Invited Talk, Surfaces in Biomaterials Annual Meeting, Phoenix, September 2015
Keynote Talk, International Conference on Frontiers in Materials Processing, Applications, Research & Technology (FiMPART), Hyderabad, June 2015
Invited Talk, May 2015 US-Australia Enabling Technologies Technical Exchange Meeting, Arlington, May 2015
Invited Talk, RAPID 2015 Meeting, Long Beach, May 2015
Invited Talk, TMS Annual Meeting, Orlando, March 2015
Invited Talk, 39th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2014
Invited Speaker, Rethink Disruption: Emerging Technologies Transforming Business and Society (Chief Technology Officer Forum), San Francisco, November 2014
Oral Presentation, Food & Drug Administration, Silver Spring, October 2014
Research Seminar, Instituto Militar de Engenharia, Rio de Janeiro, September 2014
Invited Talk, International Materials Research Conference, Cancun, August 2014
Invited Talk, 5th International Conference on Nanotechnology: Fundamentals and Applications, Prague, August 2014
Invited Lecture, 6th Forum on New Materials, Montecatini Terme, June 2014
Invited Talk, 10th International Conference on Diffusion in Solids, Paris, June 2014
Plenary Talk, 3rd International Conference on Microneedles, Baltimore, May 2014
Invited Talk, International High Power Laser Ablation and the International Beamed Energy Propulsion Symposium, April 2014
Research Seminar, Duke University, Durham, April 2014
Plenary Talk, 10th International Conference and Exhibition on Ceramic Interconnect and Ceramic Microsystems Technologies, Osaka, April 2014
Invited Talk, TMS Annual Meeting, San Diego, February 2014
Invited Talk, 38th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2014
Keynote Talk, THERMEC 2013 (Conference on Processing & Manufacturing of Advanced Materials), Las Vegas, December 2013
Keynote Talk, 25th Symposium and Annual Meeting of the International Society for Ceramics in Medicine (Bioceramics 25), Bucharest, November 2013

Invited Talk, Composites at Lake Louise, Banff, November 2013
Invited Talk, Materials Science & Technology Annual Meeting, Montreal, October 2013
Keynote Talk, 8th Pacific Rim International Congress on Advanced Materials and Processing, Waikoloa, August 2013
Invited Talk, 22nd International Laser Physics Workshop, Prague, July 2013
Invited Talk, TMS Annual Meeting, Orlando, March 2013
Invited Talk, TMS Annual Meeting, Orlando, March 2013
Invited Talk, 37th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2013
Keynote Talk, 12th Asian Bioceramics Symposium, Tainan, November 2012
Invited Talk, Materials Science & Technology Annual Meeting, Pittsburgh, October 2012
Oral Presentation, University of Surrey, Guildford, September 2012
Invited Talk, International Materials Research Conference, Cancun, August 2012
Invited Talk, Gordon Research Conference, New London, July 2012
Oral Presentation, Food & Drug Administration, Silver Spring, May 2012
Oral Presentation, Festival of Research at Universidade de São Paulo, São Paulo, March 2012
Invited Talk, TMS Annual Meeting, Orlando, March 2012
Invited Talk, 36th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2012
Invited Talk, Materials Research Society Fall Meeting, December 2011
Invited Talk, Institut National de la Recherche Scientifique, Montreal, December 2011
Invited Talk, Composites at Lake Louise, Banff, November 2011
Invited Talk, American Association of Blood Banks Annual Meeting, San Diego, October 2011
Invited Talk, Materials Science & Technology Annual Meeting, Columbus, October 2011
Oral Presentation, Medtronic, Minneapolis, August 2011
Invited Talk, THERMEC 2011 (Conference on Processing & Manufacturing of Advanced Materials), Quebec City, August 2011
Invited Talk, AVS Topical Conference on Atomic Layer Deposition, Boston, June 2011
Invited Talk, Medical Device Manufacturing and R&D Summit, Las Vegas, June 2011
Invited Talk, TMS Annual Meeting, San Diego, March 2011
Distinguished Lecture, 3rd International Congress on Ceramics, Osaka, November 2010
Invited Talk, Carbon Nanostructures and their Applications Webinar, October 2010
Invited Talk, Johnson & Johnson Nanotechnology Symposium, New Brunswick, October 2010
Research Seminar, Duke University, Durham, September 2010
Invited Talk, ACS Fall Meeting, Boston, August 2010
Invited Talk, TMS Annual Meeting, Seattle, February 2010
Keynote Speaker, Second International Symposium on Surface and Interface of Biomaterials (ISSIB-II), Hong Kong, January 2010
Research Seminar, Medtronic, Minneapolis, November 2009
Research Seminar, Closure Medical (Johnson & Johnson), Raleigh, July 2009
Research Seminar, University of South Florida, Tampa, March 2009
Invited Lecture, UNC Mini Medical School, Chapel Hill, March 2009
Invited Talk, TMS Annual Meeting, San Francisco, February 2009
Invited Talk, Professional Engineers of North Carolina Meeting, Wilmington, October 2008
Invited Talk, Carolina Center for Cancer Nanotechnology Excellence Meeting, Chapel Hill, October 2008
Invited Talk, Nanotechnology: The New Generation (Embassy of France), Washington, July 2008
Invited Talk, Bio-Nano Manufacturing Grand Challenges for 2020 Workshop, Arlington, April 2008
Invited Talk, Techtextil, Atlanta, April 2008
Invited Talk, TMS Annual Meeting, New Orleans, February 2008
Research Seminar, University of Cincinnati, Cincinnati, January 2008
Invited Talk, 31st International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, January 2007

Invited Talk, 5th International Conference on Photo-Excited Processes and Applications, Charlottesville, September 2006
Invited Talk, Regenerate World Tissue Engineering Conference, Pittsburgh, April 2006
Invited Talk, TMS Annual Meeting, San Antonio, March 2006
Research Seminar, University of North Carolina, Chapel Hill, June 2005
Research Seminar, University of Florida, Gainesville, May 2005
Invited Talk, TMS Annual Meeting, San Francisco, February 2005
Invited Talk, International Symposium on High-Tech Adhesives and Adhesive Joints: Testing, Characterization and Applications Savannah, December 2004
Invited Talk, ASM Materials Solutions Meeting, Columbus, October 2004
Invited Talk, Materials Science and Technology Meeting, New Orleans, September 2004
Invited Talk, ASM Educational Symposium on Biomaterials, Knoxville, April 2004
Invited Talk, ASM International Atlanta Chapter Meeting, Atlanta, February 2004
Invited Talk, ASM International Savannah River Chapter Meeting, Augusta, February 2004
Research Seminar, Louisiana State University, Baton Rouge, February 2004
Invited Talk, International Symposium on the Adhesion Aspects of Thin Films, Orlando, December 2003
Research Seminar, Medical College of Georgia, Augusta, October 2003
Research Seminar, Georgia Institute of Technology, Atlanta, May 2002

Industrial activities:

Fabrication Services Agreement Project Coordinator, Wake Forest University Health Sciences
Fabrication Services Agreement Project Coordinator, Stemson Therapeutics
Fabrication Services Agreement Project Coordinator, Medtronic
Fabrication Services Agreement Project Coordinator, Lynntech
Fabrication Services Agreement Project Coordinator, Hovid Berhad
Testing Services Agreement Project Coordinator, MilliporeSigma

University activities:

Director, NCSU Nanobiotechnology Certificate Program (2013-present)
Director, UNC Nanobiotechnology Certificate Program (2011-present)
Director, Science Saturday Program at NC Museum of Natural Sciences (2009-present)
Director, Georgia Tech Interdisciplinary Biomaterials Certificate Program (2003-2005)
Faculty Senator representing the College of Engineering, NCSU (2021-present)
Faculty Advisor, NCSU Student Chapter of Parenteral Drug Association (2019-present)
Faculty Advisor, UNC Student Chapter of International Society for Pharmaceutical Engineering (2009-present)
Graduate Research Fellowship Program Reviewer and Advisor, UNC Office of Graduate Education (2010-present)
Interviewer, Park Scholars Program (2014-present)
Alternate Delegate, UNC System Faculty Assembly (2019-2021)
Member, NCSU International Programs Committee (2018-present)
Member, NCSU University Standing Committee on Evaluation of Teaching (2020-present)
Member, NCSU College of Engineering Awards Committee (2009-present)
Member, NCSU College of Engineering Research Committee (2009-present)
Head, UNC/NCSU BME Awards Committee (2007-2009)
Member, UNC/NCSU BME Awards Committee (2005-2009)
Member, UNC/NCSU BME Graduate Admissions Committee (2005-2009)
Member, UNC Working Group on Economic Development (2006-2008)
Member, UNC Science & Technology Policy Working Group (Education Subcommittee) (2006-2008)
Member, Georgia Tech MSE Undergraduate Curriculum Committee (2004-2006)
Member, Georgia Tech MSE Faculty Search Committee (2004-2005)

Activities Outside the Traditional Scholarly Community:

Committee Member, 2014 TriSciTech Expo
Committee Member, 2013 Triangle Biotechnology Engineering Science Technology (BEST) Fest