Bi-min Zhang Newby

Professor, Department of Chemical and Biomolecular Engineering
The University of Akron, Akron, OH 44325-3906
Adjunct Professor, Department of Integrated Medicine,
Northeast Ohio Medical School, Rootstown, OH
(330) 972-2510, bimin@uakron.edu

Education

Ph. D. (1999) and **M. S**. (1995) in Chemical Engineering, ***Lehigh University***, *Bethlehem, PA*
Awards: Distinguished Student Paper Award, Adhesion Society (1998); Peebles Award for Graduate Student Research in Adhesion Science, Adhesion Society (1998); Hoechst Celanese Award Winner for Outstanding Achievement in Graduate Research (1996); First Place – Student Poster Paper Presentation in Materials Engineering and Science Session, AIChE (1996); First place (1998, 1997) and second place (1996) in Polymer Interface Center Student Poster presentations, Lehigh University.

Other accomplishment: published one paper in *Science* as the first author

B. S. (1993) in Chemical Engineering, *magna cum laude*, ***Drexel University***, *Philadelphia, PA*
Awards and achievements: American Institute of Chemists Award (1993); The I. Ray Dunlap Scholarship, Recognition of High Academic Achievement and Worthiness (1992), Certificate Award for Outstanding Contributions to Drexel University for Learning and Instruction (1992)

Inducted into three Honor societies: Phi Eta Sigma, Tau Beta Pi, and Phi Lambda Upsilon.

Experience

Professor (August, 2013 – Present); **Assistant/Associate Professor** (August, 2000 – August, 2013)

The University of Akron, Akron, OH, *Department of Chemical and Biomolecular Engineering*

- Teaching various chemical engineering core courses, including mass transfer operations, process economics, chemical engineering laboratory, and transport phenomena.

  Designed, developed and teach two elective courses on surface science, materials and characterizations (4200:621 – surface science in chemical engineering and 4200:696 – exploring micro/nano technologies through characterizations). Both courses contain hand-on activities for re-enforcing students' learning of the complex concepts.

- Exploring both applied and fundamental research in the areas of surface modification and patterning, interfacial phenomena, polymer thin films, antifouling, biocorrosion, biomaterial fabrication, hydrogel-based carrier designs, and wound repair. Many of the projects are inspired by natural products, stimuli responsive materials, and everyday naturally occurring phenomena. (Details are summarized in the supporting information section.)

- Conducting services to the university, local communities, professional societies, scientific journals and funding agencies. (Details are summarized in the supporting information section.)

Postdoctoral Researcher (August 1998 – June 2000)
The University of Pennsylvania, Philadelphia, PA, *Department of Materials Science and Engineering*

- Investigated confinement effects on phase separation of polymer blend thin films. Explored protein adsorption/cell attachment and growth on surfaces modified with self-assembled monolayers (SAMs) and bio-active peptides.

- Assisted and supervised graduate and undergraduate students in their research projects. Co-taught an introductory polymer course in Spring semester of 2000.

Research Assistant (June 1994 – June 1998)
Lehigh University, Bethlehem, PA, *Department of Chemical Engineering*

- Discovered a new relationship between friction and adhesion in fracture processes. Developed novel methods to investigate interfacial slip near crack tip.
- Acted as the lab manager (1995-1998) for organizing various events for the research group; was responsible for training both new group members as well as outside users on different techniques and using various equipment in the group.

Process Engineer (September 1991 – March 1992; August 1990 – March 1991)
E. I. Du Pont De Nemours & Company, Inc., Philadelphia, PA

- Developed and performed statistically designed experiments to optimize acrylic polymerizations.
- Optimized polymer/solvent systems in developing a better surface coating.

Learning Specialist and Tutor (January 1990 – August 1993)
Drexel University, Philadelphia, PA, *Drexel Center for Learning and Instruction*

- Provided assistance to students in improving their study skills and learning concepts of different math, science and engineering courses.

Student Advising

Advising/advised 10 PhD and 10 Master students on their dissertation/thesis work; 60 undergraduate students on their design electives, honors' projects, and research projects; two visiting scholars; and 18 high-school students and two high-school science teachers on their summer research.

Publications/patents

Have published over 50 refereed journal articles (nine co-authored with undergraduate students), three book chapters, and 22 conference proceedings; filed two patents with one issued.

Funding

Have secured ~ $1.4M (with ~$780K to my credit) of external funding, and $96K of internal funding (with $67K to my credit) for supporting research and for carrying out outreach activities.

Invited talks/seminars/lectures

Have given 9 invited talks/seminars; was an invited visiting faculty in University of Maine, Le Mans, France (summer 2011); an invited lecturer for MECTEC Graduate Lecture Series 2010, Chulalongkorn University, Bangkok, Thailand (Summer 2010).

Collaborations

Have been collaborating with faculty in various departments within the university (Biology, Chemistry, Geology, Biomedical Engineering, Civil Engineering, Mechanical Engineering, Polymer Science, Polymer Engineering) as well as other local institutes (e.g., Summa, NEOMED).

Supporting information

Details on Research

Research areas

I am exploring both applied and fundamental research in the areas of surface modification and patterning, interfacial phenomena, polymer thin films, antifouling, biocorrosion, biomaterial fabrication, hydrogel-based carrier designs, and wound repair. The details are:

Exploring applications of natural products, such as proteins from squid ring teeth, extracts from brown algae (alginate) and eelgrass (zosteric acid), and nanocelluloses produced by bacteria, in the areas of biomedical engineering, medicine, and antifouling.

Developing simpler methods for immobilizing stimulus responsive materials, especially of a thermal (i.e., temperature) responsive polymer – poly(*N*-isopropylacrylamide), for stem cell therapy, tissue engineering and drug delivery applications.

Investigating the roles of microorganisms (e.g., bacteria and fungi) and their biofilms on the deterioration of polymeric coatings and metals.

Employing everyday naturally occurring phenomena, such as decaying of liquid films on a windowpane or "tears of wine" (Marangoni flow), for developing simpler, faster and in-expensive surface patterning techniques: (1) patterning proteins, (2) pattering ordered arrays of nanoparticles, and (3) generating highly regulated porous polymer thin films etc.

Utilizing self-assembled monolayers (SAMs) of organosilane for generating various gradient surfaces to (1) conduct combinatorial studies on polymer thin film behaviors, (2) fabricate tunable nanoparticle density gradients for sensor applications, (3) drive liquid droplet movements for microfluidic/nanofluidic and lab-on-a-chip applications, and (4) evaluate hydrophobic interactions and poly (ethylene glycol) density and conformation on protein adsorption/cell attachments and subsequent biofilm formation.

Students Advised/Advising

Graduate students (10 PhD, 10 MS/ME)

Name	Period	Degree	Current location – position
Elham Malekzadeh	08/2017 – present	PhD	The University of Akron – Graduate student
Qing Wang	08/2013 – 12/2017	PhD	The University of Akron – Graduate student
Abdullah Alghunaim	08/2014 – 08/2016	MS	The Dow Chemical Company, Dow Middle East Innovation Center (MEIC), Saudi Arabia – Lead Product Development Engineer
Kaylee Sutton	05/2015 – 05/2016	ME	Sherwin-William, Akron, OH – R&D Academic Fellow
Siriporn Taokaew	09/2012 – 12/2015 (co-advised)	PhD, PostDoc	Nagaoka University of Technology, Japan – Assistant Professor
Hokyung Song	08/2010 – 12/2014	PhD	LG, Seoul, S. Korea – Senior Research Manager
Hua Wang	08/2009 – 5/2014	PhD	Monsanto, St. Louis, MO – Microbial formulations chemist
Nikul Patel	08/2009 – 5/2014 (co-advised w. Zhang)	PhD	Sangamo Therapeutics, Inc., Richmond, CA – Senior Process Development Engineer
Jia Fang	08/2009 – 12/2011	MS	

Maureen E. Cheung	08/2008 – 08/2010	MS	Summa Health System, Akron, OH – Residence
Yangjun Cai	08/2006 – 12/2009	PhD	Bloo Solar, Sacramento, CA – Imprint Chemist
Akhila Raya	08/2007 – 12/2009	MS	Shire, Westlake Village, CA – Principal Engineer
Feng Song	08/2002 – 05/2007	PhD	Ashland Specialty Ingredients, NJ/DE – Senior Staff Scientist
Abdulhadi A. Al-Juhni	08/2001 – 08/2007	PhD	King Fahd University of Petroleum and Minerals, Saudi Arabia – Associate Professor
Sung-Hwan Choi	08/2000 – 05/2006	PhD	IHN Laboratories, Inc, South Korea – CEO
Lifang (Lisa) Wang	08/2002 – 12/2004	MS	Fada Nitrogen Inc, Houston, TX – Sales Engineer
Carlos A. Barrios	01/2002 – 08/2004	MS	3M, Minneapolis/St Paul – Research Specialist
Qing wei Xu	01/2002 – 12/2004 (co-advised w. Cutright)	MS	Linyi Jinmin Water Co., Ltd, Shangdong, P. R. China
Karunakar R. Jaggari	08/2000 – 12/2002	MS	AkzoNobel Polymer Chemicals LLC, Chicago, IL – Technical Market Development Manager
Pradeep K. Thallapalle	08/2000 – 08/2002	ME	California Dept. of Conservation, Sacramento, CA – Associate Oil and Gas Engineer

Undergraduate Students (70 so far) – Design, research and Honors Projects

Name	Period	Project
Kayla Covington	05/2019 – present	Gelatin based strong hydrogel by Hofmeister ions
Hannah Eldridge[#]	06/2019 – present	Swelling/solubility of gelatin gels in salt solutions
Nora Ibrahim	09/2018 – present	Polyelectrolyte coated hydrogels
Alec A. Jerger[#]	06/2019 – present	Thermo-responsive natural rubber/cellulose composites
Hannah Pineault[#]	06/2019 – present	Gelatin based strong hydrogel by Hofmeister ions
Ashlyn Schmidt	07/2019 – present	Swelling/solubility of gelatin gels in salt solutions
Autumn Furniss[#]	06/2017 – 05/2019	Hydrogels of squid ring teeth proteins
Lucas Ingalls[#]	06/2018 – 05/2019	Top 10 NAFTA non-tire rubber company mapping
Charles Johnson[#]	08/2018 – 05/2019	Atmospheric solids analysis probe for characterizing cross-linked polymers
Dan Madler	07/2018 – 05/2019	Environmentally friendly adhesive cements
Joshua Moser[#]	01/2016 – 05/2019	Hofmeister ions on behaviors of hydrogels and particle attachment
Luke Webel[#]	08/2018 – 05/2019	Textured thermo-responsive surfaces
Eric Brink[#]	03/2015 – 12/2018	Surface immobilization of poly(*N*-isopropylacrylamide)
Michelle Ayers[#]	08/2017 – 05/2018	Fluid dynamics of an industrial mixer
Manea Saleh Alyami	01/2017 – 05/2018	Thermo-responsive polymers on polycarbonate
Eric Britton[#]	08/2017 – 05/2018	Rheological properties of protein based hydrogels
Kristi Ferrato[#]	06/2016 – 05/2018	Modification of bacterial celluloses
Mitchell Habegger[#]	06/2016 – 05/2018	Patterning bacterial cellulose via bio-lithography
Alexander Hoyt	05/2017 – 05/2018	Aluminum corrosion by oxalic acid
Ahmed Hussein	01/2017 – 05/2018	Hydrogels from squid ring teeth proteins
Alex Pica[#]	09/2017 – 05/2018	Coating degradation by fungal metabolites
Zach Benekos[#]	08/2016 – 05/2017	Squid ring teeth protein based hydrogels
Maelani Dennis	01/2016 – 05/2017	Bacterial cellulose hydrogels
John Demopoulos[#]	08/2016 – 05/2017	Corrosion protection for aluminum and magnesium alloys
Kamshat Dukenbaeva[#]	06/2016 – 05/2017	Aluminum alloy corrosion by *Aspergillus niger*
Mary McCannon[#]	10/2016 – 05/2017	Crumb rubber/concrete composites
Sean Stybel[#]	08/2016 – 05/2017	Stability of low fouling polyelectrolyte films
Rima Vasudevan[#]	08/2016 – 05/2017	Prolong shelf life of red roses

Heather Fairbairn[#]	08/2015 – 05/2016	Thermal responsive drug delivery systems
Dounsavanh Letdara[#]	08/2015 – 05/2016	Polyelectrolyte complex delivery systems
Ryan Loftus[#]	08/2015 – 05/2016	Alginate microbeads via an air assisted shearing process
Gregg Butala Jr	01/2016 – 05/2016	Cellular behaviors on silanied surfaces
Camila Teles Garcia*	05/2015 – 07/2015	Corrosion of aluminum by fungi
Dan Peters[#]	08/2014 – 05/2015	Polymeric micro-tubes
Abdullah Alghunaim	01/2014 – 05/2014	Marangoni cleaning and thermoresposive surfaces
Jamie Whyte[#]	08/2013 – 05/2014	Controlled release from hydrogels
Renea Horn**	08/2013 – 05/2014	Drug release from hydrogels
Lauren Kukwa	09/2012 – 12/2012	Drug release from hydrogels
David Ratino	06/2012 – 05/2013	Bacterial and fungal induced corrosion
Sean Dilion[#]	08/2011 – 05/2013	Multicomponent distillation of aromatic compounds
Mike Pienoski	08/2011 – 12/2011	Multicomponent distillation of aromatic compounds
Kevin Cameron[#]	08/2011 – 05/2012	Cell sheet engineering
John Cavicchia**	05/2011 – 05/2012	Thermoresponsive polymers and cell sheet engineering
Xin He	08/2008 – 05/2012	Antifouling, microbiologically influenced corrosion
Michael Lembono[#]	08/2011 – 05/2012	Polymer blend thin films
Tanya Miracle[#]	06/2011 – 05/2012	Superhydrophobic coatings for corrosion prevention
Keith Dick	08/2011 – 12/2011	Properties of poly(*N*-isopropylacrylamide)
Aaron Cook	05/2010 – 08/2010	Vinyl – foam adhesion evaluation
David Thomas[#]	08/2010 – 05/2011	Microbiologically influenced corrosion (MIC)
Kathrine Morris[#]	08/2010 – 05/2011	Environmental conditions on carbon steel corrosion
Schuan Ginesi[#]	08/2010 – 05/2011	Temperature responsive on demand adhesive
Christopher King	08/2009 – 05/2010	Synthesis of zosteric acid
Eric Rasmussen	08/2009 – 05/2010	Marangoni-flow assembly
Chris Palmer[#]	08/2009 – 05/2010	Control release from biodegradable polymers
Lindsey Ondo[#]	08/2009 – 05/2010	non-lithography for patterning proteins
Stephanie Crews[#]	08/2009 – 05/2010	control release from hydrogels
Robert Gassener[#]	08/2008 – 05/2009	Marangonic flow for protein patterning
Jonathan Rajala[#]	08/2008 – 05/2009	superhydrophobic coatings via breath fingers
Pretik Doshi	08/2007 – 12/2007	superhydrophobic nature systems
Jonathan Golob	01/2007 – 05/2007	modeling of control release of hydrophilic drugs
Mike Nicolosi	08/2006 – 05/2007	control release of hydrophilic drugs from silicone
James Anson	01/2007 – 05/2007	superhydrophobic plant leaves
Carl Loskofsky	05/2005 – 12/2006	under water adhesion measurements
Lateefah Hafeez	08/2004 – 05/2006	hydrophobicity recovery of oxidized silicone surfaces
Justin Wolfe	05/2004 – 12/2004	peel adhesion
Adam Sinick	05/2004 – 12/2004	interfacial assembly
Zeth Eberling	05/2004 – 05/2005	interfacial assembly
Jeb Gayheart	05/2004 – 05/2005	interfacial assembly
Deanna Beasley	08/2002 – 05/2004	surface modification
Hossein Youssefi	08/2000 – 05/2003	modification of metal surfaces

[#] Honors project ** Biomedical engineering student

*Brazil Scientific Mobility Program Summer Intern, home institute – the Federal University of Jequitinhonha and Mucuri Valeys (UFVJM), Brazil.

Highschool Students (18) and teachers (2) – Summer research experience

Name	summer	Highschool	Program involved
Ian Adams	2015	Western Reserve Academy	Summer Research Academy

		(WRA), Hudson, OH	in Engineering
Wanxin Zhang		Westview, San Diego, CA	
Wanxin Zhang	2013, 2014	Westview, San Diego, CA	NIH AREA (HS outreach)
Tony X. Pan	2013	Lynbrook, San Jose, CA	
Andrew Quinn	2013	Hoover, Canton, OH	Corrosion Research Academy
Quinn Gilbert		Firestone, Akron, OH	
Lisa Blumenthal	2012	Laurel School, Shaker Heights, OH	NIH AREA (HS outreach)
David Ma		WRA, Hudson, OH	
Bryce Mitchell	2010	Firestone, Akron, OH	Project-Lead-the Way
Nicholas Kienzle			
Louis Ray	2010	Firestone, Akron, OH	Project-Lead-the Way
Abigail Freitag			
Xiao (Amy) Gao	2010	Firestone, Akron, OH	ACS Project SEED
Abigail Freitag	2009	Firestone, Akron, OH	Project-Lead-the Way
James Ray			
Donella Oliver	2008	Buchtel, Akron, OH	Upward Bound
Holly Beach	2008	Buchtel, Akron, OH	ACS Project SEED
Bruce Perry	2006, 2007	Firestone, Akron, OH	Project-Lead-the Way
Shammas Malik			
Joanna Price	2013	St Vince & St Mary High School, Akron, OH	NSF-RET
Joshua Odom	2012	East High School, Akron, OH	NSF-RET

International visiting scholars (3)

Name	Period	Home Institute	Project
Sirilak Phomrak	06/2019 – present	Chulalongkorn University, Bangkok, Thailand	Stimuli responsive natural rubber-bacterial cellulose composites
Pamela Pasetto	05/2012 – 08/2012	Université de Maine, Le Mans, France	Antifouling of coatings from recycled rubber
Suchata Kirdponpattara	08/2012 – 09/2013	Chulalongkorn University, Bangkok, Thailand	Wettability of porous medium

Journal publications (out of 50) with undergraduates as the first author (3) or a co-author (8)

52. A Hoyt, S Li, X Dai, C Garcia, H Cong*, B-m Zhang Newby*, ***Corros. Eng. Sci. Technol.***, 53(6), 413-421, 2018.

49. A Alghunaim, E Brink, E Newby, B-m Zhang Newby*, ***BioInterphases***, 12(2), 02C405, 2017.

48. A Alghunaim, E Brink, B-m Zhang Newby*, ***Polymer***, 101, 139-150, 2016.

31. N Patel, J Cavicchia, G Zhang, B-m Zhang Newby*, ***Acta Biomateriala***, 8(7), 2559-2567, 2012.

30. J Ram, S Purohit, B-m Zhang Newby*, T Cutright, ***Nat. Prod. Res.***, 26(6), 580-584, 2012.

29. H Wang, M Sodagari, Y Chen, X He, B-m Zhang Newby*, L-K Ju*, ***Colloid. Surf. B: Biointerfaces***, 87(2), 415-422, 2011.

26. A Raya, M Sodagari, N Pinzon, X He, B-m Zhang Newby*, L-K Ju*, ***ESPR***, 17(9), 1529-1538, 2010.

19. C Loskofsky, F Song, B-m Zhang Newby*, ***J. Adhesion***, 82(7), 713-730, 2006.

12. H Haque, T Cutright, B-m Zhang Newby*, ***Biofouling*** 21(2), 109-119, 2005.

Additional journal publications (in Web of Science indexed journals)

53. S. Taokaew, A. Alghunaim, B.-m. Zhang Newby*, "Zosteric acid, a bioactive component in eelgrass *Zostera marina*, reduced collagen I expression in repaired mouse fibroblast scratch", ***Nat. Prod. Commun.***, 14(5), 1934578X19850713, 2019.

51. Q. Wang, B.-m. Zhang Newby, "Layer-by-layer polyelectrolyte coating of alginate microgels for sustained release of sodium benzoate and zosteric acid", ***J. Drug. Deliv. Sci. Technol.*** 46, 46-54, 2018.

50. A. Jamaiyar, W. Wan, V. Ohanyan, M. Enrick, D. Janota, D. Cumpston, H. Song, K. Stevanov, C. L. Kolz, T. Hakobyan, F. Dong, B.-m. Zhang Newby, W. M. Chilian, L. Yin, "Alignment of inducible vascular progenitor cells on a micro-bundle scaffold improves cardiac repair following myocardial infarction", ***Basic Res. Cardiol.***, 2017, 4, 41.

47. X. Dai, H. Wang, H. Cong, L.-K. Ju, G. Cheng, B.-m. Zhang Newby*, "Corrosion of Aluminum Alloy 2024 Caused by *Aspergillus niger*", ***Int. Biodeter. Biodegr. (IBB)***, 2016, 115, 1-10.

46. Q. Liu, W. Li, H. Wang, B-m. Zhang Newby, F. Cheng, L. Liu*, "Amino acid-based zwitterionic polymer surfaces highly resist long-term bacterial adhesion", ***Langmuir***, 2016, 32(31), 7866-7874.

45. A. Alghunaim, B.-m. Zhang Newby*, "Cross-linked polystyrene sulfonic acid and polyethylene glycol as low fouling material", ***Colloid. Surf. B: Biointerfaces***, 2016, 140, 514-522.

44. A. Alghunaim, B.-m. Zhang Newby*, "Influence of tube wettability on water contact angle of powders determined by capillary rise", ***Colloid Surf. A***, 2016, 492, 79-87.

43. A. Alghunaim, S. Kirdponpattara, B.-m. Zhang Newby*, "Techniques for determining contact angle and wettability of powders", ***Powder Technol.***, 2016, 287, 201-215.

42. H. Chen, C. Qiang, R. Hu, Y. Chang, H. Wang, B.-m. Zhang Newby, J. Zheng*, "Mechanically strong hybrid double network hydrogels with antifouling property", ***J. Mater. Chem. B***, 2015, 3: 5426-5435.

41. S. Taokaew, M. Phisalaphong, B.-m. Zhang Newby*, "Modification of bacterial cellulose with organosilanes to improve attachment and spreading of human fibroblasts," ***Cellulose***, 2015, 22: 2311-2324.

40. H. Song, L. Yin, W. M. Chilian, B.-m. Zhang Newby*, "Dewetting based fabrication of injectable cell/polymer fibrous micro-scaffolds", ***Mat. Sci. Eng. C***, 2015, 48: 663-672.

39. Y.j. Chen, Q. Tang, J. Senko, G. Cheng, B.-m. Zhang Newby, H. Castaneda, and L.K. Ju*, "Long-term survival of *Defulfovibrio vulgaris* on carbon steel and associated pitting corrosion," ***Corrosion Science*** 2015, 90: 89-100.

38. H. Wang, B.-m. Zhang Newby*, "Applicability of the extended Derjaguin–Landau–Verwey–Overbeek theory on the adsorption of bovine serum albumin on solid surfaces", ***Biointerphases***, 2014, 9(4): 041006.

37. H. Wang, L.K. Ju, H. Castaneda-Lopez, G. Cheng, B.-m. Zhang Newby*, "Corrosion of carbon steel C1010 in the presence of iron oxidizing bacteria *Acidithiobacillus ferrooxidans*", ***Corros. Sci.***, 2014, 89: 250-257.

36. A. Al-Juhani*, B.-m. Zhang Newby, "Assessments of capsaicin incorporated silicone rubber as antifouling coatings", ***J. Rubber Res.***, 2014, 17(3): 173-186.

35. S. Taokaew, M. Phisalaphong, B.-m. Zhang Newby*, "*In vitro* behaviors of rat mesenchymal stem cells on bacterial celluloses with different moduli", ***Mat. Sci. Eng. C***, 2014, 38: 263-71.

34. H. Wang, M. S. Sodagari, L.-K. Ju, B.-m. Zhang Newby*, "Effects of shear on initial bacterial attachment in slow flowing systems", ***Colloid. Surf. B: Biointerfaces***, 2013, 109: 32-39.

33. S. Kirdponpattara, M. Phisalaphong, B.-m. Zhang Newby*, "Applicability of Washburn capillary rise for determining water contact angle for powders and porous materials", ***J. Colloid Interface Sci.***, 2013, 397: 169-76.

32. M. S. Sodagari, H. Wang, B.-m. Zhang Newby, L.-K. Ju*, "Effects of rhamnolipids on initial attachment of bacteria on glass and octadecyltrichlorosilane-modified glass", ***Colloid. Surf. B: Biointerfaces***, 2013, 103: 121-8.

28. M. Model*, J. Fang, P. Yuvaraj, Y.j. Chen, B.-m. Zhang Newby, "3D deconvolution of spherically aberrated images using commercial software", ***J. Microscopy***, 242(1), 94-100, 2011.

27. Y.-j. Cai, B.-m. Zhang Newby*, "Polymer microstructure arrays consequence of Marangoni flow-induced water droplets", ***Applied Physics A***, 100(4), 1221-1229, 2010.

25. Y.-j. Cai, B.-m. Zhang Newby*, "Fracture-induced formation of parallel silicone strips", ***J. Mater. Res.***, 25(5), 803-809, 2010.

24. Y.-j. Cai, Y. H. Yun, B.-m. Zhang Newby*, "Generation of contact-printing based poly(ethylene glycol) gradient surfaces with micrometer-sized steps", ***Colloid. Surf. B: Biointerfaces***, 75(1), 115-122, 2010.

23. Y.-j. Cai, B.-m. Zhang Newby*, "Porous polymer films templated by Marangoni flow-induced water droplet arrays", ***Langmuir***, 25 (13), 7338-7645, 2009.

22. Y.-j. Cai, B.-m. Zhang Newby*, "Marangoni flow induced self-assembly of hexagonal and stripelike nanoparticle patterns", ***JACS***, 130(19), 6076-6077, 2008.

21. Y.-j. Cai, B.-m. Zhang Newby*, "Dewetting of polystyrene thin films on poly(ethylene glycol) modified surfaces as a simple approach for patterning proteins", ***Langmuir***, 24 (10), 5202-5208, 2008.

20. F. Song, Y.-j. Cai, B.-m. Zhang Newby*, "Fabricating tunable nanoparticle density gradients with the contact printing based approach", ***Appl. Surf. Sci.,*** 253(5), 2393-2398, 2006.

18. A. A. Al-Juhni, B.-m. Zhang Newby*, "Incorporation of benzoic acid and sodium benzoate into silicone coatings and subsequent leaching of the compound from the incorporated coatings", ***Prog. Org. Coatings.*** 56 (2), 135-145, 2006.

17. S.-H. Choi, B.-m. Zhang Newby*, "Suppress polystyrene thin film dewetting by modifying substrate surfaces with aminopropyltriehtoxylsilane", ***Surf. Sci.*** 600(6), 1391-1404, 2006.

16. S.-H. Choi, B.-m. Zhang Newby*, "Dynamic contact angle in rim instability of dewetting holes", ***J. Chem. Phys.*** 124(5), Art. No. 054702, 2006.

15. B.-m. Zhang Newby*, T. J. Cutright, C. A. Barrios, Q. W. Xu, "Zosteric acid – an effective antifoulant for reducing fresh water bacterial attachment on coatings", ***JCT Research*** 3(1), 69-76, 2006.

14. Q. W. Xu, C. A. Barrios, T. J. Cutright, B.-m. Zhang Newby[#], "Evaluation of toxicity of capsaicin and zosteric acid and their potential applications as antifoulants", ***Environ. Toxicol.*** 20 (5), 467-474, 2005.
13. Q. W. Xu, C. A. Barrios, T. J. Cutright, B.-m. Zhang Newby[#], "Assessment of antifouling effectiveness of two NPAs by attachment study with freshwater bacteria", ***ESPR*** 12(5), 278-284, 2005.
11. L.-f. Wang, G.-y. Zhu, P. Wang, B.-m. Zhang Newby[*], "Self-assembling of polymer-enzyme conjugates at oil/water interfaces", ***Biotechnol. Progress*** 21, 1321-1328, 2005.
10. C. A. Barrios, Q. W. Xu. T. J. Cutright, B.-m. Zhang Newby[*], "Incorporating zosteric acid into silicone coatings to achieve its slow release while reducing fresh water bacterial attachment", ***Colloid. Surf. B: Biointerfaces***, 41, 83-93, 2005.
9. C. Turgut, B.-m. Newby, T. J. Cutright[*], "Determination of optimal water solubility of capsaicin for its usage as a non-toxic antifoulant", ***ESPR*** 11(1), 7 – 10, 2004.
8. S.-H. Choi, B.-m. Zhang Newby[*], "Micrometer-scaled gradient surfaces generated using contact printing of octadecyltrichlorosilane", ***Langmuir*** 19(18), 7427 – 7435, 2003.
7. S.-H. Choi, B.-m. Zhang Newby[*], "Alternative method for determining surface energy by utilizing polymer thin film dewetting", ***Langmuir*** 19(4), 1419 – 1428, 2003.
6. B.-m. Zhang Newby, K. Wakabayashi, R. J. Composto[*], "Confinement induced stabilization in polymer blend thin films", ***Polymer*** 42(21), 2001.
5. B.-m. Zhang Newby[*], R. J. Composto, "Phase-morphology map of polymer-blend thin films confined to narrow strips", ***Phys. Rev. Lett.*** 87(9), 098302-1-098302-4, 2001.
4. B.-m. Zhang Newby, R. J. Composto, "Influence of lateral confinement on phase separation in thin film polymer blends", ***Macromolecules***, 33, 3274-3282, 2000.
3. B.-m. Zhang Newby, M. K. Chaudhury, "Friction in adhesion", ***Langmuir***, 14(17), 4865-4872, 1998.
2. B.-m. Zhang Newby, M. K. Chaudhury, "Effect of interfacial slippage on viscoelastic adhesion", ***Langmuir***, 13(6), 1805-1809, 1997.
1. B.-m. Zhang Newby, M. K. Chaudhury, H. R. Brown, "Macroscopic evidence of the effect of interfacial slippage on adhesion", ***Science***, 269, 1995.

Refereed Book Chapters

3. S. L. York, J. D. King, A. S. Pietros, B. Zhang Newby, P. Sethu, M. M. Saunders[*], "Development of a microloading platform for *in vitro* mechanotransduction studies", ***Mechanics of Biological Systems and Materials***, Chapter 8, Conference Proceedings of the Society for Experimental Mechanics Series 2015, 53-59.
2. S. Taokaew, M. Phisalaphong, B.-m. Zhang Newby, "Bacterial cellulose: Biosyntheses, Modifications, and Applications" ***Applied Environmental Materials Science for Sustainability***, 2016, Chapter 12, 255-282.
1. S.-H. Choi, Y.-j. Cai, B.-m. Zhang Newby[*], "Adhesion enhancement of polystyrene thin film on surfaces modified with aminopropyltriehtoxylsilane ultrathin layers", ***Silanes and Other Coupling Agents,*** Vol 4, (K. L. Mittal Edited), VSP 2007, 179-197.

Other Refereed Publications

3. H. Wang, L.K. Ju, H. Castaneda-Lopez, G. Cheng, B.-m. Zhang Newby*, "Corrosion of carbon steel C1010 and stainless steel 304 in the presence of iron oxidizing bacteria *Acidithiobacillus ferrooxidans*", ***Corrosion*** 2015, NACE Technical paper (Paper ID C2015-6060).
2. H. Wang, M. S. Sodagari, Y. Chen, Q. Tang, X. Shan, J. Payer, L.-K. Ju, G. Cheng, B.-m. Zhang Newby* "Developing flow system for monitoring initial stages of biofilm formation on microbiologically induced corrosion", ***2011 DOD Corrosion Conference*** Technical paper (Paper ID 20574).
1. K. Moorthy, B.-m. Newby, G. G. Chase, "Effect of surface energy of fibers on coalescence fuel filtration", ***Exploration & Production: The Oil & Gas Review***, issue 2, 2007.

Patents

4. Abdullah Alghunaim, Bi-min Zhang Newby, "Thermoresponsive cell culture supports", ***US Patent App.*** 16/239,671, 2019.
3. Bi-min Newby, Nikul Patel, John Cavicchia, Ge Zhang, "Thermo-responsive cell culture supports", ***US Patent App.*** 15/499,964, 2017.
2. Abdullah Alghunaim, Bi-min Zhang Newby, "Thermoresponsive cell culture supports", ***US Patent App.*** 15/458,254, 2017.
1. Bi-min Newby, Nikul Patel, John Cavicchia, Ge Zhang, "Thermo-responsive cell culture supports", ***US9701939***.

Conference Proceedings

22. S. Kirdponpattara, B.-m. Zhang Newby, M. Phisalaphong, "Effect of oxygen plasma treatment on bacterial cellulose-alginate composite sponge as a yeast cell carrier for ethanol fermentation", ***Advanced Materials Research*** 724-725: 1150-1153, 2013 (DOI: 10.4028/www.scientific.net/AMR.724-725.1150).
21. B.-m. Zhang Newby, Y.j. Cai, "Fracture induced creation of parallel silicone strips", ***Polymer Preprints***, 239th ACS meeting, 2010.
20. A. Jagtiani, J. Zhe, B.-m. Zhang Newby, "Simultaneous detection of multiple bioparticles with a high throughput resistive pulse sensor", Paper No. IMECE2006-15565, ***Micro-electro mechanical systems Division, MEMS***, American Society of Mechanical Engineers, 2006, pp. 551-555. (From: ASME 2006 International Mechanical Engineering Congress and Exposition)
19. B.-m. Zhang Newby, Y. Cai, F. Song, S.-H. Choi, "Generating step-wise gradient surfaces as combinatory tools for investigating adhesion phenomena", the ***Proceedings of the 29th Annual Meeting of the Adhesion Society***, 2006.
18. A. Al-Juhni, B.-m. Zhang Newby, "Bulk entrapment of less toxic antifouling compounds into silicone coatings to evaluate their release: experimental studies and mathematical modeling", ***Smart Coating 2006 Symposium***, 2006.

17. A. Al-Juhni, B.-m. Zhang Newby, "Incorporation of sodium benzoate into silicone coatings: An Environmental Friendly Way to Resolve Biofouling Problems", the ***Proceedings of the 28th Annual Meeting of the Adhesion Society***, 2005.
16. S.-H. Choi, B.-m. Zhang Newby, "Adhesion enhancement of amino-functional organosilane for polystyrene thin films", the ***Proceedings of the 28th Annual Meeting of the Adhesion Society***, 2005.
15. B.-m. Zhang Newby, C. Loskofsky, C. A. Barrios, "Under water adhesion measurement with JKR technique", the ***Proceedings of the 28th Annual Meeting of the Adhesion Society***, 2005.
14. B.-m. Zhang Newby, C. A. Barrios, Q. W. Xu, T. J. Cutright, "Zosteric acid: an effective antifoulant for reducing bacterial attachment on coatings", ***Abstracts of Papers of the American Chemical Society***, 228:322-Poly, Part 2, Aug 22, 2004.
13. A. Al-Juhni, B.-m. Zhang Newby, "Techniques for incorporating of capsaicin into silicone for enhanced antibacterial performance", the ***Proceedings of the 27th Annual Meeting of the Adhesion Society***, 2004.
12. C. A. Barrios, Q. W. Xu, T. J. Cutright, B.-m. Zhang Newby, "Evaluation of antifouling properties of zosteric acid", the ***Proceedings of the 27th Annual Meeting of the Adhesion Society***, 2004.
11. S.-H. Choi, B.-m. Zhang Newby, "Rim instabilities depending on substrate surface energy in polystyrene thin film dewetting", the ***Proceedings of the 27th Annual Meeting of the Adhesion Society***, 2004.
10. K. R. Jaggari, B.-m. Zhang Newby, "Immobilizing capsaicin on silicone to access the coatings antifouling performance", the ***Proceedings of the 26th Annual Meeting of the Adhesion Society***, 2003.
9. S.-H. Choi, B.-m. Zhang Newby, "An alternative method for determining surface energy by utilizing polymer thin film dewetting", the ***Proceedings of the 26th Annual Meeting of the Adhesion Society***, 2003.
8. K. R. Jaggari and B.-m. Zhang Newby, "Preparation of porous PDMS membranes by polymer blend phase separation mechanism", ***Abstracts of Papers of the American Chemical Society***, 224:164-Poly, Part 2, Aug 18, 2002.
7. M. K. Chaudhury, B.-m. Zhang Newby, "Adhesion, friction and fracture", ***Abstracts of Papers of the American Chemical Society***, 216:284-Poly, Part 3, Aug 23, 1998.
6. B.-m. Zhang Newby, M. K. Chaudhury, "Effect of interfacial friction on adhesion", the ***Proceedings of the 21st Annual Meeting of the Adhesion Society***, 1998.
5. H.R. Brown, M. K. Chaudhury, B. M. Newby, "Relation between slip and energy dissipation in viscoelastic adhesives" ***Advances in Fracture Research***, Vols 1-6, 3037-3040, 1997.
4. B.-m. Zhang Newby, M. K. Chaudhury, "Viscoelastic adhesion between a pressure sensitive adhesive and surfaces with low surface free energy", the ***Proceedings of the 20th Annual "Anniversary" Meeting of the Adhesion Society***, 1997.
3. M. K. Chaudhury, H. She, B.-m. Zhang Newby, "Using rolling contact mechanics to study adhesion hysteresis at polymer oxide interfaces", the ***Proceedings of the 20th Annual "Anniversary" Meeting of the Adhesion Society***, 1997.

2. H. R. Brown, M. K. Chaudhury, B.-m. Zhang Newby, "Effects of segment mobility on slip and adhesion", ***Polymer Preprints***, 37(2), 1996.

1. M. K. Chaudhury, B.-m. Zhang Newby, "A direct observation of hydrodynamic slip at an adhesive-substrate interface", ***Polymeric Materials: Science and Engineering***, 75, 1996.

Presentations (out of ~ 100) with undergraduates as *presenters (11)* or co-authors (10)

45th Middle Atlantic Regional Meeting of the American Chemical Society, Hershey, PA (June 4 – 6, 2017)

1). *Moser J*, Alghunaim A, Zhang Newby B-m (Paper MARM 89) – Effects of Hofmeister ions on particle attachment to surfaces.

2). *Newby E*, Alghunaim A, Brink E, Zhang Newby B-m (Paper MARM 90) – Surface immobilization of poly(N-isopropylacrylamide) using silane coupling agents.

3). *Brink E*, Alghunaim A, Zhang Newby B-m (Paper MARM 91) – Surface immobilization of poly(N-isopropylacrylamide) on polycarbonate.

4). *Benekos Z*, *Hussein A*, Zhang Newby B-m (Paper MARM 92) – Mechanically strong protein-based hydrogels from suckerins of the squid ring teeth.

Industry advisory board meeting for Chemical Engineering at the University of Akron (April 29, 2016)

1). *Fairbairn H*, *Brink E*, Letdara D, Zhang Newby B-m – Extended release of small hydrophilic drugs from hydrogel matrices. (*This poster presentation was the combined efforts of three undergraduate students, and they won the 1st place amongst ~ 20 student presenters.*)

2015 Annual AIChE meeting, Salt Lake City, UT (November 8 – 13, 2015)

1). *Brink E* (Paper 175a) – Controlled release from polyelectrolyte complex drug carriers. (*Eric gave this oral presentation as he participated in the "Undergraduate Research Forum"*.)

Integrated Bioscience undergraduate research poster presentation, The University of Akron (Spring 2014)

1). *Alghunaim A*, Zhang Newby B-m – Marangoni cleaning on surface immobilization of poly(*N*-isopropylacrylamide). *(This poster was the 3rd place winner in this competition).*

NACE International Corrosion 2013 Conference & Expo, Orlando, FL (March 17 – 21, 2013)

1). Chen Y, He X, Howdyshell J, Howdyshell S, Zhang Newby B-m, Cheng G, Castaneda-Lopez H, Senko J, and Ju L; (Paper C2013_0002568) – Severe pitting corrosion caused by a starving sulfate-reducing bacterium surviving on carbon steel and effect of surface roughness.

Annual Society for Biomaterials Meeting, Orlando, FL (April 13 – 16, 2011)

1). Patel N, Cavicchia J, Newby B-m, Zhang G, (Paper ID: 546) – *In vitro* assembly of micropatterned cell sheets for vascular tissue engineering.

2011 Conference on Undergraduate and Graduate Student Research (CUGSR) (The University of Akron, April 07, 2011)

1). *Cavicchia J*, Patel N, Zhang G, Zhang Newby B-m, (Poster I – 39) – Simple grafting of Poly N-isopropylacrylamide assisted by aminopropyltriethoxylsilane to create scaffoldless surface for cell sheet engineering.

241st National Meeting of the American Chemical Society, Anaheim, CA (March 27 – 31, 2011)

1). Wang H, Sodagari M, Chen Y, He X, Zhang Newby B-m, Ju LK, (Paper ID: 20581) – Initial bacterial attachment in slow flowing systems: the effects of substrate surface hydrophobicity

2). Sodagari M, Wang H, Chen Y, He X, Zhang Newby B-m, Ju LK, (Paper ID: 20586) – Reduction in initial attachment of *Pseudomonas aeruginosa*, *Pseudomonas putida* and *Escherichia coli* by rhamnolipids

2010 Metal Protection through Coatings Technology Conference, Pittsburg, PA (October 19 – 20, 2010)

1). Miracle TA, Zhang Newby B-m – Creating superhydrophobic coatings on aluminum and steel for corrosion prevention

2010 CUGSR (The University of Akron, April 08, 2010)

1). Wang H, Sodagari M, He X, Zhang Newby B-m, Ju LK, (Poster I – 32) – Effects of solid surface hydrophobicity on initial bacterial attachment under slow flow

2). *Miracle T*, Zhang Newby B-m, (Poster II – 35) – Super-hydrophobic surface creation on stainless steel using fluorocarbon based organosilane coatings for corrosion prevention

239th National Meeting of the American Chemical Society, San Francisco, CA (March 21 – 25, 2010)

1). *Miracle T*, Zhang Newby B-m (COLL 211) – Modification of aluminum using organosilane coatings to impede corrosion

2009 CUGSR (The University of Akron, March 26, 2009)

1). *Gessner R*, Cai Y-J, Zhang Newby B-m – Simple and cost-effective non-lithography based stamp fabrication for protein patterning

Funding (~M$1.53)

The externally funded proposals (total ~ $M1.43 with ***$831,543*** to my credit) are summarized in the table below. (The % indicated is the % credits to me on that project as indicated on the routing/IDC forms.)

Title	PI	CoPI	Agency	Amount ($)	Awarded date
Affordable Thermo-responsive Cell Culture Supports for Damage Free Cell Harvesting	X		NSF (I-Corps team)	50,000	June, 2018
Thermo-responsive cell culture supports	X		NSF (I-Corps site)	2,500	May, 2016
Microbiologically influenced stainless steel corrosion (PI: Ju; other co-PIs: Cheng and Castaneda)	Ju	X		212,000 (33%)	October, 2013
Microbiologically influenced corrosion (PI: Cheng; other co-PI: Ju)	Cheng	X	DOD	75,000 (33%)	July, 2012
Zosteric acid integrated thermoreversible gels for preventing surgical adhesions (1R15GM097626-01A1)	X		NIH	376,362 (100%)	June, 2012
Initial stages of biofilm formation and microbiologically influenced corrosion (co-PIs: Ju, Cheng, Senko)	X		DOD	140,000 (30%)	July, 2011
Deep wound repair utilizing microtubular scaffolds and engineered blood vessels (co-PI: Cheng)	X		ABIA/NEO MED	52,688 (50%)	March, 2010
Initial stages of biofilm formation and microbiologically induced corrosion (co-PIs: Ju, Cheng, Payer)	X		DOD	150,000 (34%)	July, 2010

Development of a novel anti-adhesion treatment for the prevention of post-surgical abdominal adhesions and pain management (co-PI: Fenton)	X		Summa Health System	1,858 (100%)	July – August, 2009
Effects of a marine product antifoulant, zosteric acid, on biofouling and biofilm development: multilevel mechanistic study from microbial receptor to biofilm	Ju	X	Sea-grant (Ohio)	139,617 (50%)	Oct., 2005
Assessment of antifouling mechanisms of non-toxic natural product antifoulant incorporated silicone coatings (co-PI: Cutright)	X		Sea-grant (Ohio)	85,620 (50%)	Dec., 2002
Ohio Board of Regents (OBR) match of the above project (co-PI: Cutright)	X			20,000 (50%)	Dec., 2002
Novel self-assembling interfacial biocatalysis in organic-aqueous biphasic systems for environmentally benign chemical processing (PI: P. Wang)	Wang	X	NSF	107,800 (50%)	July, 2002
Ohio Board of Regents (OBR) match of the above project (PI: P. Wang)	Wang	X		20,000 (50%)	July, 2002

The internally funded proposals (total $K96,000 with ***$67,333*** to my credit) are summarized in the table below.

Fabricating mechanically strong protein-based hydrogels using suckerins from squid ring teeth	X		FRG/UA	10,000	2017
Evaluation of zosteric acid, a natural product antifoulant, for preventing the attachment of zebra mussels (co-PI: Cutright)		X	IB/UA	20,000 (50%)	2008
Investigation of the effects of nano and micro length scale topography on the growth of cells (co-PIs: Cavicchi, Yun)		X	IB/UA	20,000 (33%)	2008
Hybrid GPCR-microcantilever system for high throughput prostate cancer drug screening and biomarker sensing (co-PIs: Ju, Zhe)		X	IB/UA	8,000 (33%)	2008
Marangoni-flow induced self-assembly for protein patterning (FRG 1715)	X		FRG/UA	10,000	2009
Utilizing stepwise micrometer-scaled gradient surfaces (FRG 1664)	X		FRG/UA	8,000	2007
Utilizing stepwise micrometer-scaled gradient surfaces for aligning phase separated polymeric domains (FRG 1610)	X		FRG/UA	8,000	2005
Enhance energy gradient for micron-scaled gradient surfaces (FRG 1570)	X		FRG/UA	3,500	March 04, 2003
Synthesis of zosteric acid and its incorporation in silicone coatings (FRG 1533)	X		FRG/UA	3,500	Nov., 2001
Surface modification of biodegradable polymers for controlling degradation and cell growth in biomedical applications	X		Firestone Research Initiative	5,000	Oct. 12, 2000

Details on Service

Within the university

Coordinate various departmental activities

Serve on various committees at the college and university levels

Served on Graduate council and Honors council

Volunteer in out-reach events

Activity/organization	role	Level	period
Graduate Council	member	University	2008 – 2011
Honors Council	member	University	2013 – 2015
United Way	Representative	College	2009
CBE honors students	advisor	Department	2007 – present
ChEGSO	advisor	Department	2008 – present
Tau Beta Pi – the Engineering Honor Society	Faculty advisor board member	College	2013 – present
ABET	coordinator	Department	2016 – present
degree clearance	coordinator	Department	2008, 2009, 2010
IAB poster presentation	coordinator	Department	2004 – 2008
seminar	coordinator	Department	2004 – 2007
Tired-mentoring program	Faculty mentor	University	2010, 2011
Kids Career Day SEE UA Multiplying your Options	volunteer	college /university	occasionally since 2001
Project Lead the Way ACS Project “SEED” NIH AREA grant outreach	Faculty advisor/sponsor	college university	2206 – 2015
Committees			
RTP	member	department	2007 – present
	chair	department	2007-2008, 2013-2014
	member	college	2016 – present
	member	PS/PE college	2017 – present
distinguished professor review	chair	college	2017 – present
chair review	chair	department	2009
merit raise	member, chair	department	2006 – present
strategic planning	member	department	2009
CBE faculty search	member (for 3 faculty)	department	2008 – 2009
	Chair (for 2 faculty)	department	2013 – 2014
CBE chair search	member	department	2012 – 2013
ECE chair search	member	college	2012 – 2013
chemistry faculty search	member	university	2007 – 2008, 2013 – 2014
NCERCAMP director search	member	university	2015
CBE staff search	chair	department	2010, 2011, 2016
	member	department	2014, 2015
student policy	vice-chair	university	2008 – 2009
	chair		2009 – 2010
IACUC	member	university	2014 – present

(Note: ChEGSO – chemical engineering graduate student organization; ABET - Accreditation Board for Engineering and Technology; IAB – industry advisory board; CBE – chemical and biomolecular engineering; ACS – American Chemical Society; NIH – National Institutes of Health; AREA – Academic Research Enhanced Award; RTP – Reappointment, Tenure & Promotion; ECE – electrical and computer engineering; NCERCAMP – National Center for Education and Research on Corrosion and Materials Performance; IACUC – The Institutional Animal Care and Use Committee)

Local

Program Chair for the Akron Polymer Lecture Group (APLG), 2003-2004

Executive committee member for the Akron Polymer Lecture Group (APLG), 2003-2005

Judging posters in local schools' science fairs

Volunteered as a coach for the Hudson (OH) Highschool Science Olympia team (2011-2015)

Served as a member on the organizing committee for the Hudson (OH) "Parade of Bands" (2012, 2013, 2014)

Collaborated with the National Inventors Hall of Fame on activities to promote youngsters' interests in science and engineering (2001- 2008)

National

Section chair (Polymer Thin Films) for the American Physical Society Meeting, Montreal, Canada, March 2004

Section chair (Surface Chemistry) for the Adhesion Society Meeting, Wilmington, NC, February 2004

Proposal reviewer for NSF (CTS division, DMR division) and PRF

Panel reviewer for NSF-CTS and NSF-STC (SBIR/STTR)

Manuscript reviewer for numerous "Web of Science" indexed journals including but not limited to ACS Sustainable Chemistry & Engineering, Advanced Functional Materials, Biofouling, Biomacromolecules, Biotechnology, Biotechnology Advances, Chemistry of Materials, Colloids and Surfaces, Journal of Adhesion Science and Technology, Journal of Coating Technology (JCT), JCT Research, Journal of Applied Microbiology, Journal of Physics D, Journal of the Royal Society: Interface, Journal of Tissue Engineering and Regenerative Medicine, Langmuir, Materials Science and Engineering C, Nanotechnology, Physical Review, Progress in organic coatings, and Thin solid films.

Selected reviewer for The National Research Council (NRC) program to rate chemical engineering programs (2007)