THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering

FULL NAME: Yuebing Zheng TITLE: Associate Professor

DEPARTMENT: Mechanical Engineering

EDUCATION:

Nankai University	Physics	BS	Summer 2001
National University of Singapore	Physics	MS	Spring 2004
Pennsylvania State University	Engineering Science and Mechanics	Ph.D.	Summer 2010

CURRENT AND PREVIOUS ACADEMIC POSITIONS:

University of Texas at Austin	Associate Professor	Fall 2019-
University of Texas at Austin	Assistant Professor	Fall 2013-Summer 2019
University of California, Los Angeles	Postdoc	Summer 2010-Fall 2013

OTHER PROFESSIONAL EXPERIENCE:

Institute of Materials Research and Engineering	Research Fellow	Jan. 2004-Aug. 2006

HONORS AND AWARDS:

2019 University Co-op Research Excellence Award for Best Paper
2019 Department of Defense DURIP Award
2019 Senior Member of the Optical Society of America
2019 J. Mike Walker Faculty Scholar, Walker Department of Mechanical Engineering, UT Austin
2019 Fellow of the Institute of Physics
2019 Franklin Award for Outstanding Teaching, Research and Service, Walker Department of Mechanical Engineering, UT Austin
2018 Fellow of the Royal Society of Chemistry

2018 *Materials Today* Rising Star Award, Elsevier Ltd
2017 National Institute of Health (NIH) Director's New Innovator Award
2017 Early Career Faculty Award, National Aeronautics and Space Administration (NASA)
2017 Young Investigator Award, Office of Naval Research (ONR)
2017 *Chemical Communications* Emerging Investigator, Royal Society of Chemistry
2016 *Journal of Materials Chemistry* Emerging Investigator, Royal Society of Chemistry
2015 *Analyst* Emerging Investigator, Royal Society of Chemistry
2015 Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities
2015 3M Nontenured Faculty Award, 3M Company
2015 Asian/Asian-American Faculty Staff Association Professional Development Award, UT Austin
2014 Beckman Young Investigator Award, Arnold and Mabel Beckman Foundation
2014 Graduate School Alumni Society Early Career Awards, The Pennsylvania State University
2012 Chancellor's Award Finalist for Postdoctoral Research, University of California, Los Angeles
2010 Alumni Association Dissertation Award, Pennsylvania State University
2009 Materials Research Society Graduate Student Award, Materials Research Society
2009 Rustum and Della Roy Innovation in Materials Research Award, The Pennsylvania State University
2008 Founder's Grant and Prize of the American Academy of Mechanics, Robert M. and Mary Haythornthwaite Foundation
2008 KAUST Scholar Award, KAUST Foundation
2007 Sabih and Güler Hayek Graduate Scholarship, The Pennsylvania State University

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:

American Society for Engineering Education
American Chemical Society
Royal Society of Chemistry
American Physical Society
Institute of Physics
Materials Research Society
The International Society for Optics and Photonics
The Optical Society of America
The Institute of Electrical and Electronics Engineers
American Society of Mechanical Engineers
Biomedical Engineering Society

Marquis Who's Who in the World
Sigma Xi

UNIVERSITY COMMITTEE ASSIGNMENTS:

Departmental-	Graduate Admission Committee for Materials Science and Engineering Program	2017-2019
	Committee for Strategic Plan for Materials Engineering	2017
	Faculty Advisor for Design Projects Program	2015
	Judge for Poster Exhibition at annual graduate recruitment event	2015-2017
College-	Judge for Cockrell School Poster Exhibition on Engineering Research	2015, 2016
University-	"Early Career Panel Discussion" Member for the Office of the Vice President of Research	2018
	Review Committee for ORAU Ralph E. Powe Junior Faculty Enhancement Awards	2017
	DoD Young Investigator Programs "Ask us Anything" Panel Member for the Office of the Vice President of Research	2017
	Outstanding Dissertation Selection Committee	2017
	Mentor for the Office of the Vice President of Research *Mentor Pairing for Junior Faculty*	2017
	Selection Panel for the Office of the Vice President of Research *Research and Creative Grants*	2017
	Mentor for *Texas Student Research Showdown*	2017
	Dissertation Committees: Maruthi Nagavalliyogeesh (advisor: Dr. Deji Akinwande) Wei Li (advisor: Dr. Deji Akinwande) Evan P Perillo (advisor: Dr. Andrew Dunn) Boxue Chen (advisor: Dr. Zheng Wang) Babak Nasouri Xingyi Zhou (advisor: Dr. Guihua Yu) Kihoon Kim (advisor: Dr. Delia Milliron) Mike Lee (advisor: Dr. Wei Li)	2014-now

PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES:

Professional Society/Conference Organization

2020 The Third International Conference on Mechanical, Electric and Industrial Engineering, Organizing Committee Member
2019 Materials Research Society, Session Chair at the Annual Spring Meeting
2019 SPIE Optics + Photonics, Session Chair at the Conference on Optical Trapping & Optical Micromanipulation
2019 SPIE Optics + Photonics, Program Committee for the Conference on Optical Trapping & Optical Micromanipulation
2017 The International Society for Optics and Photonics, Session Chair at Photonics West Conference
2016 Materials Research Society, Symposium Organizer at the Annual Fall Meeting
2016 International Conference on Photoelectric Materials and Devices, Organizing Committee Member
2016 The Electromagnetics Academy, Session Organizer at Progress in Electromagnetics Research Symposium
2015 American Chemical Society, Session Presider at Annual March Meeting
2014 Institute of Electrical and Electronics Engineers, The Optical Society of America, American Physical Society, Session Chair at CLEO Conference and Exhibition
2014 The Optical Society of America, Session Chair at OSA Nanophotonics Incubator

Editorship:

2019-now Founding Editorial Board Member of *Sensors and Actuators Reports*
2015-now Associate Editor of *Journal of Electronic Materials*
2015-now Associate Editor of *Applied Nanoscience*
2015 Guest Editor of Journal of *Nanomaterials*
2015-now Editorial Board Member of *Scientific Reports*
2015-now Editorial Board Member of *Journal of Materials Sciences and Applications*
2014-now Editorial Board Member of *Scholarena Journal of Nanoscience and Nanotechnology*

COMMUNITY ACTIVITIES:

Reviewer for Proposals:

2019 Proposal reviewer for Israeli Ministry of Science and Technology
2019 Proposal reviewer for Department of Energy
2018 Proposal reviewer for Netherlands Organization for Scientific Research
2018 Proposal reviewer for ConTex Collaborative Research Grants
2018 Proposal reviewer for Army Research Office

2018 GEC Catalyst Awards Judging Committee. See announcement "Personal Connected Health Alliance and Green Electronics Council Partner to Host GEC Catalyst Awards at 2018 Connected Health Conference" at ABC-6; NBC-2; Fox-5; CBS-8.
2017 Site visit reviewer for National Science Foundation Engineering Research Center for Translational Applications of Nanoscale Multiferroic Systems
2017 Proposal reviewer and panelist for National Institute of Health
2017 Proposal reviewer for Department of Energy
2015 Proposal reviewer for American Society for Engineering Education
2015 Proposal reviewer and panelist for National Science Foundation
2015 Proposal reviewer for Naval Research Laboratory

Reviewer for Journals (partial list):

Accounts of Chemical Research
ACS Applied Materials & Interfaces
ACS Nano
Advanced Optical Materials
Advanced Functional Materials
Advanced Materials
ASME Journal of Micro and Nano Manufacturing
IEEE Journal of Microelectromechanical Systems
Journal of Physical Chemistry
Journal of the American Chemical Society
Lab on a Chip
Laser & Photonics Reviews
Nano Letters
Nature Nanotechnology
Optics Express
Optics Letters
Small
Science

Outreach Activities:

2019 Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin
2018 NASCENT Seminar on "Digital Manufacturing of Nanomaterials", The University of Texas at Austin
2018 Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin
2017 TED Talk on “The Invisible Man” at TEDgt, West Ridge Middle School

2017 Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin
2016 Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin
2015 Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin

2014 Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin
2014 Talk at "Discover Engineering Days", Laurel Mountain Elementary
2013 Talk at "E-slot Scientist Activity", Laurel Mountain Elementary

PUBLICATIONS:

A. Refereed Archival Journal Publications (109)

1. Y. B. Zheng, S. J. Chua, C. H. A. Huan, and Z. L. Miao, "Growth of InAs Quantum Dots on Shallow Spherically Shaped Crater Prepared on GaAs (001) Substrates: An Extended Set of Vicinal Surfaces," Journal of Crystal Growth 263 (March 2004) 161-166. https://www.sciencedirect.com/science/article/pii/S0022024803021638
2. Y. B. Zheng, S. J. Chua, C. H. A. Huan, and Z. L. Miao, "Selective Growth of GaAs QDs on the Triangle Nanocavities Bounded by SiO_2 Mask on Si substrate by MBE," Journal of Crystal Growth 268 (August 2004) 369-374. https://www.sciencedirect.com/science/article/pii/S0022024804004750
3. Y. B. Zheng, S. J. Wang, C. H. A. Huan, C. Y. Tan, L Yan, and C. K. Ong, "Al_2O_3-Incorporation Effect on the Band Structure of $Ba_{0.5}Sr_{0.5}TiO_3$ Thin Film," Applied Physics Letters 86 (March 2005) 112910. https://aip.scitation.org/doi/10.1063/1.1883712
4. Y. B. Zheng*, Y. H. Wang, S. J. Wang, and C. H. A. Huan, "Size-Controllable Heteroporous Films as Templates for Ordered Uniform Nanocolloidal Cluster Arrays," Journal of Materials Chemistry 15 (August 2005) 4109-4111. http://pubs.rsc.org/en/Content/ArticleLanding/2005/JM/b508105j#!divAbstract
5. J. W. Chai, J. S. Pan, S. J. Wang, C. H. A. Huan, G. S. Lau, Y. B. Zheng, and S. Xu, "Thermal Behaviour of Ultra-Thin Co Overlayers on Rutile TiO_2 (100) Surface," Surface Science 589 (September 2005) 32-41. https://www.sciencedirect.com/science/article/pii/S0039602805005790
6. Y. B. Zheng, S. J. Wang, A. C. H. Huan, S. Tripathy, J. W. Chai, L. B. Kong, and C. K. Ong, "Band-gap Energies and Structural Properties of Doped $Ba_{0.5}Sr_{0.5}TiO_3$ Thin

Films," Journal of Applied Physics 99 (January 2006) 014106. https://aip.scitation.org/doi/10.1063/1.2160718

7. Y. B. Zheng*, S. J. Wang, C. H. A. Huan, and Y. H. Wang, "Fabrication of Tunable Nanostructure Arrays Using Ion-Polishing-Assisted Nanosphere Lithography," Journal of Applied Physics 99 (February 2006) 034308. https://aip.scitation.org/doi/10.1063/1.2169867
8. W. Zhao, Y. B. Zheng, and H. Y. Low, "Fabrication of Multi-Dimensional Colloidal Crystals on Raised Surfaces via Reversal Nanoimprint Lithography," Microelectronic Engineering 83 (March 2006) 404-408. https://www.sciencedirect.com/science/article/pii/S0167931705005174?via%3Dihub
9. Y. B. Zheng*, Y. H. Wang, S. J. Wang, and C. H. A. Huan, "Fabrication of Nonspherical Colloidal Particles via Reactive Ion Etching of Surface-Patterned Colloidal Crystals," Colloids and Surfaces A: Physicochemical and Engineering Aspects 277 (April 2006) 27-36. http://dx.doi.org/10.1016/j.colsurfa.2005.11.005
10. Y. B. Zheng, S. J. Wang, and C. H. A. Huan, "Microstructure-Dependent Band Structure of HfO_2 Thin Films," Thin Solid Films 504 (May 2006) 197-200. http://dx.doi.org/10.1016/j.tsf.2005.09.124
11. Y. B. Zheng*, S. J. Wang, C. H. A. Huan, and Y. H. Wang, "Fabrication of Large Area Ordered Metal Nanoring Arrays for Nanoscale Optical Sensors," Journal of Non-crystalline Solids 352 (July 2006) 2532-2535. http://dx.doi.org/10.1016/j.jnoncrysol.2006.03.026
12. Y. B. Zheng, S. J. Wang, L. B. Kong, S. Tripathy, A. C. H. Huan, and C. K. Ong, "Structural Properties and Dopant-Modified Bandgap Energies of $Ba_{0.5}Sr_{0.5}TiO_3$ Thin Films Grown on $LaAlO_3$ Substrates," Journal of Electroceramics 16 (July 2006) 571-574. http://dx.doi.org/10.1007/s10832-006-9921-1
13. M. A. S. Chong, Y. B. Zheng, H. Gao, and L. K. Tan, "Combinational template-assisted fabrication of hierarchically ordered nanowire arrays on substrates for device applications," Applied Physics Letters 89 (December 2006) 233104. http://dx.doi.org/10.1063/1.2399935
14. Y. B. Zheng, T. J. Huang, A. Y. Desai, S. J. Wang, L. K. Tan, H. Gao, and C. H. A. Huan, "Thermal Behavior of Localized Surface Plasmon Resonance of Au/TiO_2 Core/Shell Nanoparticle Arrays," Applied Physics Letters 90 (May 2007) 183117. http://dx.doi.org/10.1063/1.2736283
15. Y. B. Zheng, B. K. Juluri, and T. J. Huang, "The Self-Assembly of Monodisperse Nanospheres within Microtubes," Nanotechnology 18 (June 2007) 275706. http://dx.doi.org/10.1088/0957-4484/18/27/275706

16. V. K. S. Hsiao, J. R. Waldeisen, Y. B. Zheng, P. F. Lloyd, T. J. Bunning, and T. J. Huang, "Aminopropyltriethoxysilane (APTES)-Functionalized Nanoporous Polymeric Gratings: Fabrication and Application in Biosensing," Journal of Materials Chemistry 17 (October 2007) 4896-4901. http://dx.doi.org/10.1039/B711200A
17. Y. B. Zheng, B. K. Juluri, X. Mao, T. R. Walker, and T. J. Huang, "Systematic Investigation of Localized Surface Plasmon Resonance of Long-Range Ordered Au Nanodisk Arrays," Journal of Applied Physics 103 (January 2008) 014308. https://aip.scitation.org/doi/10.1063/1.2828146
18. B. K. Juluri, Y. B. Zheng, D. Ahmed, L. Jensen, and T. J. Huang, "Effects of Geometry and Composition on Charge-Induced Plasmonic Shifts in Gold Nanoparticles," Journal of Physical Chemistry C 112 (April 2008) 7309-7317. http://pubs.acs.org/doi/abs/10.1021/jp077346h
19. V. K. S. Hsiao, Y. B. Zheng, B. K. Juluri, and T. J. Huang, "Light-Driven Plasmonic Switches Based on Au Nanodisk Arrays and Photoresponsive Liquid Crystals," Advanced Materials 20 (August 2008) 3528-3532. (featured as Cover Article) http://onlinelibrary.wiley.com/doi/10.1002/adma.200800045/abstract
20. Y. B. Zheng and T. J. Huang, "Surface Plasmons of Metal Nanostructure Arrays: From Nanoengineering to Active Plasmonics," Journal of the Association for Laboratory Automation 13 (August 2008) 215-226. http://jla.sagepub.com/content/13/4/215.abstract
21. W. Yan, V. K.S. Hsiao, Y. B. Zheng, Y. M. Shariff, T. Gao, and T. J. Huang, "Towards Nanoporous Polymer Thin Film-Based Drug Delivery Systems," Thin Solid Films 517 (January 2009) 1794-1798. http://www.sciencedirect.com/science/article/pii/S0040609008010948
22. Y. B. Zheng, Y.-W. Yang, L. Jensen, L. Fang, B. K. Juluri, A. H. Flood, P. S. Weiss, J. F. Stoddart, and T. J. Huang, "Active Molecular Plasmonics: Controlling Plasmon Resonances with Molecular Switches," Nano Letters 9 (January 2009) 819–825. (listed as Fast Moving Front by ScienceWatch; Research Highlight by journal Nature Materials) http://pubs.acs.org/doi/abs/10.1021/nl803539g
23. Y. B. Zheng, L. L. Jensen, W. Yan, T. R. Walker, B. K. Juluri, L. Jensen, and T. J. Huang, "Chemically Tuning the Localized Surface Plasmon Resonances of Gold Nanostructure Arrays," Journal of Physical Chemistry C 113 (April 2009) 7019-7024. http://pubs.acs.org/doi/full/10.1021/jp8106606
24. Y. J. Liu, Y. B. Zheng, J. Shi, H. Huang, T. R. Walker, and T. J. Huang, "Optically Switchable Gratings Based on Azo-Dye-Doped, Polymer-Dispersed Liquid Crystals," Optics Letters 34 (August 2009) 2351–2353. http://www.opticsinfobase.org/abstract.cfm?uri=ol-34-15-2351

25. B. K. Juluri, M. Lu, Y. B. Zheng, L. Jensen, and T. J. Huang, "Coupling between Molecular and Plasmonic Resonances: Effect of Molecular Absorbance," Journal of Physical Chemistry C 113 (October 2009) 18499-18503. http://pubs.acs.org/doi/abs/10.1021/jp908215a
26. Y. B. Zheng, B. K. Juluri, L. L. Jensen, D. Ahmed, M. Lu, L. Jensen, and T. J. Huang, "Dynamical Tuning of Plasmon-Exciton Coupling in Arrays of Nanodisk-J-aggregate Complexes," Advanced Materials 22 (July 2010) 3603-3607. (featured as Cover Article) http://onlinelibrary.wiley.com/doi/10.1002/adma.201000251/abstract
27. Y. B. Zheng, B. K. Juluri, B. T. Kiraly, and T. J. Huang, "Ordered Au Nanodisk and Nanohole Arrays: Fabrication and Applications," ASME Journal of Nanotechnology in Engineering and Medicine 1 (August 2010) 031011. http://nanoengineeringmedical.asmedigitalcollection.asme.org/article.aspx?articleid=1452335
28. Y. B. Zheng, Q. Hao, Y.-W. Yang, B. Kiraly, I.-K. Chiang, and T. J. Huang, "Light-Driven Artificial Molecular Machines," Journal of Nanophotonics 4 (August 2010) 042501. http://spiedigitallibrary.org/jnp/resource/1/jnoacq/v4/i1/p042501_s1
29. Q. Hao, B. K. Juluri, Y. B. Zheng, B. Wang, I.-K. Chiang, L. Jensen, V. Crespi, P. C. Eklund, and T. J. Huang, "Effects of Intrinsic Fano Interference on Surface Enhanced Raman Spectroscopy: Comparison between Platinum and Gold," Journal of Physical Chemistry C 114 (September 2010) 18059-18066. (featured as Cover Article) http://pubs.acs.org/doi/abs/10.1021/jp105276w
30. V. K.S. Hsiao, Y. B. Zheng, H. Betz, B. Kiraly, W. Yan, P. F. Lloyd, T. J. Bunning, A. N. Cartwright, and T. J. Huang, "Holographically Fabricated Dye-Doped Nanoporous Polymers as Matrix for Laser Desorption/Ionization Mass Spectrometry," ASME Journal of Nanotechnology in Engineering and Medicine 1 (October 2010) 041011. http://nanoengineeringmedical.asmedigitalcollection.asme.org/article.aspx?articleid=1452443
31. Y. B. Zheng, B. Kiraly, and T. J. Huang, "Molecular Machines Drive Smart Drug Delivery," Nanomedicine 5 (December 2010) 1309-1312. http://www.futuremedicine.com/doi/full/10.2217/nnm.10.111
32. Y. J. Liu, Y. B. Zheng, J. Liou, I.-K. Chiang, I. C. Khoo, and T. J. Huang, "All-Optical Modulation of Localized Surface Plasmon Coupling in a Hybrid System Composed of Photo-Switchable Gratings and Au Nanodisk Arrays," Journal of Physical Chemistry C 115 (March 2011) 7717-7722. (Featured as Cover Article) http://pubs.acs.org/doi/abs/10.1021/jp111256u

33. M. I. Lapsley, I.-K. Chiang, Y. B. Zheng, X. Ding, X. Mao, and T. J. Huang, "A Single-Layer, Planar, Optofluidic Mach-Zehnder Interferometer for Label-Free Detection," Lab on a Chip 11 (April 2011) 1795-1800. http://pubs.rsc.org/en/Content/ArticleLanding/2011/LC/C0LC00707B
34. Y. B. Zheng, B. Kiraly, S. Cheunkar, T. J. Huang, and P. S. Weiss, "Incident-Angle-Modulated Molecular Plasmonic Switches: A Case of Weak Exciton-Plasmon Coupling," Nano Letters 11 (April 2011) 2061-2065. http://pubs.acs.org/doi/abs/10.1021/nl200524b
35. Y. B. Zheng, J. L. Payton, C.-H. Chung, R. Liu, S. Cheunkar, B. K. Pathem, Y. Yang, L. Jensen, and P. S. Weiss, "Surface-Enhanced Raman Spectroscopy to Probe Reversibly Photoswitchable Azobenzene in Controlled Nanoscale Environments," Nano Letters 11 (July 2011) 3447-3452. http://pubs.acs.org/doi/abs/10.1021/nl2019195
36. R. Zhu, C.-H. Chung, K. Cha, W. Yang, Y. B. Zheng, H. Zhou, T.-B. Song, C.-C. Chen, P. S. Weiss, G. Li, and Y. Yang, "Fused Silver Nanowires with Metal Oxide Nanoparticles and Organic Polymers for Highly Transparent Conductors," ACS Nano 5 (October 2011) 9877-9882. http://pubs.acs.org/doi/abs/10.1021/nn203576v
37. Y. B. Zheng, B. Kiraly, P. S. Weiss, and T. J. Huang, "Molecular Plasmonics for Biology and Nanomedicine," Nanomedicine 7 (May 2012) 751-770. http://www.futuremedicine.com/doi/abs/10.2217/nnm.12.30
38. C. C. Chen, L. Dou, R. Zhu, T. B. Song, Y. B. Zheng, C. H. Chung, G. Li, P. S. Weiss, and Y. Yang, "Visibly Transparent Polymer Solar Cells Produced by Solution Processing," ACS Nano 6 (July 2012) 7185-7190. http://pubs.acs.org/doi/abs/10.1021/nn3029327
39. Y. Zhao, T. Walker, Y. B. Zheng, S. C. S. Lin, A. A. Nawaz, B. Kiraly, J. Scott, and T. J. Huang, "Mechanically Tuning the Localized Surface Plasmon Resonances of Gold Nanostructure Arrays", ASME Journal of Nanotechnology in Engineering and Medicine 3 (August 2012) 011007. http://dx.doi.org/10.1115/1.4006616
40. B. K. Pathem, Y. B. Zheng, J. L. Payton, T. B. Song, D. A. Corley, J. M. Tour, Y. Yang, L. Jensen, and P. S. Weiss, "Effects of Tether Conductivity on the Efficiency of Photoisomerization of Azobenzene-Functionalized Molecules on Au{111}," Journal of Physical Chemistry Letters 3 (August 2012) 2388-2394. http://pubs.acs.org/doi/abs/10.1021/jz300968m
41. Y. B. Zheng, J. L. Payton, T. Bin Song, B. Krishna Pathem, Y. Zhao, H. Ma, Y. Yang, L. Jensen, A. K. - Y. Jen, P. S. Weiss, "Surface-Enhanced Raman Spectroscopy to Probe Photoreaction Pathways and Kinetics of Isolated Reactants on Surfaces: Flat Versus Curved Substrates," Nano Letters 12 (September 2012) 5362–5368. http://pubs.acs.org/doi/abs/10.1021/nl302750d

42. L. Yan, Y. B. Zheng, F. Zhao, S. Li, X. Gao, B. Xu, P. S. Weiss, and Y. Zhao, "Chemistry and Physics of a Single Atomic Layer: Strategies and Challenges for Functionalization of Graphene and Graphene-Based Materials," Chemical Society Reviews 41 (November 2012) 97-114. http://pubs.rsc.org/en/Content/ArticleLanding/2012/CS/C1CS15193B
43. H. Li, D. X. Chen, Y. L. Sun, Y. B. Zheng, L. L. Tan, P. S. Weiss, and Y. W. Yang, "Viologen-Mediated Assembly of and Sensing with Carboxylatopillar[5]arene-Modified Au Nanoparticles," Journal of the American Chemical Society 135 (January 2013) 1570-1576. http://pubs.acs.org/doi/abs/10.1021/ja3115168
44. B. K. Pathem, Y. B. Zheng, S. Morton, C. H. Chung, M. Å. Petersen, M. B. Nielsen, Y. Yang, L. Jensen, and P. S. Weiss, "Photoreaction of Matrix-Isolated Dihydroazulene-Functionalized Molecules on Au{111}," Nano Letters 13 (January 2013) 337-343. http://pubs.acs.org/doi/abs/10.1021/nl304102n
45. B. K. Pathem, S. A. Claridge, Y. B. Zheng, and P. S. Weiss, "Molecular Switches and Motors on Surfaces", Annual Review of Physical Chemistry 64 (January 2013) 605-630. http://www.annualreviews.org/doi/abs/10.1146/annurev-physchem-040412-110045
46. Y. B. Zheng, B. K. Pathem, J. N. Hohman, J. C. Thomas, M. Kim, and P. S. Weiss, "Photoresponsive Molecules in Well-Defined Nanoscale Environments," Advanced Materials 25 (January 2013) 302-312. (featured as Cover Article) http://onlinelibrary.wiley.com/doi/10.1002/adma.201201532/abstract
47. *B. B. Rajeeva*, *R. Menz*, and **Y. B. Zheng***, "Towards Rational Design of Multifunctional Theranostic Nanoparticles: What Barriers Do We Need to Overcome?" Nanomedicine 9 (August 2014) 1767-1770. http://www.futuremedicine.com/doi/pdf/10.2217/nnm.14.103
48. S. Wen, H. Pan, and **Y. B. Zheng**, "Electronic Properties of Tin Dichalcogenide Monolayers and Effects of Hydrogenation and Tension," Journal of Materials Chemistry C 3 (April 2015) 3714-3721. http://pubs.rsc.org/en/content/articlelanding/2015/tc/c5tc00093a#!divAbstract
49. *L. Lin* and **Y. B. Zheng***, "Multiple Plasmonic-photonic Couplings in the Au Nanobeaker Arrays: Enhanced Robustness and Wavelength Tunability," Optics Letters 40 (May 2015) 2060-2063. https://www.osapublishing.org/ol/abstract.cfm?uri=ol-40-9-2060
50. *Z. L. Wu*, N. Song, *R. Menz*, B. Pingali, Y. W. Yang, and **Y. B. Zheng***, "Nanoparticles Functionalized with Supramolecular Host-Guest Systems for Nanomedicine and Healthcare." Nanomedicine 10 (May 2015) 1493-1514. http://www.futuremedicine.com/doi/abs/10.2217/nnm.15.1?journalCode=nnm

51. K. Chen, *B. B. Rajeeva*, *Z. L. Wu*, M. Rukavina, T. D. Dao, S. Ishii, M. Aono, T. Nagao, and **Y. B. Zheng***, "Moire Nanosphere Lithography," ACS Nano 9 (May 2015) 6031-6040. http://pubs.acs.org/doi/abs/10.1021/acsnano.5b00978
52. *L. Lin* and **Y. B. Zheng***, "Engineering of Parallel Plasmonic-Photonic Interactions for On-Chip Refractive Index Sensors," Nanoscale 7 (June 2015) 12205-12214. http://pubs.rsc.org/en/content/articlehtml/2015/nr/c5nr03159a
53. K. Chen, S. P. L. Eunice, R. Michael, N. Tadaaki, Y. J. Liu, and **Y. B. Zheng***, "Active Molecular Plasmonics: Tuning Surface Plasmon Resonances by Exploiting Molecular Dimensions," Nanophotonics 4 (June 2015) 186-197. http://zheng.engr.utexas.edu/sites/default/files/publications/Chen-Nanophotonics-2015.pdf
54. J. Y. Gan, X. Lu, *B. B. Rajeeva*, R. Menz, Y. Tong, and **Y. B. Zheng***, "Efficient Photoelectrochemical Water Oxidation over Hydrogen - Reduced Nanoporous $BiVO_4$ with Ni-Bi Electrocatalyst," ChemElectroChem 2 (September 2015) 1385-1395. http://onlinelibrary.wiley.com/doi/10.1002/celc.201500091/abstract?userIsAuthenticated=false&deniedAccessCustomisedMessage=
55. *M. Wang*, C. Zhao, X. Miao, Y. Zhao, J. Rufo, Y. J. Liu, T. J. Huang, and **Y. B. Zheng***, "Plasmofluidics: Merging Light and Fluid at the Micro-/Nano-Scale," Small 11 (September 2015) 4423-4444. (Featured as Frontispiece) http://onlinelibrary.wiley.com/doi/10.1002/smll.201500970/abstract
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B. Refereed Journal Publications Under Review (9)

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6. *P. S. Kollipara*, *L. Lin*, and **Y. B. Zheng***, "Thermo-Electro-Mechanics at Individual Particles in Complex Colloidal Systems," Under Review.
7. *Z. Wu*, *J. Li*, X. Zhang, J. M. Redwing, and **Y. B. Zheng***, "Room-Temperature Modulation of Valley Excitons in a Monolayer Semiconductor through Chiral Purcell Effects," Under Review.
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88. *X. Peng, L. Lin*, and **Y. B. Zheng**, "Opto-Thermophoretic Trapping in Simple Polar Liquids," Conference on Lasers and Electro-Optics, San Jose, CA, May 13-18, 2018.
89. *B. B. Rajeeva, Z. Wu,* A. Briggs, P. V. Acharya, V. Bahadur, S. R. Bank, **Y. B Zheng**, "In-situ "Point-and-Shoot" Fabrication of Metallic Rings for Mid-IR/Visible Sensing," Conference on Lasers and Electro-Optics, San Jose, CA, May 13-18, 2018.
90. *L. Lin, X. Peng*, and **Y. B. Zheng**, "All-optically reconfigurable chiral metamolecules," Conference on Lasers and Electro-Optics, San Jose, CA, May 13-18, 2018.
91. *J. Li, L. Lin, X, Peng* and **Y. B. Zheng**, ''Opto-thermoplasmonic Nanolithography for On-Demand Patterning of 2D Materials," OSA Nanophotonics 20x20 Talks, San Jose, CA, May 14, 2018.
92. **Y. B. Zheng**, "Directed-Assembled Optical Metamaterials," Workshop on Emerging Nanomaterials and Nanostructures for Plasmonics and Nanophotonics Applications at the NSLS-II/CFN Users' Meeting, Brookhaven National Laboratory, May 22, 2018.

93. *Z. Wu* and **Y. B. Zheng**, "Moire Chiral Metamaterials with Tunable Optical Chirality for Ultrasensitive Sensing," The 9th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Marseille, France, June 24-July 1, 2018.
94. *L. Lin* and **Y. B. Zheng**, "Opto-Thermal Nano-Tools for Advanced Materials and Life Sciences," The 9th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Marseille, France, June 24-July 1, 2018
95. **Y. B. Zheng**, "Virtual Plasmonic Tweezers for Versatile Manipulations of Biological Cells and Molecules," Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering, Irvine, August 13-15, 2018.
96. *M. Wang* and **Y. B. Zheng**, ''Tunable plasmon-induced resonance energy transfer and plasmon-exciton coupling in single plasmonic nanoparticles on two-dimensional transition metal dichalcogenides," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
97. *B. B. Rajeeva, Z. Wu*, A. Briggs, *X. Peng*, S. R. Bank, and **Y. B. Zheng**, ''"Point-and-shoot" strategies for metallic ring printing and dual-mode spectroscopy," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
98. *J. Li, L. Lin, X, Peng* and **Y. B. Zheng**, ''Plasmon-enhanced optical scissors for nanopatterning of two-dimensional materials," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
99. *Z. Wu* and **Y. B. Zheng**, ''Tunable plasmonic Moiré chiral metamaterials: cost-effective fabrication and ultrasensitive sensing," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
100. *Y. Liu, L. Lin, B. B. Rajeeva, X. Peng* and **Y. B. Zheng**, ''Opto-thermophoretic trapping on single plasmonic nanoantenna," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
101. *L. Lin, X. Peng*, and **Y. B. Zheng**, ''Opto-thermal tweezers for low-power manipulation and assembly of colloidal nanoparticles," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
102. *X. Peng, L. Lin, J. Li,* and **Y. B. Zheng**, ''Trapping and assembly of colloidal particles with opto-thermophoretic tweezers," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
103. **Y. B. Zheng**, ''Optothermal manipulations of colloidal particles and living cells," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
104. **Y. B. Zheng**, "An Ultracompact Opto-Electro-Fluidic System for Preconcentration and Separation of Chiral Molecules in In-Situ Life Detection," NASA's Goddard Space Flight Center, MD, August 31, 2018.
105. **Y. B. Zheng,** "Directed-Assembled Nanomaterials," "Materials Today: The Future of Materials Science in the Next Two Decades" workshop, Rice University, Houston, TX, September 27-28, 2018.

106. *L. Lin, X. Peng*, and **Y. B. Zheng**, "Opto-thermal tweezers for low-power manipulation and assembly of colloidal nanoparticles," the first "Materials Today: The Future of Materials Science in the Next Two Decades" workshop, Rice University, Houston, TX, September 27-28, 2018.
107. **Y. B. Zheng,** "Digital Manufacturing of Nanomaterials," NASCENT Seminar, The University of Texas at Austin, Austin, TX, October 5, 2018.
108. **Y. B. Zheng**, "Digital Assembly and Applications of Hybrid Nanomaterials with Complex Architectures," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 22-26, 2019.
109. **Y. B. Zheng**, "Optothermal Manipulations of Colloidal Particles and Living Cells," Biophotonics Congress: Optics in the Life Sciences, Tucson, AZ, April 14-17, 2019.
110. *L. Lin, X. Peng*, and **Y. B. Zheng**, "Manipulating Fano Coupling in the Opto-thermoelectric Trap," Conference on Lasers and Electro-Optics, San Jose, CA, May 5-10, 2019.
111. J*. Li, Y. Liu,* and **Y. B. Zheng**, "Light-Directed Nanomanipulation of Colloidal Particles in Ambient Environments," Conference on Lasers and Electro-Optics, San Jose, CA, May 5-10, 2019.
112. *K. Yao* and **Y. B. Zheng**, "Near-Ultraviolet Dielectric Metasurfaces for Surface-Enhanced Circular Dichroism Spectroscopy and Handedness-Preserved Reflection," Conference on Lasers and Electro-Optics, San Jose, CA, May 5-10, 2019.
113. *Y. Liu, L. Lin, B. B. Rajeeva,* and **Y. B. Zheng**, "Nanoradiator-Mediated Deterministic Opto-thermoelectric Manipulation," Conference on Lasers and Electro-Optics, San Jose, CA, May 5-10, 2019.
114. **Y. B. Zheng***, "Opto-Thermo-Fluidics,"* Harrington Symposium – Physics of Microfluidics, Austin, TX, June 9-11, 2019.
115. M. L. De Marco, T. Jiang, *J. Fang*, B. Miller, B. Korgel, **Y. B. Zheng**, P. Barois, G. L. Drisko and C. Aymonier, "Silicon Particles with Optical Magnetic and Electric Mie Scattering: from the Synthesis to the Assembly of a Metamaterial," Meta 2019, Lisbon, Portugal, July 23 - 26, 2019.
116. *L. Lin, X. Peng*, and **Y. B. Zheng**, "Opto-thermofluidic nanotweezers in reconfigurable assembly of functional colloidal matter," ASME-AJKFLUIDS2019, San Francisco, CA, July 28-August 1, 2019.
117. *H. Ding, L. Lin*, and **Y. B. Zheng**, "Factors affecting trapping ability of opto-thermoelectric nanotweezer: experimental and theoretical studies," ASME-AJKFLUIDS2019, San Francisco, CA, July 28-August 1, 2019.
118. *X. Peng, L. Lin, Z. Chen, J. Fang, H. Ding* and **Y. B. Zheng**, "Opto-thermofluidic feedback control of micro-swimmers," ASME-AJKFLUIDS2019, San Francisco, CA, July 28-August 1, 2019.

119. *L. Lin, X. Peng*, and **Y. B. Zheng**, "Manipulating Fano coupling in all-dielectric meta-molecules", OSA Advanced Photonics Congress 2019, Burlingame, CA, Jul 29 - Aug 1, 2019.
120. *J. Li, Y. Liu*, and **Y. B. Zheng**, "Nanomanipulation of Colloidal Particles via Optothermally-gated Photon Nudging," OSA Advanced Photonics Congress, Burlingame, CA, July 29-Aug 1, 2019.
121. *L. Lin, X. Peng*, and **Y. B. Zheng**, "Thermoelectricity-driven nanotweezers for reconfigurable assembly of chiral meta-molecules," SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
122. *X. Peng, L. Lin, Z. Chen, J. Fang*, and **Y. B. Zheng**, *"*Active optical control of thermophoretic microswimmers*",* SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
123. *J. Li, Y. Liu*, and **Y. B. Zheng**, ''Nanomanipulation of colloidal particles and nanowires with optothermally gated photon nudging," SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
124. *H. Ding, L. Lin*, and **Y. B. Zheng**, *"*How to design a forceful opto-thermoelectric nanotweezer?*",* SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
125. *P. S. Kollipara, L. Lin*, and **Y. B. Zheng**, "Opto-thermoelectric nanotweezers: Quantitative estimation of trap stiffness", SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
126. *A. Kotnala* and **Y. B. Zheng**, "Opto-thermophoretic fiber tweezers: Design and Applications", SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
127. *H. Ding, L. Lin*, *P. Kollipara,* and **Y. B. Zheng**, "Factors Affecting Trapping Ability of Opto-Thermal Nanotweezers: Experimental and Theoretical Studies," Texas Advanced Computing Center Symposium, Austin, TX, September 26-27, 2019.
128. *X. Peng, Z. Chen,* and **Y. B. Zheng**, "Active Optical Control of Thermophoretic Microswimmers," Texas Advanced Computing Center Symposium, Austin, TX, September 26-27, 2019.
129. *Z. Wu,* and **Y. B. Zheng**, "Chiral Metamaterials for Tunable Modulation of Chiroptical Coupling and Light-Valley Interactions," Texas Advanced Computing Center Symposium, Austin, TX, September 26-27, 2019.

PATENTS (10):

1. **Y. B. Zheng**, *L. Lin, and X. Peng*, "Methods and Systems for Optical Control of Metal Particles with Thermophoresis," Provisional Patent Application, 62/385, 454 (Sep. 6, 2016).

2. **Y. B. Zheng**, *L. Lin, and X. Peng*, "Lithographic Systems and Methods," PCT Application, 10046-182WO1 (Dec. 13, 2016).
3. **Y. B. Zheng** and J. Gan, "Nanostructured Electrodes and Methods of Making and Use Thereof," US Application, 15/376,760 (Dec. 13, 2016).
4. **Y. B. Zheng**, *L. Lin, and X. Peng*, "Methods and Systems for Assembly of Particles with Superstructures," Provisional Patent Application, 62/462, 581 (Feb. 23, 2017).
5. **Y. B. Zheng**, *L. Lin, and M. Wang*, "Nanostructured Photonic Materials," Provisional Patent Application, 62/476,992 (March 27, 2017).
6. **Y. B. Zheng**, *L. Lin, and X. Peng*, "Methods and Systems for Optothermal Particle Control," Provisional Patent Application, 62/324,464 (April 19, 2017).
7. **Y.B. Zheng** and *Z. Wu*, "Nanostructured Plasmonic Materials and Methods of Making and Use Thereof," Provisional Patent Application, 62/561,339 (Sep. 21, 2017).
8. **Y. B. Zheng** and *B. B. Rajeeva*, "Optical Printing Systems and Methods," Provisional Patent Application (Feb. 27, 2018).
9. **Y. B. Zheng** and *B. B. Rajeeva*, "One-Shot Synthesis and Printing of Immiscible Nanoparticle Alloys," Invention Disclosure (July 20, 2018).
10. **Y. B. Zheng**, *L. Lin, and J. Li*, "Optothermal Nanolithography for Patterning of Atomically Thin Materials," Provisional Patent Application (July 23, 2018).

MEDIA HIGHLIGHTS:

Our works have been reported by over 150 media outlets, including *Discovery Channel*, *Times*, and *National Public Radio,* and highlighted by *Science*, *Nature Photonics* and *Nature Materials* as Editor's Choices. Selected media highlights are listed below:

- Our optothermal tweezers were featured by Medical Device Developments as "Little wonders" (April 2019).
- Our work "All-Optical Reconfigurable Chiral Metamolecules" has been featured by
  - Nanowerk as "Bottom-up assembled chiral meta-molecules" (March 2019).
  - X-MOL as "Mater. Today：光镊技术组装手性超构材料" (March 2019).
- Our work on "Tunable Fano Resonance and Plasmon-Exciton Coupling in Single Au Nanotriangles on Monolayer WS_2 at Room Temperature", which is published in Advanced Materials 30 (2018) 1705779, is featured among "Breakthroughs of nanotechnology in 2018" (Jiajun Zhu, Baiquan Liu, and Daniel Bellet, Advances toward the development of nanotechnology: current challenges and new frontiers in materials, processes, devices, and applications, ISBN: 978-620-2-22099-6, Akademiker Verlag, Germany, 2019) (January 2019).

- Our work "Manipulating Nanoparticles in an Opto-Thermoelectric Field" was featured as cover article of 2018 December issue of *Optics & Photonics News* (November 2018).
- Our work "Opto-Thermoelectric Nanotweezers" was included in "Nature Collection of Nobel Prize in Physics 2018" (October 2018).
- Our work "Nanoradiator-Mediated Deterministic Opto-Thermoelectric Manipulation" was featured by Nanowerk as "Nanoradiators allow precise optical manipulation of nanoparticles" (October 2018).
- Our work "Opto-thermoelectric tweezers and assembly" has been chosen as *2018 OPN's Year in Optics* and featured as "Manipulating Nanoparticles in an Opto-Thermoelectric Field" in the December issue of *Optics & Photonics News*. Each year, the December issue of *Optics & Photonics News*—the monthly magazine of The Optical Society—highlights the most exciting optics research to emerge in the preceding 12 months (October 2018).
- Our work "Opto-Thermoplasmonic Nanolithography for On-Demand Patterning of 2D Materials" was highlighted by Xincailiao (August 2018).
- Our work "Tunable Fano Resonance and Plasmon-Exciton Coupling in Single Au Nanotriangles on Monolayer WS2 at Room Temperature" was highlighted by Materials Views China (August 2018).
- Our work "Opto-Thermoplasmonic Nanolithography for On-Demand Patterning of 2D Materials" was featured by Nanowerk as "Opto-Thermoplasmonic Patterning of 2D Materials." (August 2018).
- Our work "Opto-Thermoelectric Nanotweezers" was featured by
    - *Nature Photonics* "News & Views" as "Thermoelectric fields hold nanoparticles.";
    - Laser Focus World as "Optothermoelectric nanotweezers improve particle-trapping efficiency." (also featured on May 2018 cover);
    - Austin National Public Radio - KUT Public Media;
    - Photonics.com as "Optically Heated Nanotweezers Manipulate Materials at Nanoscale.";
    - NextBIGfuture as "Opto-thermoelectric Nanotweezers on path to commercialized nano-particle manipulators integrated to smartphones.";
    - Kurzweil Accelerating Intelligence as "Five important biomedical technology breakthroughs.";
    - OSA-OPN as "Putting Metallic Nanoparticles in Their Place.";
    - Nanotechweb as "Optical traps feel the heat.";
    - Azo Nano as "Opto-Thermoelectric Nanotweezers Could Revolutionize the Field of Medicine.";
    - The Daily Texan as "Newly invented nanotweezers can manipulate matter on tiny scales.";

  - VERDICT Medical Devices as "Nanotweezers could manipulate cells.";
  - Product Design and Development as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - Science Daily as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - Controlled Environments as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - NovusLight as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - MDTmag as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - Scienmag as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - Nanowerk as "New nanotweezers open door to innovations in medicine, mobile tech.";
  - News-Medical as "New 'nanotweezers' could pave way for innovations in health monitoring and mobile technology.";
  - Science Newsline as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - IEEE Electronics360 as "Nanotweezers Developed Could be Huge for Medical Technology.";
  - Phys.org as "New 'nanotweezers' open door to innovations in medicine, mobile tech.";
  - SciTechDaily as "Nanotweezers open door to innovations in medicine, mobile tech.";
  - Eurekalert! as "New 'nanotweezers' open door to innovations in medicine, mobile tech."; and
  - UT News as "New 'nanotweezers' open door to innovations in medicine, mobile tech." (March 2018)
- Our work “Moiré Chiral Metamaterials” was selected for the virtual Best of Advanced Optical Materials 2017 issue. (March 2018)
- Our work "Moiré Metamaterials and Metasurfaces" published in *Advanced Optical Materials* was listed among the Most Accessed of 01/2018 (January 2018).
- Our work "Reconfigurable Opto-Thermoelectric Printing of Colloidal Particles" has been featured by Atlas of Science as "Erasable opto-thermoelectric printing." (April 2018).
- Intel's HPC editorial program featured our research in "Nanoparticle Research Provides New Applications for Industry and Everyday Life." (April 2018).
- Our work “Opto-Thermophoretic Assembly of Colloidal Matter” was featured by

  - Laser Focus World as newsbreak "Opto-thermophoretic method easily assembles colloidal matter.";
  - Nanowerk as "Assembling colloidal matter with an opto-thermophoretic strategy.";
  - Nanotechweb as "Opto-thermophoretic technique assembles colloidal nanoparticles.";
- Our work "Moiré Chiral Metamaterials" was highlighted by Nanotechweb and Nanowerk (July 2017).
- Our Work "Thermophoretic Tweezers for Low-Power and Versatile Manipulation of Biological Cells" was featured by X-MOL (July 2017).
- Our work "Patterning and Fluorescence Tuning of Quantum Dots with Haptic-Interfaced Bubble Printing" was featured in J*ournal of Materials Chemistry C* 2017 Emerging Investigator Issue and chosen as 2017 HOT paper (June 2017)
- Our work "High-Resolution Bubble Printing of Quantum Dots" and "Patterning and Fluorescence Tuning of Quantum Dots with Haptic-Interfaced Bubble Printing" was featured by
  - 3DPrint as "Bubble Printing: Texas Researchers Develop New 3D Printing-like Method to Fabricate Quantum Dots";
  - Nanotechweb as "Bubble printing patterns quantum dots on plasmonic substrates"; and
  - Nanowerk as "Bubble-printed patterning of quantum dots on plasmonic substrates." (May 2017)
- Our work "Photoswitchable Rabi Splitting in Hybrid Plasmon-Waveguide Modes" was featured by
  - Wall Street Daily as "Nanotechnology: How Miniscule Science Will Save Mankind" (January 2017); and
  - Materials Today as "New Nanomaterial Allows Rewritable Optical Components" by Materials Today (December 2016).
- Our work "Moire Nanosphere Lithography" was featured as "Novel Nanosphere Lithography to Fabricate Tunable Plasmonic Metasurfaces" in Book "Nanotechnology: The Future is Tiny" by Michael Berger (2016).
- Our work "Photoswitchable Rabi Splitting in Hybrid Plasmon-Waveguide Modes" was reported as
  - "Military Nano Drones Controlled Remotely Behind Enemy Lines, Made Possible by Nanophotonics-Based Rewritable Chips" by Science World Report;
  - "Novel Nanomaterial Enables Rewritable Optical Circuits" by IEEE Spectrum;
  - "Novel Nanotech Material Could Pay Huge Dividends" by R&D Magazine;
  - "A new nanomaterial chip has been made that can erase information by merely a flashing light" by Pakistanclip;
  - "James Bond-style erasable, rewritable chips in the offing" by Indianexpress;

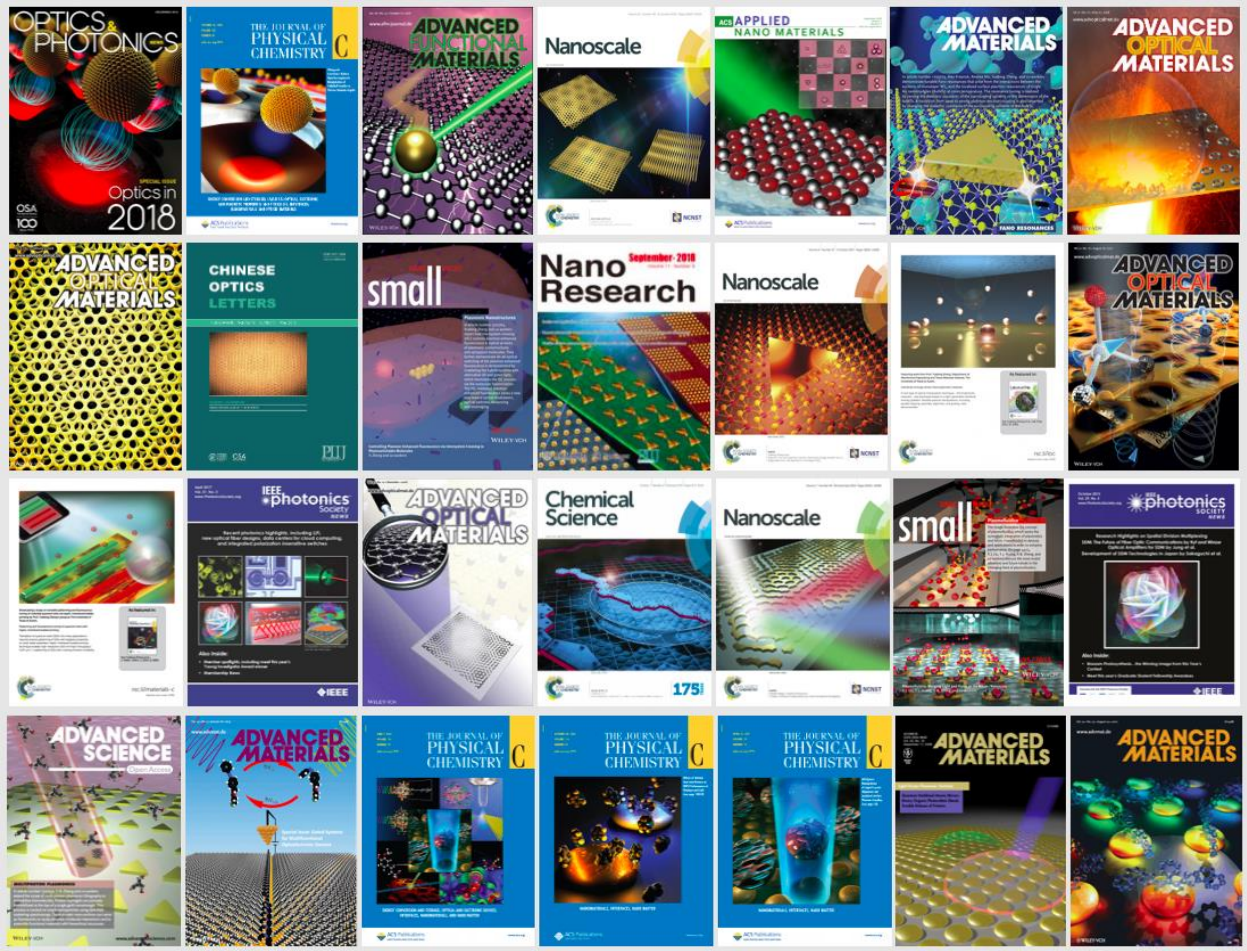
  - "New material could lead to erasable and rewriteable optical chips" by Nanowerk;
  - "New material could lead to erasable and rewriteable optical chips" by Phys.org;
  - "Engineers erase and rewrite data on optical chips" in Newelectronics,
  - "Newly Developed Nanomaterial can be Stepping Stone for Rewritable Nanophotonic Circuits" in Azonano;
  - "New material could lead to erasable and rewriteable optical chips" by ScienceDaily;
  - "James Bond-style erasable, rewritable chips in the offing" by Tribuneindia;
  - "New material could lead to erasable and rewriteable optical chips" by Eurekalert; and
  - "Optically rewritable integrated nanophotonics with hybrid plasmon-waveguide modes" by D4Sci (December 2016).
- Our work "Dual-Band Moiré Metasurface Patches for Multifunctional Biomedical Applications" was highlighted as "A multifunctional biophotonic platform enabled by moire metasurfaces" by Nanowerk. (October 2016)
- Our work "Light-Directed Reversible Assembly of Plasmonic Nanoparticles Using Plasmon-Enhanced Thermophoresis" was highlighted as
  - "Thermophoresis assembles plasmonic nanoparticles" by Nanotechweb; and
  - "Plasmon-enhanced thermophoresis for the reversible assembly of plasmonic nanoparticles" by Nanowerk. (September 2016)
- Our work "Light-Directed Reversible Assembly of Plasmonic Nanoparticles Using Plasmon-Enhanced Thermophoresis" was highlighted as
  - "Thermophoresis assembles plasmonic nanoparticles" by Nanotechweb; and
  - "Plasmon-enhanced thermophoresis for the reversible assembly of plasmonic nanoparticles" by Nanowerk. (September 2016)
- Our work "Tunable Graphene Metasurfaces with Gradient Features by Self-assembly-based Moiré Nanosphere Lithography" was highlighted as
  - "Tunable Graphene Metasurfaces with Gradient Features" by Materials Views;
  - “Nanosphere lithography makes graphene moiré metasurface” by Nanotechweb; and
  - "Moire Nanosphere Lithography allows fabrication of large-area tunable graphene metasurfaces." By Nanowerk. (August 2016)
- Our work "Regioselective Localization and Tracking of Biomolecules on Single Gold Nanoparticles" was highlighted as
  - "Biomolecule tracking with gold nanoparticles" by MaterialsViews; and
  - Research news in MaterialsViewsChina.com. (October 2015)
- Our work "Bubble-Pen Lithography" was featured as
  - Science Editor's Choice as "Patterning colloids with microbubbles";

- "Nanotechnology in a Bubble" in Book "Nanotechnology: The Future is Tiny" by Michael Berger;
- "Nanolithography: Laser bubble-pen lithography patterns colloidal nanoparticles" by LaserFocusWorld;
- "Bubble-Pen Lithography Deftly Handles Nanoparticle" by SPIE BACUS Newsletter;
- "Bubble-pen writes new chapter for nanomaterials" by Materials Today;
- "Laser-driven bubble-pen developed for fabricating tiny structures" by Engineering.com;
- "'Bubble pen' can precisely write patterns with nanoparticles as small as 1 nanometer" by Kurzweil.net;
- "Engineers invent a bubble-pen to write with nanoparticles" by Opli;
- "Engineers use laser beams to write with bubbles" by eeDesignIt;
- "Writing Nanoparticles with a Bubble-Pen" by WorldIndustrialReport;
- "Engineers invent a bubble-pen to write with nanoparticles" by ScienceDaily;
- "Scientists write with nanoparticles utilizing a laser and a bubble" by XENERO;
- in popular Indian newspapers Business Standard, NDTV, Financial Express, and India Today;
- News on Daily Planet Show by Discovery Channel-Canada;
- "Laser-Driven 'Bubble Pen' Patterns Nanoparticles" by IEEE Spectrum;
- "UT breakthrough on nanoparticles makes Ant-Man look like Sasquatch" by Statesman;
- "Researchers Develop Lithographic Pen for Nanoparticles" by The Daily Texan;
- "Bubble-Pen Lithography Deftly Handles Nanoparticle" by Photonics;
- Research News "Bubble-Pen Lithography" by OSA Optics & Photonics News;
- "Innovative Bubble-Pen Lithography Enables Efficient Handling of Nanoparticles" by AzoNano;
- "Engineers Invent a Bubble-Pen to Write with Nanoparticles" by UT News;
- "Writing With a Bubble Pen" by ChemistryViews;
- "Bubble-pen lithography patterns nanodevices" by Nanotechweb; and
- Spotlight article "Nanotechnology in a Bubble" by Nanowerk (December 2015).

- Our work "Tunable multiband metasurfaces by moiré nanosphere lithography" was featured as one of HOT Nanoscale articles published in 2015 (December 2015).
- Our work "Engineering of Parallel Plasmonic-Photonic Interactions for On-Chip Refractive Index Sensors" was featured as research news by Atlas of Science (December 2015).
- Our work "Thermodynamic synthesis of solution processable ladder polymers" was featured as Hot Chemical Science article (December 2015).

- Our work “Blossom in Photosynthesis” won the IEEE Photonics Society Image Contest and was featured as the cover of the IEEE Photonics Society Newsletter (August 2015).
- Our work "Moire Nanosphere Lithography" was featured as a Nanowerk spotlight article "Novel Nanosphere Lithography to Fabricate Tunable Plasmonic Metasurfaces" (June 2015).
- Our work supported by Arnold and Mabel Beckman Foundation was featured by UT News; ABC; and Longhorn Network. (16 August 2014).
- Our research on mobile medical tools was featured in "16 Amazing Science Breakthroughs from 2014".

JOURNAL COVERS (28 of our published papers were featured as cover articles.)



GRANTS AND CONTRACTS:

Co-Investigators	Title	Agency	Grant Period	Grant Total	Candidate Share
External Sources					
None	Virtual Infrared Plasmonic Tweezers for Versatile Manipulations of Cells and Biomolecules	Beckman Foundation (Young Investigator Award)	9/1/2014-8/31/2019	$750,000	$750,000

None	High-Performance Electromagnetic Wave Absorbers Based on Reduced Graphene Oxide Functionalized with Dual Magnetic Nanoparticles in Epoxy	3M Company (Faculty Award)	3/1/2015-2/28/2018	$45,000	$45,000
None	Exploring Plasmonic Oxide Nanoparticles for High-Efficiency Low-Cost	Oak Ridge Associated Universities/UT (Junior Faculty Enhancement Award)	6/1/2015-5/31/2016	$10,000	$10,000
None	Reconfigurable Multiband Metasurfaces and Devices with Atomic-Layer Materials	Office of Naval Research (ONR) (Young Investigator Award)	6/1/2017-5/31/2020	$509,937	$509,937
Delia Milliron (Chemical Eng./UT Austin)	Enhanced Efficiency in Transparent Organic Photovoltaics Using Oxide Plasmonic Nanostructures	National Science Foundation (NSF)	8/15/2017-7/31/2020	$395,000	$282,916
Thomas Edgar (Energy Institute/ UT Austin)	Bubble Printing of Micro/Nanostructured Metal Oxide Catalysts for NO_x Abatement	ExxonMobil	9/1/2017-8/31/2019	$200,000	$196,660
None	On-Chip Multiplexed Adhesion Frequency Assay for Measuring Receptor-Ligand Interactions on Cells	National Institute of Health (NIH) (Director's New Innovator Award)	9/30/2017-5/31/2022	$2,235,836	$2,235,836
None	Optically Assembled Meta-Materials	Army Research Office (ARO)	10/15/2017-4/14/2019	$175,346	$175,346

None	An Ultracompact Opto-Electro-Fluidic System for Preconcentration and Separation of Chiral Molecules in In-Situ Life Detection	National Aeronautics and Space Administration (NASA) (Early Career Faculty Award)	10/16/2017-10/15/2020	$599,961	$599,961
None	Development and Validation of Microfluidic Device to Accurately and Specifically Measure Endogenous and Exogenous Metabolite Biomarkers from Biofluids	The University of Texas Health Science Center at San Antonio (Internal Funding)	6/1/2018-5/31/2020	$35,000	$35,000
None	Bubble Printing of Colloidal Nanoparticles into Functional Materials and Devices	National Science Foundation (NSF)	7/1/2018-6/30/2021	$336,633	$336,633
None	Integrated System for Precise Nanoscale Layer-by-Layer Alignment	Office of Naval Research (ONR) (DURIP award)	6/15/2019-6/14/2020	$356,893	$356,893
Total (External)				**$5,649,606**	**$5,534,182**
UT Sources					
None	A Novel Device for Detection and Collection of Intact Circulating Tumor Cells	UT Austin	9/1/2015-8/31/2016	$5,000	$5,000
None	Graduate School Diversity Mentoring Fellowship	UT Austin	9/1/2016-8/31/2017	$40,000	$40,000
None	University Graduate Continuing Fellowship	UT Austin	9/1/2017-8/31/2018	$40,000	$40,000
None	University Graduate Continuing Fellowship	UT Austin	9/1/2018-8/31/2019	$40,000	$40,000
Total (Internal)				**$125,000**	**$125,000**

PH.D. SUPERVISIONS COMPLETED:

Student Name	Co-Supervisor*	Degree	Start Date	Graduation Date	Placement
Zilong Wu	NA	PhD	09/2014	05/2018	Postdoctoral Researcher at UT Austin
	Dissertation: Plasmonic Moiré Metamaterials and Metasurfaces: Tunable Optical Properties and Nanophotonic Applications				
Mingsong Wang	NA	PhD	09/2013	08/2018	Postdoctoral Researcher at CUNY
	Dissertation: Hybrid Systems of Plasmonic Nanostructures and Functional Materials for Plasmon-Matter Interaction and Active Plasmonic Devices				
Bharath Bangalore Rajeeva	NA	PhD	09/2014	11/2018	Intel
	Dissertation: Plasmon-Mediated Patterning of Nanoparticles and Biomolecules for Functional Nano-Devices				
Xiaolei Peng	NA	PhD	09/2014	05/2019	UT Austin
	Dissertation: Optothermal Manipulation of Colloidal Particles and Biological Objects				

M.S. SUPERVISIONS COMPLETED:

Student Name	Co-Supervisor*	Degree	Start Date	Graduation Date	Placement
Benjamin Weaver	Jianshi Zhou	MS	09/2014	08/2015	
	Thesis: Synthesis, Characterization and Magnetic Properties of $A_xB_{1-x}V_2O_4$ Spinels for A, B = Mg, Co, Zn, Fe, Mn				

PH.D. IN PROGRESS:

A. Students admitted to candidacy

Xiaolei Peng (Co-Supervisor: NA)
Liu, Yaoran (Co-Supervisor: NA)
Li, Jingang (Co-Supervisor: NA)
Kollipara, Pavana (Co-Supervisor: NA)
Chen, Zhihan (Co-Supervisor: NA)

Fang, Jie (Co-Supervisor: NA)
Kim, Youngsun (Co-Supervisor: NA)
Unni, Rohit (Co-Supervisor: NA)
Wang, Jimi (Co-Supervisor: NA)

B. Post M.S. students preparing to take Ph.D. qualifying exam

Ding, Hongru (Co-Supervisor: NA)

M.S. IN PROGRESS: NA

POSTDOCS:

Kotnala, Abhay
Wu, Zilong
Yao, Kan

RESEARCH ASSOCIATE COMPLETED:

Lin, Linhan (2019, current position: Associate Professor, Young 1000 Plan Professor, Tsinghua University, China)

POSTDOCS COMPLETED:

Lin, Linhan (2014-2018, current position: Associate Professor, Young 1000 Plan Professor, Tsinghua University, China)
Hill, Eric (2017-2018, current position: Leader of independent junior research group, Hamburg University of Technology, Germany)
Sun, Yunlu (2018-2018, current position: Postdoctoral researcher, University of Michigan at Ann Arbor, United States)
Wang, Mingsong (2018-2019, current position: Postdoctoral researcher, CUNY, United States)

UNDERGRADUATE STUDENTS:
*indicates authors of peer-reviewed publication

*Bhatt, Neel
*Penley, Daniel
*Teal, Daniel

*Alabandi, Majd
*Pingali, Bharadwaj
Pingali, Prapul
Schiotz, Eiler
Kulkarni, Shardul
Liu, Ethan
*Menz, Ryan
*Rukavina, Michael
Teeters, McKenzie
Alshehri, Abdulmalek (KAUST Scholar)
Aljamed, Faris Fathi (KAUST Scholar)
Benavides, Ryan J.
*Inouse, Yuji
Wong, Kenneth
Khoja, Ghaith (KAUST Scholar)
Fu, Christina
Broussard, Blake
Guo, Danny

HIGH SCHOOL STUDENT:

Lu, David

EXCHANGE GRADUATE STUDENT:

Gan, Jiayong

Student and Trainee Awards

Linhan Lin:
2019 Young 1000 Plan Scholar, Associate Professor, Tsinghua University, China

Hongru Ding:
2019 Professional Development Award, Office of Graduate Studies, UT Austin

Eric Hill:
2018 Leadership of an Independent Junior Research Group, Germany

Rohit Unni:
2018 Cockrell School of Engineering Fellowship, UT Austin

Bharath Rajeeva:
2016 Friends of Alec Graduate Student Fellowship, Cockrell School of Engineering, UT Austin
2015 Professional Development Award, Office of Graduate Studies, UT Austin
2015 George J. Heuer. Jr. Ph.D. Endowed Graduate Fellowship, Cockrell School of Engineering
2014 Harris L. Marcus Graduate Fellowship in Materials Science and Engineering, UT Austin

Xiaolei Peng:
2018 University Graduate Continuing Fellowship, Office of Graduate Studies, UT Austin
2018 Professional Development Award, Office of Graduate Studies, UT Austin
2017 George J. Heuer. Jr. Ph.D. Endowed Graduate Fellowship, Cockrell School of Engineering
2016 George J. Heuer. Jr. Ph.D. Endowed Graduate Fellowship, Cockrell School of Engineering
2016 Poster Competition Prize, ASME NanoEngineering for Medicine and Biology Conference

Jingang Li:
2018 Professional Development Award, Office of Graduate Studies, UT Austin

Mingsong Wang:
2018 Chinese Government Award for Outstanding Self-financed Students Abroad
2017 University Graduate Continuing Fellowship, Office of Graduate Studies, UT Austin
2015 Warren A. and Alice L. Meyer Endowed Scholarship, Cockrell School of Engineering

Zilong Wu:
2015 Professional Development Award, Office of Graduate Studies, UT Austin
2015 Graduate Student Conference Grant, Office of Graduate Studies, UT Austin

Youngsun Kim:
2018 Kwanjeong Educational Foundation Fellowship

Pavana Kollipara:
2017 Provost's International Graduate Excellence Fellowship, UT Austin

Jiayong Gan:
2015 IEEE Photonics Society Image Contest Winner

Majd A Alabandi (Undergraduate student):

2016 Majd's research on "Integrating Mobile App Software with Bubble Pen Lithography," which aims to develop a friendly haptic user interface to give users a real nanofabrication experience, was selected as one of six finalists for the 2016 Texas Student Research Showdown.

VITA:

Yuebing Zheng is an Assistant Professor of Mechanical Engineering and Materials Science and Engineering at the University of Texas at Austin. He joined UT Austin in Fall 2013 after three years' postdoctoral research in Chemistry and Biochemistry (with Prof. Paul S. Weiss) at the University of California, Los Angeles. He received his Ph.D. in Engineering Science and Mechanics (with Prof. Tony Jun Huang) from the Pennsylvania State University in 2010. His research group innovates optical nanotechnologies for health, manufacturing, energy, national security and data revolution.