THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering

FULL NAME: Yuebing Zheng **TITLE:** Assoc. Professor

DEPARTMENT: Mechanical Engineering

EDUCATION:

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

CURRENT AND PREVIOUS ACADEMIC POSITIONS:

The University of Texas at Austin	**Associate Professor (Tenured)**	**Fall 2019-**
The University of Texas at Austin	Assistant Professor	Fall 2013-Summer 2019
University of California, Los Angeles	Postdoc	Summer 2010-Fall 2013

OTHER PROFESSIONAL EXPERIENCE:

Photonia, Inc.	**Founder**	**July 2020-**
Institute of Materials Research and Engineering, Singapore	Research Fellow	Jan. 2004-Aug. 2006

HONORS AND AWARDS:

2023 ***Chemical Communications*** **Pioneering Investigator, Royal Society of Chemistry**
2022 **Outstanding Cover Award of *Aggregate***
2022 **One of the four finalists for the ASEE Curtis W. McGraw Research Award**
2021 **The International Society for Optics and Photonics (SPIE) Senior Member**
2021 **Temple Foundation Endowed Teaching Fellowship in Engineering #2, UT Austin**
2021 **Participant at German-American Frontiers of Engineering Symposium, National Academy of Engineering**
2021 **Research Reboot Award, Cockrell School of Engineering & Provost's Office, UT Austin**
2021 **Institute of Electrical and Electronics Engineers (IEEE) Senior Member**
2021 **Outstanding Reviewer for *Nanoscale Advances*, Royal Society of Chemistry**
2020 **William W. Hagerty Endowed Faculty Fellowship in Engineering, UT Austin**
2020 **IEEE NANO Best Poster Award, IEEE**
2020 **Texas Health Catalyst Award, Dell Medical School, UT Austin**
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 **Texas Health Catalyst Consulting Award, Dell Medical School, UT Austin**
2019 **Top 5% of Highly Cited Authors in Analytical Portfolio of Royal Society of Chemistry**
2019 **J. Mike Walker Faculty Scholarship, 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
2016 ASME NanoEngineering for Medicine and Biology Conference Poster Competition Award
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
2015 "Blossom in Photosynthesis" as winning image of IEEE Photonics Society Newsletter Image Contest
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:

Royal Society of Chemistry
American Physical Society
Institute of Physics
American Society for Engineering Education
American Chemical Society
Materials Research Society
The International Society for Optics and Photonics
The Optical Society of America (Optica)
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-	**Texas Materials Institute Executive Committee**	**2023-**
	Graduate Advisor in Materials Science and Engineering Program	**2022-**
	Awards Committee of Mechanical Engineering	**2022-**
	Diversity, Equity, and Inclusion Committee of Mechanical Engineering	**2022-**
	Graduate Admission Committee for Materials Science and Engineering Program	**2022**
	Graduate Admission Committee for Materials Science and Engineering Program	**2021**
	Graduate Admission Committee for Materials Science and Engineering Program	**2020**
	Faculty Advisor for Design Projects Program	**2020**
	Graduate Admission Committee for Materials Science and Engineering Program	**2019**
	Electrical and Computer Engineering Graduate Studies Committee Member	**2019-**
	Biomedical Engineering Graduate Studies Committee Member	**2019-**
	Graduate Admission Committee for Materials Science and Engineering Program	2018
	Graduate Admission Committee for Materials Science and Engineering Program	2017
	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
	Mechanical Engineering Graduate Studies Committee Member	2013-
	Materials Science and Engineering Graduate Studies Committee Member	2013-
College-	Judge for Cockrell School Poster Exhibition on Engineering Research	2015, 2016

University-

DoD Young Investigator Programs "Ask us Anything" Panel Member for the Office of the Vice President of Research	**2023**
Review Committee for Robert A. Welch Foundation Catalyst for Discovery Program Grants	**2023**
Review Committee for Agilent Early Career Professor Award	**2022**
Review Committee for CPRIT High-Impact/High-Risk Awards	**2021**
Review Committee for the NSF Major Research Instrumentation (MRI) Program UT internal competition	**2021**
Judge for Posters at the Graduate and Industry Networking	**2021**
Review Committee for the 2021 Camille Dreyfus Teacher-Scholar Award UT internal competition	**2020**
Review Committee for the 2021 Moore Inventor Fellows UT internal competition	**2020**
Review Committee for CPRIT High-Impact/High-Risk Awards	**2020**
Review Committee for Co-op Research Excellence Awards	**2020**
Review Committee for ORAU Ralph E. Powe Junior Faculty Enhancement Awards	**2019**
"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: 2014-
Maruthi Nagavalliyogeesh (advisor: Dr. Deji Akinwande, ECE)
Wei Li (advisor: Dr. Deji Akinwande, ECE)
Evan P Perillo (advisors: Dr. Andrew Dunn and Dr. Tim Yeh, BME)
Boxue Chen (advisor: Dr. Zheng Wang, ECE)
Babak Nasouri (Master, ME)
Xingyi Zhou (advisor: Dr. Guihua Yu, MSE)
Kihoon Kim (advisor: Dr. Delia Milliron, ChemE)
Mike Lee (advisor: Dr. Wei Li, ME)
Logan E. Hillberry (advisor: Dr. Mark Raizen, Physics, 2020-)
Youhong Guo (advisor: Dr. Guihua Yu, MSE, 2020-)
Weishen Chu (advisors: Dr. Paul Ho and Dr. Wei Li, MSE, 2020-)
Chenmu Zhang (advisor: Dr. Yuanyue Liu, MSE, 2020-)
Zhiren Luo (advisor: Dr. Chih-Hao Chang, ME, 2020-)
Nan Hong (advisor: Dr. Wei Li, ME, 2021-)
Wen Shi (advisor: Dr. Guihua Yu, MSE, 2021-)
Xizewen Han (advisor: Dr. Mingyuan Zhou, McCombs School of Business, 2022-)
Aminur Rashid Chowdhury (advisor: Dr. Tanya Hutter, ME, 2023-)
Xuejian Ma (advisor: Keji Lai, Physics, 2023-)

PROFESSIONAL SOCIETY/GOVERNMENT SERVICE AND TECHNICAL COMMITTEES:

Professional Society/Conference Organization:

2025 Optica Biophotonics Congress: Optics in the Life Sciences, Program Chair for the Optical Manipulation and its Applications
2023 SPIE Optics + Photonics, Program Committee for the Conference on Optical Trapping and Optical Micromanipulation XX
2023 SPIE Photonic West, Session Chair at the CONFERENCE 12431: Photonic and Phononic Properties of Engineered Nanostructures XIII
2022 Reviewer for ASEE Gulf Southwest Annual Conference
2022 SPIE Optics + Photonics, Program Committee for the Conference on Optical Trapping and Optical Micromanipulation XIX
2021 SPIE Optics + Photonics, Slack Modulator for Sessions on *Optical Tweezers Coupled with Novel Forms of Microscopy* and *Optical Fiber-Based Trapping System* at the Conference on Optical Trapping and Optical Micromanipulation XVIII
2021 SPIE Optics + Photonics, Program Committee for the Conference on Optical Trapping and Optical Micromanipulation XVIII
2020 Judge for the Sigma Xi (The Scientific Research Honor Society) Virtual Student Scholars Symposium
2020 SPIE Optics + Photonics, Session Chair for Session on *Dynamic Biophysical Systems* at the Conference on Optical Trapping and Optical Micromanipulation XVII
2020 SPIE Optics + Photonics, Program Committee for the Conference on Optical Trapping and Optical Micromanipulation XVII
2019 Materials Research Society, Session Chair at the Annual Spring Meeting
2019 SPIE Optics + Photonics, Session Chair at the Conference on Optical Trapping and Optical Micromanipulation
2019 SPIE Optics + Photonics, Program Committee for the Conference on Optical Trapping and 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 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

Reviewer for Senior Member/Fellow Applications
2022 Review panel for IEEE Senior Member Applications

Editorship:
2023 Guest Editor of Special Issue "AI/ML and Materials", *Current Opinion in Solid State and Materials Science*
2023 Guest Editor of "Chirality in Nanomaterials" Collection, *Scientific Reports*
2022 Co-Topic Editor of "Light Nanoengineering", *Frontiers in Nanotechnology*
2020- Associate Editor of *Frontiers in Nanotechnology*
2020- Topic Editor Board Member of *Materials*
2020- Reviewer Board Member of *Nanomaterials*
2019- Founding Editorial Board Member of *Sensors and Actuators Reports*
2015- 2022 Associate Editor of *Journal of Electronic Materials*
2015- Associate Editor of *Applied Nanoscience*
2015 Guest Editor of *Nanomaterials*
2015- Editorial Board Member of *Scientific Reports*

COMMUNITY ACTIVITIES:

Faculty Promotion Evaluator and PhD Examiner for International Universities:
2022 Evaluator for tenure promotion of faculty at The University of British Columbia, Canada
2022 Evaluator for tenure promotion of faculty at The University of North Carolina at Chapel Hill, USA
2022 External examiner for a Ph.D. thesis (Student: Jia Dai; advisor: Dr. Jinyao Tang) at The University of Hong Kong
2020 Evaluator for tenure promotion of faculty at Bar-Ilan University, Israel

Reviewer for Proposals and Books:
2023 Reviewer for the Beckman Young Investigator Program, Arnold and Mabel Beckman Foundation
2022 Proposal reviewer for The Fund for Scientific Research-FNRS, a funding agency in Belgium
2022 Proposal reviewer for The United Arab Emirates University
2022 Proposal reviewer for the European Research Council Starting Grants
2022 Proposal reviewer and panelist for National Institute of Health "Biomedical Technology and Development and Dissemination Center" Panel
2021 Proposal reviewer and pitch panelist for Genome British Columbia's Pilot Innovation Fund
2021 Proposal reviewer and panelist for National Institute of Health
2020 CAREER proposal reviewer and panelist for National Science Foundation
2020 Proposal reviewer and panelist for National Institute of Health
2020 Proposal reviewer for Estonian Research Council
2020 Reviewer for book entitled "Frontiers in Artificial Intelligence: Models, Algorithms and Application Areas" by Bentham Science Publishers
2019 Book proposal reviewer for CRC Press/Taylor and Francis Group
2019 Book proposal reviewer for Springer Nature
2019 Book reviewer for Bentham Science Publishers
2019 Proposal reviewer for Agency for Science, Technology and Research in Singapore
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:

2021 Outstanding Reviewer for *Nanoscale Advances*, Royal Society of Chemistry

2013-A partial list of journals for which the manuscripts were reviewed

Accounts of Chemical Research
ACS Applied Materials & Interfaces
ACS Nano
Advanced Optical Materials
Advanced Functional Materials
Advanced Materials
Analytical Chemistry
Applied Physics Reviews
ASME Journal of Micro and Nano Manufacturing
Chemical Science
IEEE Journal of Microelectromechanical Systems
Journal of Materials Chemistry
Journal of Physical Chemistry
Journal of the American Chemical Society
Lab on a Chip
Laser & Photonics Reviews
Light: Science & Applications
Materials Today
Nano Letters
Nanophotonics
Nature Communications
Nature Nanotechnology
Optics Express
Optics Letters
Science
Science Advances

Outreach Activities:

2022	**Our research group hosted a group of undergraduate students in American Society of Mechanical Engineers to tour our lab spaces and discuss current research.**
2021	**Panelist of iCANX Talks: Plasmonics: from enhanced Raman spectroscopy and chemical reaction to optical tweezer of molecules by Prof. Zhong-Qun Tian, Xiamen University, China**
2021	**Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin**
2020	**Exhibition of "Exploiting Nanophotonics: Lighting a Path to a Better World" at Explore UT, The University of Texas at Austin (cancelled due to COVID-19)**
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 (160)

Students and researchers under my supervision are underlined.

Published in rank at UT (63)

1. **Y. Liu, R. Unni, X. Lou, M. Yang, and Y. B. Zheng*, "High-Resolution Volumetric Imaging and Classification of Organisms with Standard Optical Microscopy," Nano Letters 23 (May 2023) 5148-5154. https://pubs.acs.org/doi/10.1021/acs.nanolett.3c01077**
2. **A. Swain, Z. Chen, Y. Liu, Z. Wu, and Y. B. Zheng*, "Large-Area Ultrathin Moiré Chiral Metamaterials by Thermal-Tape-Transfer Printing," ACS Photonics 10 (May 2023) 1225-1231. https://pubs.acs.org/doi/10.1021/acsphotonics.3c00222**
3. **J. Fang, S. Huang, K. Yao, T. Zhang, M. Terrones, W. Huang, Y. Pan, and Y. B. Zheng*, "Tunable Couplings of Photons with Bright and Dark Excitons in Monolayer Semiconductors on Plasmonic-Nanosphere-on-Mirror Cavities," Journal of Physical Chemistry C 127 (May 2023)** 9105-9112. **https://pubs.acs.org/doi/full/10.1021/acs.jpcc.3c01019**
4. **H. Ding, P. K. Kollipara, K. Yao, Y. Chang, D. J. Dickinson, and Y. B. Zheng*, "Multimodal Optothermal Manipulations along Various Surfaces", ACS Nano 17 (April 2023) 9280-9289. https://pubs.acs.org/doi/full/10.1021/acsnano.3c00583**
5. **P. S. Kollipara, Z. Chen, and Y. B. Zheng*, "Optical Manipulation Heats up: Present and Future of Optothermal Manipulation", ACS Nano 17 (April 2023) 7051-7063. https://pubs.acs.org/doi/full/10.1021/acsnano.3c00536**
6. **Y. Liu, Z. Wu, D. Armstrong, H. Wolosker, and Y. B. Zheng*, "Detection and Analysis of Chiral Molecules as Disease Biomarkers," Nature Reviews Chemistry 7 (March 2023) 355-373. https://www.nature.com/articles/s41570-023-00476-z**
7. **H. Ding, Z. Chen, C. Ponce, and Y. B. Zheng*, "Optothermal Rotation of Micro-/Nano-Objects," Chemical Communications 59 (January 2023) 2208-2221. https://pubs.rsc.org/en/content/articlelanding/2023/cc/d2cc06955e/unauth**
8. **Y. Liu, H. Ding, J. Li, X. Lou, M. Yang, and Y. B. Zheng*, "Light-Driven Single-Cell Rotational Adhesion Frequency Assay," eLight 2 (August 2022) 13. https://doi.org/10.1186/s43593-022-00020-4**
9. **J. Li, K. Yao, Y. Huang, J. Fang, P. S. Kollipara, D. E. Fan, and Y. B. Zheng*, "Tunable Strong Coupling in Transition Metal Dichalcogenide Nanowires," Advanced Materials 34 (July 2022) 2200656. (Featured as a Frontispiece)**

https://doi.org/10.1002/adma.202200656

10. **H. Ding, Z. Chen, P. S. Kollipara, Y. Liu, Y. Kim, S. Huang, and Y. B. Zheng*, "Programmable Multimodal Optothermal Manipulation of Synthetic Particles and Biological Cells," ACS Nano 16 (July 2022) 10878-10889.**
https://doi.org/10.1021/acsnano.2c03111
11. **H. Ding, P. S. Kollipara, Y. Kim, A. Kotnala, J. Li, Z. Chen, and Y. B. Zheng*, "Universal Optothermal Micro/Nanoscale Rotors," Science Advances 8 (June 2022) eabn8498.**
https://www.science.org/doi/full/10.1126/sciadv.abn8498
12. **Y. Kim, H. Ding, and Y. B. Zheng*, "Investigating Water/Oil Interfaces with Opto-Thermophoresis," Nature Communications 13 (June 2022) 3742.**
https://doi.org/10.1038/s41467-022-31546-3
13. **J. Li, P. S. Kollipara, Y. Liu, K. Yao, Y. Liu, and Y. B. Zheng*, "Opto-Thermocapillary Nanomotors on Solid Substrates," ACS Nano 16 (May 2022) 8820-8826.**
https://pubs.acs.org/doi/full/10.1021/acsnano.1c09800
14. **J. Li, A. Alfares, and Y. B. Zheng*, "Optical Manipulation and Assembly of Micro/Nanoscale Objects on Solid Substrates," iScience 25 (April 2022) 104035.**
https://www.sciencedirect.com/science/article/pii/S2589004222003054
15. **P. S. Kollipara, R. Mahendra, J. Li, and Y. B. Zheng*, "Bubble-Pen Lithography: Fundamentals and Applications," Aggregate 3 (March 2022) e189. (Featured as a Back Cover Article)**
https://onlinelibrary.wiley.com/doi/10.1002/agt2.189
16. **J. Fang, K. Yao, T. Zhang, M. Wang, T. Jiang, S. Huang, B. A. Korgel, M. Terrones, A. Alù, and Y. B. Zheng*, "Room-Temperature Observation of Near-Intrinsic Exciton Linewidth in Monolayer WS2," Advanced Materials 34 (February 2022) 2108721. (Featured as a Frontispiece)**
https://onlinelibrary.wiley.com/doi/10.1002/adma.202108721
17. **S. Huang, J. Li, J. Fang, H. Ding, W. Huang, X. Zhao, and Y. B. Zheng*, "Self-Limiting Opto-Electrochemical Thinning of Transition-Metal Dichalcogenides," ACS Applied Materials & Interfaces 13 (December 2021) 58966-58973.**
https://pubs.acs.org/doi/full/10.1021/acsami.1c19163
18. **Z. Chen, J. Li, and Y. B. Zheng*, "Heat-Mediated Optical Manipulation," Chemical Reviews 122 (November 2021) 3122-3179. (Featured as a Supplementary Journal Cover Article)**
https://pubs.acs.org/doi/full/10.1021/acs.chemrev.1c00626
19. **J. T. Fourkas, J. Gao, Z. Han, H. Liu, B. Marmiroli, M. J. Naughton, J. S. Petersen, Y. Sun, A. V. Pret, and Y. B. Zheng, "Grand Challenges in Nanofabrication: There Remains Plenty of Room at the Bottom," Frontiers in Nanotechnology 3 (October 2021) 700849.**
https://www.frontiersin.org/articles/10.3389/fnano.2021.700849/full
20. **R. Unni, K. Yao, X. Han, M. Zhou, and Y. B. Zheng*, "A Mixture-Density-Based Tandem Optimization Network for On-Demand Inverse Design of Thin-Film High Reflectors," Nanophotonics 10 (October 2021) 4057-4065.**
https://www.degruyter.com/document/doi/10.1515/nanoph-2021-0392/html
21. **K. Yao and Y. B. Zheng*, "Controlling the Polarization of Chiral Dipolar Emission with a Spherical Dielectric Nanoantenna," The Journal of Chemical Physics 155 (September 2021) 224110.**
https://aip.scitation.org/doi/10.1063/5.0072210
22. **J. Li, Z. Chen, Y. Liu, P. S. Kollipara, Y. Feng, Z. Zhang, and Y. B. Zheng*, "Opto-Refrigerative Tweezers," Science Advances 7 (June 2021) eabh1101.**
https://advances.sciencemag.org/content/7/26/eabh1101
23. **A. Kotnala, H. Ding, and Y. B. Zheng*, "Enhancing Single-Molecule Fluorescence Spectroscopy with Simple and Robust Hybrid Nanoapertures," ACS Photonics 8 (May 2021) 1673-1682.**
https://doi.org/10.1021/acsphotonics.1c00045
24. **J. Li and Y. B. Zheng*, "Optothermally Assembled Nanostructures," Accounts of Materials Research 2 (April 2021) 352–363. (Featured as a Supplementary Journal Cover Article)**
https://pubs.acs.org/doi/full/10.1021/accountsmr.1c00033
25. **X. Peng, A. Kotnala, B. B. Rajeeva, M. Wang, K. Yao, N. Bhatt, D. Penley, and Y. B. Zheng*, "Plasmonic Nanotweezers and Nanosensors for Point-of-Care Applications," Advanced Optical Materials (April**

2021).
https://doi.org/10.1002/adom.202100050

26. **J. Fang, M. Wang, K. Yao, T. Zhang, A. Krasnok, T. Jiang, J. Choi, E. Kahn, B. A. Korgel, M. Terrones, X. Li, A. Alù, and Y. B. Zheng*, "Directional Modulation of Exciton Emission Using Single Dielectric Nanospheres," Advanced Materials 33 (April 2021) 2007236. (Featured as an Inside Front Cover Article)**
https://onlinelibrary.wiley.com/doi/abs/10.1002/adma.202007236
27. **Y. Liu, Z. Wu, P. Kollipara, R. Montellano, K. Sharma, and Y. B. Zheng*, "Label-Free Ultrasensitive Detection of Abnormal Chiral Metabolites in Diabetes," ACS Nano 15 (March 2021) 6448-6456. (Featured by Nanowerk)**
https://pubs.acs.org/doi/10.1021/acsnano.0c08822
28. **M. L. De Marco, T. Jiang, J. Fang, S. Lacomme, Y. B. Zheng, A. Baron, B. A. Korgel, P. Barois, G. L. Drisko, C. Aymonier, "Broadband Forward Light Scattering by Architectural Design of Core-Shell Silicon Particles," Advanced Functional Materials (February 2021).**
https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.202100915?af=R
29. **H. Wang, B.-B. Xu, Y.-L. Zhang, P. S. Kollipara, L. Lin, Q.-D. Chen, Y. B. Zheng, and H.-B. Sun, "Light-Driven Magnetic Encoding for Hybrid Magnetic Micromachines," Nano Letters 21 (February 2021) 1628-1635. (Featured by Nanowerk)**
https://pubs.acs.org/doi/10.1021/acs.nanolett.0c04165
30. **Z. Chen, P. S. Kollipara, H. Ding, A. Pughazhendi, and Y. B. Zheng*, "Liquid Optothermoelectrics: Fundamentals and Applications," Langmuir 37 (January 2021) 1315-1336. (Invited Feature Article. Featured as a Front Cover Article)**
https://pubs.acs.org/doi/10.1021/acs.langmuir.0c03182
31. **K. Yao and Y. B. Zheng*, "Directional Light Emission by Electric and Magnetic Dipoles Near a Nanosphere: An Analytical Approach Based on the Generalized Mie Theory," Optics Letters 46 (January 2021) 302-305.**
https://www.osapublishing.org/ol/abstract.cfm?uri=ol-46-2-302
32. **J. Fang, A. Swain, R. Unni, and Y. B. Zheng*, "Decoding Optical Data with Machine Learning," Laser & Photonics Reviews 15 (December 2020) 2000422. (Featured as a Back Cover Article)**
https://onlinelibrary.wiley.com/doi/abs/10.1002/lpor.202000422?af=R
33. **Y. Kim, J. Gonzales, and Y. B. Zheng*, "Sensitivity-Enhancing Strategies in Optical Biosensing," Small 17 (December 2020) 2004988. (Featured as a Back Cover Article)**
https://onlinelibrary.wiley.com/doi/abs/10.1002/smll.202004988
34. **J. Li, M. Wang, Z. Wu, H. Li, G. Hu, T. Jiang, J. Guo, Y. Liu, K. Yao, Z. Chen, J. Fang, D. L. Fan, B. A. Korgel, A. Alù, and Y. B. Zheng*, "Tunable Chiral Optics in All-Solid-Phase Reconfigurable Dielectric Nanostructures," Nano Letters 21 (December 2020) 973-979. (Featured as a Front Cover Article. Featured by Nanowerk; x-mol)**
https://pubs.acs.org/doi/10.1021/acs.nanolett.0c03957
35. **H. Ding, P. S. Kollipara, L. Lin, and Y. B. Zheng*, "Atomistic Modeling and Rational Design of Optothermal Tweezers for Targeted Applications," Nano Research 14 (October 2020) 295–303. (Featured as a Back Cover Article)**
https://doi.org/10.1007/s12274-020-3087-z
36. **M. Wang, A. Krasnok, S. Lepeshov, G. Hu, T. Jiang, J. Fang, B. A. Korgel, A. Alú, and Y. B. Zheng*, "Suppressing Material Loss in the Visible and Near-Infrared Range for Functional Nanophotonics Using Bandgap Engineering," Nature Communications 11 (October 2020) 5055.**
https://doi.org/10.1038/s41467-020-18793-y
37. **A. Pughazhendi, Z. Chen, Z. Wu, J. Li, and Y. B. Zheng*, "Opto-Thermoelectric Tweezers: Principles and Applications," Frontiers in Physics 8 (October 2020) 580014. In research topic of Optical Trapping (Laser Tweezers) and Nanosurgery (Laser Scissors), hosted by Michael W. Berns, Daryl Preece, Halina Rubinsztein-Dunlop, and Monika Ritsch-Martem.**
https://www.frontiersin.org/articles/10.3389/fphy.2020.580014/abstract
38. **R. Unni, K. Yao, and Y. B. Zheng*, "Deep Convolutional Mixture Density Network for Inverse Design of Layered Photonic Structures," ACS Photonics 7 (September 2020) 2703–2712. (Featured as a**

Supplementary Cover Article)
https://doi.org/10.1021/acsphotonics.0c00630

39. **X. Peng, Z. Chen, P. S. Kollipara, Y. Liu, J. Fang, L. Lin, and Y. B. Zheng*, "Opto-Thermoelectric Microswimmers," Light: Science & Applications 9 (August 2020) 141.**
https://doi.org/10.1038/s41377-020-00378-5
40. **Y. Kim, H. Ding, and Y. B. Zheng*, "Enhancing Surface Capture and Sensing of Proteins with Low-Power Optothermal Bubbles in a Biphasic Liquid," Nano Letters 20 (July 2020) 7020–7027. (Featured as a Supplementary Cover Article)**
https://doi.org/10.1021/acs.nanolett.0c01969
41. **H. Zhang, K. Ly, X. Liu, Z. Chen, M. Yan, Z. Wu, X. Wang, Y. B. Zheng, H. Zhou, and T. Fan, "Biologically Inspired Flexible Photonic Films for Efficient Passive Radiative Cooling," Proceedings of the National Academy of Sciences of the United States of America (PNAS) 117 (June 2020) 14657-14666.**
https://doi.org/10.1073/pnas.2001802117
42. **A. Kotnala, P. S. Kollipara, and Y. B. Zheng*, "Opto-Thermoelectric Speckle Tweezers," Nanophotonics 9 (March 2020) 927-933.**
https://doi.org/10.1515/nanoph-2019-0530
43. **L. Lin, P. S. Kollipara, A. Kotnala, T. Jiang, Y. Liu, X. Peng, B. A. Korgel, and Y. B. Zheng*, "Opto-Thermoelectric Pulling of Light-Absorbing Particles," Light: Science & Applications 9 (March 2020) 34.**
https://doi.org/10.1038/s41377-020-0271-6
44. **P. S. Kollipara, J. Li, and Y. B. Zheng*, "Optical Patterning of Two-Dimensional Materials," Research 2020 (January 2020) 6581250.**
https://spj.sciencemag.org/research/2020/6581250/
45. **J. Gan, B. B. Rajeeva, Z. Wu, D. Penley, and Y. B. Zheng*, "Plasmon-Enhanced Hierarchical Photoelectrodes with Mechanical Flexibility for Hydrogen Generation from Urea Solution and Human Urine," Journal of Applied Electrochemistry 50 (January 2020) 63-69.**
https://doi.org/10.1007/s10800-019-01369-0
46. **A. Kotnala, P. S. Kollipara, J. Li, and Y. B. Zheng*, "Overcoming Diffusion-Limited Trapping in Nanoaperture Tweezers Using Opto-Thermal-Induced Flow," Nano Letters 20 (January 2020) 768-779.**
https://doi.org/10.1021/acs.nanolett.9b04876
47. **J. Li, Y. Liu, L. Lin, M. Wang, T. Jiang, J. Guo, H. Ding, P. S. Kollipara, Y. Inouse, D. Fan, B. A. Korgel, and Y. B. Zheng*, "Optical Nanomanipulation on Solid Substrates via Optothermally-Gated Photon Nudging," Nature Communications 10 (December 2019) 5672.**
https://www.nature.com/articles/s41467-019-13676-3
48. **B. B. Rajeeva, P. Kunal, P. S. Kollipara, P. V. Acharya, M. Joe, M. S. Ide, K. Jarvis, Y. Liu, V. Bahadur, S. M. Humphrey, and Y. B. Zheng*, "Accumulation-Driven Unified Spatiotemporal Synthesis and Structuring of Immiscible Metallic Nanoalloys," Matter 1 (December 2019) 1606-1617.**
https://doi.org/10.1016/j.matt.2019.10.017
49. **Z. Wu, J. Li, X. Zhang, J. M. Redwing, and Y. B. Zheng*, "Room-Temperature Active Modulation of Valley Dynamics in a Monolayer Semiconductor through Chiral Purcell Effects," Advanced Materials 31 (October 2019) 1904132. (Featured as Frontispiece)**
https://onlinelibrary.wiley.com/doi/full/10.1002/adma.201904132
50. **P. S. Kollipara, L. Lin, and Y. B. Zheng*, "Thermo-Electro-Mechanics at Individual Particles in Complex Colloidal Systems," Journal of Physical Chemistry C 123 (August 2019) 21639-21644. (Featured as a Supplementary Journal Cover Article)**
https://pubs.acs.org/doi/10.1021/acs.jpcc.9b06425
51. **A. Kotnala and Y. B. Zheng*, "Digital Assembly of Colloidal Particles for Nanoscale Manufacturing," Particle and Particle Systems Characterization 36 (July 2019) 1900152.**
https://onlinelibrary.wiley.com/doi/abs/10.1002/ppsc.201900152
52. **M. Wang, Z. Wu, A. Krasnok, T. Zhang, M. Liu, H. Liu, L. Scarabelli, J. Fang, L. Liz-Marzán, M. Terrones, A. Alu, and Y. B. Zheng*, "Dark-Exciton-Mediated Fano Resonance from a Single Gold Nanostructure on Monolayer WS_2 at Room Temperature," Small 15 (June 2019) 1900982. (Featured as an Inside Back Cover Article.)**
https://doi.org/10.1002/smll.201900982

53. **L. Lin, P. S. Kollipara, and Y. B. Zheng*, "Digital Manufacturing of Advanced Materials: Challenges and Perspective," Materials Today 28 (June 2019) 49-62. (Featured as an Inside Front Cover Article.)**
https://doi.org/10.1016/j.mattod.2019.05.022
54. **X. Wang, Z.-J. Liu, E. H. Hill, Y. B. Zheng, G.-Q. Guo, Y. Wang, *P. S. Weiss*, J. Yu, and Y.-W. Yang*, "Organic-Inorganic Hybrid Pillarene-Based Nanomaterial for Label-Free Sensing and Catalysis," Matter 1 (June 2019) 848-861. (Featured as Front Cover Article)**
https://doi.org/10.1016/j.matt.2019.03.005
55. **L. Lin, S. Lepeshov, A. Krasnok, T. Jiang, X. Peng, B. A. Korgel, A. Alu, and Y. B. Zheng*, "All-Optical Reconfigurable Chiral Meta-molecules," Materials Today 25 (May 2019) 10-20. (Featured as Inside Front Cover Article)**
https://doi.org/10.1016/j.mattod.2019.02.015
56. **J. Li, E. H. Hill, L. Lin, and Y. B. Zheng*, "Optical Nanoprinting of Colloidal Particles and Functional Structures," ACS Nano 13 (March 2019) 3783-3795.**
https://pubs.acs.org/doi/abs/10.1021/acsnano.9b01034
57. **K. Yao and Y. B. Zheng*, "Near-Ultraviolet Dielectric Metasurfaces: from Surface-Enhanced Circular Dichroism Spectroscopy to Polarization-Preserving Mirrors," Journal of Physical Chemistry C 123 (March 2019) 11814-11822.**
https://pubs.acs.org/doi/10.1021/acs.jpcc.8b11245
58. **A. Kotnala and Y. B. Zheng*, "Opto-Thermophoretic Fiber Tweezers," Nanophotonics 8 (February 2019) 475-485.**
https://doi.org/10.1515/nanoph-2018-0226
59. **K. Yao, R. Unni, and Y. B. Zheng*, "Intelligent Nanophotonics: Merging Photonics and Artificial Intelligence at the Nanoscale," Nanophotonics 8 (January 2019) 339-366.**
https://doi.org/10.1515/nanoph-2018-0183
60. **E. H. Hill, J. Li, L. Lin, Y. Liu, and Y. B. Zheng*, "Opto-Thermophoretic Attraction, Trapping, and Dynamic Manipulation of Lipid Vesicles," Langmuir 34 (October 2018) 13252–13262.**
https://pubs.acs.org/doi/10.1021/acs.langmuir.8b01979
61. **L. Lin and Y. B. Zheng*, "Manipulating Nanoparticles in an Opto-Thermoelectric Field," Optics and Photonics News 29 (2018) 60. (Selected as OPN's Year in Optics)**
https://www.osa-opn.org/opn/media/Images/PDF/2018/1218/60_OPN_12_18.pdf?ext=.pdf
62. **J. Li, L. Lin, Y. Inouse, and Y. B. Zheng*, "Opto-Thermophoretic Tweezers and Assembly," Journal of Micro and Nano Manufacturing 6 (October 2018) 040801. (invited review article).**
http://micronanomanufacturing.asmedigitalcollection.asme.org/article.aspx?articleid=2705871&resultClick=1
63. **Y. Liu, L. Lin, B. B. Rajeeva, J. W. Jarrett, X. Li, X. Peng, P. Kollipara, K. Yao, D. Akinwande, A. K. Dunn, and Y. B. Zheng*, "Nanoradiator-Mediated Deterministic Opto-Thermoelectric Manipulation," ACS Nano 12 (September 2018) 10383-10392.**
https://pubs.acs.org/doi/10.1021/acsnano.8b05824

Published in previous rank at UT (51)

1. L. Lin, J. Li, W. Li, M. N. Yogeesh, J. Shi, X. Peng, Y. Liu, B. B. Rajeeva, M. F. Becker, Y. Liu, D. Akinwande, and **Y. B. Zheng***, "Opto-Thermoplasmonic Nanolithography for On-Demand Patterning of 2D Materials," Advanced Functional Materials 7 (July 2018) 1803990. (Featured as Back Cover Article)
https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.201803990
2. Z. Wu, Y. Liu, E. H. Hill, and **Y. B. Zheng***, "Chiral Metamaterials via Moiré Stacking," Nanoscale 10 (July 2018) 18096-18112. (Featured as Inside Front Cover Article.)
http://pubs.rsc.org/en/content/articlelanding/2018/nr/c8nr04352c/unauth#!divAbstract
3. X. Peng, J. Li, L. Lin, Y. Liu, and **Y. B. Zheng***, "Opto-Thermophoretic Manipulation and Construction of Colloidal Superstructures in Photocurable Hydrogels," ACS Applied Nano Materials 1 (July 2018) 3998-4004. (Featured as Front Cover Article)
https://pubs.acs.org/doi/10.1021/acsanm.8b00766

4. X. Peng, L. Lin, E. H. Hill, P. Kunal, S. M. Humphrey, and **Y. B. Zheng***, "Opto-Thermophoretic Manipulation of Colloidal Particles in Non-Ionic Liquids," Journal of Physical Chemistry C 122 (June 2018) 24226-24234. (Featured as Front Cover Article)
https://pubs.acs.org/doi/10.1021/acs.jpcc.8b03828
5. L. Lin, E. H. Hill, X. Peng, and **Y. B. Zheng***, "Optothermal Manipulations of Colloidal Particles and Living Cells," Accounts of Chemical Research 51 (May 2018) 1465-1474.
https://pubs.acs.org/doi/10.1021/acs.accounts.8b00102
6. Y. Liu, Z. Wu, E. H. Hill, and **Y. B. Zheng***, "Mid-Infrared Superabsorbers Based on Quasi-Periodic Moiré Metasurfaces," Chinese Optics Letters 16 (May 2018) 050004.
https://www.osapublishing.org/col/abstract.cfm?uri=col-16-5-050004
7. Z. Wu, X. Chen, M. Wang, J. Dong, and **Y. B. Zheng***, "High-Performance Ultrathin Active Chiral Metamaterials," ACS Nano 12 (April 2018) 5030-5041
https://pubs.acs.org/doi/10.1021/acsnano.8b02566
8. S. Lepeshov, M. Wang, A. Krasnok*, O. Kotov, T. Zhang, H. Liu, T. Jiang, B. Korgel, M. Terrones, **Y. B. Zheng***, and A. Alú*, "Tunable Resonance Coupling in Single Si Nanoparticle-Monolayer WS_2 Structures," ACS Applied Materials & Interfaces 10 (April 2018) 16690-16697.
https://pubs.acs.org/doi/abs/10.1021/acsami.7b17112
9. M. Wang, A. Krasnok*, T. Zhang, L. Scarabelli, H. Liu, L. M. Liz-Marzán, M. Terrones, A. Alù*, and **Y. B. Zheng***, "Tunable Fano Resonance and Plasmon-Exciton Coupling in Single Au Nanotriangles on Monolayer WS_2 at Room Temperature," Advanced Materials 30 (April 2018) 1705779. (Featured as Frontispiece Article)
https://onlinelibrary.wiley.com/doi/abs/10.1002/adma.201705779
10. J. Cheng, E. H. Hill, **Y. B. Zheng***, T. He*, and Y. Liu*, "Optically Active Plasmonic Resonance in Self-Assembled Nanostructures," Materials Chemistry Frontiers 2 (April 2018) 662-678.
http://pubs.rsc.org/en/content/articlelanding/2018/qm/c7qm00601b#!divAbstract
11. B. B. Rajeeva, Z. Wu, A. Briggs, P. Acharya, B. S. Walker, X. Peng, V. Bahadur, S. R. Bank, and **Y. B. Zheng***, ""Point-and-Shoot" Synthesis of Metallic Ring Arrays and Surface-Enhanced Optical Spectroscopy," Advanced Optical Materials 6 (March 2018) 1701213. (Featured as Cover Article)
https://doi.org/10.1002/adom.201701213
12. L. Lin, M. Wang, X. Peng, E. N. Lissek, Z. Mao, L. Scarabelli, E. Adkins, S. Coskun, H. E. Unalan, B. A. Korgel, L. M. Liz-Marzán, E. L. Florin, and **Y. B. Zheng***, "Opto-Thermoelectric Nanotweezers," Nature Photonics 12 (March 2018) 195-201.
https://www.nature.com/articles/s41566-018-0134-3
13. Z. Wu and **Y. B. Zheng***, "Moiré Metamaterials and Metasurfaces," Advanced Optical Materials 6 (February 2018) 1701057. (Featured as Cover Article)
http://onlinelibrary.wiley.com/doi/10.1002/adom.201701057/full
14. B. B. Rajeeva, L. Lin, and **Y. B. Zheng**, "Design and Applications of Lattice Plasmon Resonances," Nano Research 11 (December 2017) 4423-4440 (Featured as Cover Article)
https://doi.org/10.1007/s12274-017-1909-4
15. Y. Zhou, L. Zhang, L. Lin, B. Wygant, Y. Liu, Y. Zhu, **Y. B. Zheng**, C. Mullins, Y. Zhao, X. Zhang, and G. Yu, "Highly Efficient Photoelectrochemical Water Splitting from Hierarchical WO_3/$BiVO_4$ Nanoporous Sphere Arrays," Nano Letters 17 (November 2017) 8012-8017.
http://pubs.acs.org/doi/full/10.1021/acs.nanolett.7b04626
16. M. Wang, W. Li, L. Scarabelli, B. B. Rajeeva, M. Terrones, L. Liz-Marzan, D. Akinwande, and **Y. B. Zheng***, "Plasmon-Trion and Plasmon-Exciton Resonance Energy Transfer from a Single Plasmonic Nanoparticle to Monolayer MoS_2," Nanoscale (October 2017) 13947-13955. (Featured as Cover Article)
http://pubs.rsc.org/en/content/articlelanding/2014/nr/c7nr03909c#!divAbstract
17. M. Wang, G. Hartmann, Z. Wu, L. Scarabelli, B. B. Rajeeva, L. Liz-Marzan, G. S. Hwang, and **Y. B. Zheng***, "Controlling Plasmon-Enhanced Fluorescence via Intersystem Crossing in Photoswitchable Molecules," Small (October 2017) 1701763. (Featured as Frontispiece Article)
http://onlinelibrary.wiley.com/doi/10.1002/smll.201701763/abstract

18. L. Lin, J. Zhang, X. Peng, Z. Wu, A. C. H. Coughlan, Z. Mao, M. A. Bevan, and **Y. B. Zheng***, "Opto-Thermophoretic Assembly of Colloidal Matter," Science Advances 3 (September 2017) e1700458. http://advances.sciencemag.org/content/3/9/e1700458
19. L. Lin, X. Peng, Z. Mao, X. Wei, C. Xie, and **Y. B. Zheng***, "Interfacial-Entropy-Driven Thermophoretic Tweezers," Lab on a Chip 17 (September 2017) 3061-3070. http://pubs.rsc.org/en/content/articlelanding/2014/lc/c7lc00432j#!divAbstract
20. Z. Wu and **Y. B. Zheng***, "Moiré Chiral Metamaterials," Advanced Optical Materials 5 (August 2017) 1700034. (Featured as Cover Article) http://onlinelibrary.wiley.com/doi/10.1002/adom.201701057/full
21. L. Lin, X. Peng, and **Y. B. Zheng***, "Reconfigurable Opto-Thermoelectric Printing of Colloidal Particles," Chemical Communications 53 (July 2017) 7375-7360. http://pubs.rsc.org/en/content/articlelanding/2017/cc/c7cc03530f#!divAbstract
22. B. B. Rajeeva, M. Alabandi, L. Lin, E. P. Peillo, A. K. Dunn, and **Y. B. Zheng***, "Patterning and Fluorescence Tuning of Quantum Dots with Haptic-Interfaced Bubble Printing," Journal of Materials Chemistry C 5 (June 2017) 5693-5699. (Featured as Cover Article) http://pubs.rsc.org/en/content/articlelanding/2017/tc/c7tc00454k#!divAbstract
23. B. B. Rajeeva, L. Lin, E. P. Peillo, X. Peng, M. A. Albandi, W. W. Yu, A. K. Dunn, and **Y. B. Zheng***, "High-Resolution Bubble Printing of Quantum Dots," ACS Applied Materials & Interfaces 9 (April 2017) 16725-16733. http://pubs.acs.org/doi/abs/10.1021/acsami.7b04881
24. L. Lin, X. Peng, X. Wei, Z. Mao, C. Xie, and **Y. B. Zheng***, "Thermophoretic Tweezers for Low-Power and Versatile Manipulation of Biological Cells," ACS Nano 11 (February 2017) 3147-3154. http://pubs.acs.org/doi/abs/10.1021/acsnano.7b00207
25. D. Lin, Z. Wu, S. Li, Z. Jiang, Z. Zhong, **Y. B. Zheng** and X. Yang, "Large-Area Au-Nanoparticle-Functionalized Si Nanorod Arrays for Spatially Uniform Surface-Enhanced Raman Spectroscopy," ACS Nano 11 (January 2017) 1478-1487. http://pubs.acs.org/doi/abs/10.1021/acsnano.6b06778
26. L. Lin, X. Peng, Z. Mao, W. Li, M. N. Yogeesh, B. B. Rajeeva, E. P. Perillo, A. K. Dunn, D. Akinwande, and **Y. B. Zheng***, "Bubble-Pen Lithography," Nano Letters 16 (December 2016) 701-708. (Highlighted as Editor's Choice by Science) http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.5b04524
27. Z. Wu, W. Li, M. N. Yogeesh, S. Jung, A. L. Lee, K. McNichola, A. Briggs, S. Bank, M. Belkin, D. Akinwande, and **Y. B. Zheng***, "Tunable Graphene Metasurfaces with Gradient Features by Self-assembly-based Moiré Nanosphere Lithography," Advanced Optical Materials 4 (December 2016) 2035-2043. http://onlinelibrary.wiley.com/doi/10.1002/adom.201600242/abstract
28. L. Lin and **Y. B. Zheng***, "Substrate-Independent Lattice Plasmon Modes for High-Performance On-Chip Plasmonic Sensors," Plasmonics 11 (December 2016) 1427–1435. http://link.springer.com/article/10.1007/s11468-016-0193-6?wt_mc=internal.event.1.SEM.ArticleAuthorOnlineFirst
29. Z. Wu, G. Kelp, M. N. Yogeesh, W. Li, A. Briggs, B. B. Rajeeva, D. Akinwande, S. Bank, G. Shvets, and **Y. B. Zheng***, "Dual-Band Moiré Metasurface Patches for Multifunctional Biomedical Applications," Nanoscale 8 (November 2016) 18461-18468. http://pubs.rsc.org/en/content/articlelanding/2014/NR/C6NR06608A#!divAbstract
30. J. Y. Gan, B. B. Rajeeva, Z. L. Wu, D. Penley, and **Y. B. Zheng***, "Hydrogen-Reduced Bismuth Oxyiodide Nanoflake Arrays with Plasmonic Enhancements for Efficient Photoelectrochemical Water Reduction," Electrochimica Acta 219 (November 2016) 20-27. http://www.sciencedirect.com/science/article/pii/S0013468616320795
31. L. Lin, M. Wang, X. Wei, X. Peng, C. Xie, and **Y. B. Zheng***, "Photoswitchable Rabi Splitting in Hybrid Plasmon-Waveguide Modes," Nano Letters 16 (November 2016) 7655-7663. http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.6b03702
32. L. Lin, X. Peng, M. Wang, L. Scarabelli, Z. Mao, L. Liz-Marzan, M. Becker, and **Y. B. Zheng***, "Light-Directed Reversible Assembly of Plasmonic Nanoparticles Using Plasmon-Enhanced Thermophoresis," ACS Nano 10

(September 2016) 9659-9668.
http://pubs.acs.org/doi/abs/10.1021/acsnano.6b05486

33. M. Wang, B. B. Rajeeva, L. Scarabelli, E. P. Perillo, A. K. Dunn, L. Liz-Marzan, and **Y. B. Zheng***, "Molecular-Fluorescence Enhancement via Blue-Shifted Plasmon-Induced Resonance Energy Transfer," Journal of Physical Chemistry C 120 (June 2016) 14820-14827.
http://pubs.acs.org/doi/abs/10.1021/acs.jpcc.6b04205
34. J. Y. Gan, B. B. Rajeeva, Z. L. Wu, D. Penley, C. Liang, Y. X. Tong, and **Y. B. Zheng***, "Plasmon-Enhanced Nanoporous $BiVO_4$ Photoanodes for Efficient Photoelectrochemical Water Oxidation," Nanotechnology (April 2016) 235401.
http://iopscience.iop.org/article/10.1088/0957-4484/27/23/235401
35. J. Lee, B. B. Rajeeva, T. Yuan, Z. H. Guo, M. Al-Hashimi, **Y. B. Zheng**, and L. Fang, "Thermodynamic Synthesis of Solution Processable Ladder Polymers," Chemical Science 7 (February 2016) 881-889. (Featured as Cover Article)
http://pubs.rsc.org/en/content/articlelanding/2016/sc/c5sc02385h#!divAbstract
36. Z. L. Wu and **Y. B. Zheng***, "Radiation Enhancement of Plasmonic Nanopatch Antennas," Plasmonics 11 (February 2016) 213-222.
http://link.springer.com/article/10.1007/s11468-015-0043-y/fulltext.html
37. Z. L. Wu, K. Chen, R. Menz, T. Nagao, and **Y. B. Zheng***, "Tunable Multiband Metasurface by Moiré Nanosphere Lithography," Nanoscale 7 (December 2015) 20391-20396. (Featured as Cover Article)
http://pubs.rsc.org/en/content/articlelanding/2015/nr/c5nr05645d#!divAbstract
38. B. B. Rajeeva, D. Hernandez, M. Wang, E. Perillo, L. Lin, L. Scarabelli, B. Pingali, L. Liz-Marzan, A. Dunn, J. Shear, and **Y. B. Zheng***, "Regioselective Localization and Tracking of Biomolecules on Single Gold Nanoparticles," Advanced Science 2 (November 2015) 1500232. (Featured as Frontispiece)
http://onlinelibrary.wiley.com/doi/10.1002/advs.201500232/full
39. L. Lin and **Y. B. Zheng***, "Optimizing Plasmonic Nanoantennas via Coordinated Multiple Coupling," Scientific Reports 5 (October 2015) 14788.
http://www.nature.com/articles/srep14788
40. Y. Zhang, M. Wang, E. Zhu, **Y. B. Zheng**, Y. Huang, and X. Huang, "Seedless Growth of Palladium Nanocrystals with Tunable Structures: From Tetrahedra to Nanosheets," Nano Letters 15 (October 2015) 7519-7525.
http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.5b04019
41. J. Gan and **Y. B. Zheng***, "Blossom in Photosynthesis," IEEE Photonics Society Newletters 29 (October 2015) 23-24. (Featured as Cover article)
http://www.ieee.org/ns/periodicals/Photo/oct2015/html5/index.html#
42. D. Ahmed, X. Peng, A. Ozcelik, **Y. B. Zheng***, and *T. J. Huang*, "Acousto-Plasmofluidics: Acoustic Modulation of Surface Plasmon Resonance in Microfluidic Systems," AIP Advances 5 (September 2015) 097161.
http://scitation.aip.org/content/aip/journal/adva/5/9/10.1063/1.4931641
43. 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
44. 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=
45. 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

46. 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
47. 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
48. 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
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. 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
51. 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

Published before joining UT (46)

1. 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
2. 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
3. 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
4. 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
5. 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
6. 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
7. 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
8. 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

9. 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
10. 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
11. 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
12. 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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
19. 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
20. 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
21. 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
22. 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

23. 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
24. 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
25. 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
26. 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
27. 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
28. 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
29. 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
30. 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
31. 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
32. 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
33. 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
34. 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
35. 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
36. 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

37. 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
38. 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
39. 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
40. 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
41. 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
42. 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
43. 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
44. 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
45. 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
46. 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

Currently under review/revision (6)

1. **P. S. Kollipara, Z. Wu, K. Yao, D. Lin, Z. Ju, X. Zhang, T. Jiang, H. Ding, J. Fang, J. Li, B. A. Korgel, J. M. Redwing, G. Yu, and Y. B. Zheng*, "Three-Dimensional Optical Manipulation in Phase-Change Solid Media," Submitted.**
2. **K. Yao, J. Fang, T. Jiang, A. F. Briggs, A. M. Skipper, Y. Kim, M. A. Belkin, B. A. Korgel, S. R. Bank, and Y. B. Zheng*, "Tuning Multipolar Mie Scattering of Particles on a Dielectric-Covered Mirror," Under review.**
3. **Z. Chen, H. Ding, P. S. Kollipara, J. Li, and Y. B. Zheng*, "Vortex Formation and State Transition of Active Particles by Velocity Alignment," Submitted.**
4. **P. S. Kollipara, X. Li, J. Li, Z. Chen, H. Ding, S. Huang, Z. Qin, and Y. B. Zheng*, "Hypothermal Opto-Thermophoretic Tweezers," Nature Communications, Under Revision.**
5. **J. Li, H. Li, H. Zhu, T. Zhang, Y. Gu, Z. Wu, S. Huang, D. Akinwande, M. Terrones, J. M. Redwing, and Y. B. Zheng*, "Light-Driven C-H Bond Activation Mediated by 2D Transition Metal Dichalcogenides," Under revision.**

6. **J. Fang, K. Yao, M. Wang, Z. Yu, T. Zhang, T. Jiang, S. Huang, B. A. Korgel, M. Terrones, A. Alù, and Y. B. Zheng*, "Tailoring Exciton-Polariton Emission Lines from Wide-Ranging Monolayer Semiconductors with a Broadband Mie Resonator," Submitted.**

B. Refereed Conference Proceedings (72)

Published in rank at UT (45)

1. **Y. B. Zheng, "Nano-Architected-Materials-on-Demand for Versatile Light Control," Proc. SPIE PC12431, Photonic and Phononic Properties of Engineered Nanostructures XIII, PC1243104 (17 March 2023) https://doi.org/10.1117/12.2657273.6321433203112**
2. **Y. B. Zheng, "Nanodevices and Nanomachines Powered by Photonic Heat Engines," Proc. SPIE PC12437, Photonic Heat Engines: Science and Applications V, PC1243701 (17 March 2023) https://doi.org/10.1117/12.2654740**
3. **J. Fang, K. Yao, and Y. Zheng, "Achieving Near-Intrinsic Exciton Linewidth at Room Temperature in Monolayer WS2 Coupled with a Mie Resonator," 2022 Conference on Lasers and Electro-Optics (CLEO), pp. 1-2. (2022) https://doi.org/10.1364/cleo_at.2022.jth6c.5**
4. **J. Li and Y. Zheng, "Trapping nanoparticles with optical refrigeration," Proc. SPIE 11798, Optical Trapping and Optical Micromanipulation XVIII, 117981W (1 August 2021) https://doi.org/10.1117/12.2595047**
5. **K. Yao, J. Fang, and Y. Zheng, "Directional light emission by dipoles coupled to a dielectric nanosphere at atomically small distances," Proc. SPIE 11797, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XIX, 1179727 (1 August 2021) https://doi.org/10.1117/12.2594965**
6. **H. Ding, P. S. Kollipara, A. Kotnala, Z. Chen, and Y. Zheng, "Symmetric and isotropic micro/nanorotors driven by a plane-polarized gaussian laser beam," Proc. SPIE 11798, Optical Trapping and Optical Micromanipulation XVIII, 117981U (1 August 2021) https://doi.org/10.1117/12.2593464**
7. **J. Fang, K. Yao, and Y. Zheng, "High-quality-factor Fano resonances in monolayer WS_2 coupled with a single dielectric nanosphere at room temperature," Proc. SPIE 11795, Metamaterials, Metadevices, and Metasystems 2021, 1179514 (1 August 2021) https://doi.org/10.1117/12.2593674**
8. **R. Unni, K. Yao, and Y. Zheng, "A Deep Mixture Density Network for On-Demand Inverse Design of Thin Film Reflectors," Conference on Lasers and Electro-Optics, OSA Technical Digest (Optical Society of America, 2021), paper JTu3A.120. https://doi.org/10.1364/CLEO_AT.2021.JTu3A.120**
9. **Y. Kim and Y. Zheng, "Optothermal Manipulation of Liquid Droplets," Conference on Lasers and Electro-Optics, OSA Technical Digest (Optical Society of America, 2021), paper SM4I.7. https://doi.org/10.1364/CLEO_SI.2021.SM4I.7**
10. **Y. Liu, Z. Wu, and Y. B. Zheng, "Microbubble-Assisted Concentration and Ultrasensitive Detection of Biomolecules Using Plasmonic Chiral Metamaterials," 2020 IEEE Photonics Conference (IPC), 20146220, 2020. https://doi.org/10.1109/IPC47351.2020.9252520**
11. **P. S. Kollipara, L. Lin, Z. Chen, X. Peng, Y. Liu, and Y. B. Zheng, "Quantifying the Response of Diverse Nanoparticles Towards Laser-Induced Thermoelectric Field to Enhance Applications in Nanorobotics," 2020 IEEE Photonics Conference (IPC), 20146185, 2020. https://doi.org/10.1109/IPC47351.2020.9252394**
12. **J. Li and Y. B. Zheng, "Reconfigurable Assembly of Chiral Nanostructures on Solid Substrates," 2020 IEEE Photonics Conference (IPC), 20146336, 2020. https://doi.org/10.1109/IPC47351.2020.9252478**

13. **J. Li and Y. B. Zheng, "Solid-Phase Optical Manipulation and Assembly of Colloidal Particles," 2020 IEEE Photonics Conference (IPC), 20146170, 2020.**
    https://doi.org/10.1109/IPC47351.2020.9252335
14. **Z. Wu and Y. B. Zheng, "Active Chiral Metamaterials for Tunable Chiroptical Coupling and Valley Dynamics," 2020 IEEE Photonics Conference (IPC), 20146183, 2020.**
    https://doi.org/10.1109/IPC47351.2020.9252512
15. **S. Huang, X. Zhao, and Y. Zheng, "Optoelectronic Thinning of Transition Metal Dichalcogenides for Device Fabrication," 2020 IEEE 20th International Conference on Nanotechnology (IEEE-NANO), Montreal, QC, Canada, 2020, pp. 19-23.**
    https://ieeexplore.ieee.org/document/9183407
16. **A. Kotnala, P. S. Kollipara, and Y. B. Zheng, "Opto-thermal Induced Flow Enables Faster Trapping in Nanoaperture Tweezers," FiO LS 2020, OSA Technical Digest (Optical Society of America, 2020), paper FW7F.7.**
    https://www.osapublishing.org/abstract.cfm?uri=FiO-2020-FW7F.7
17. **P.S. Kollipara, L. Lin, Z. Chen, X. Peng, Y. Liu, and Y. B. Zheng, "Quantifying Thermo-Electro-Mechanics for Manipulation and Rotation of Single Dielectric Particles under Laser Illumination," FiO LS 2020, OSA Technical Digest (Optical Society of America, 2020), paper JW6B.8.**
    https://www.osapublishing.org/abstract.cfm?uri=LS-2020-JW6B.8
18. **J. Fang, M. Wang, K. Yao, and Y. B. Zheng, "Controllable Directional Excitation and Emission of Nanoemitters by a Subwavelength Mie Antenna," FiO LS 2020, OSA Technical Digest (Optical Society of America, 2020), paper FTh2C.6.**
    https://www.osapublishing.org/abstract.cfm?uri=FiO-2020-FTh2C.6
19. **K. Yao and Y. B. Zheng, "Engineering Dielectric Metasurfaces for Chirality-Sorting Optical Forces and Fano-Interference-Enhanced Chirality," FiO LS 2020, OSA Technical Digest (Optical Society of America, 2020), paper FM7E.5.**
    https://www.osapublishing.org/abstract.cfm?uri=FiO-2020-FM7E.5
20. **Y. Liu, Z. Wu, and Y. B. Zheng, "Detecting Diabetes-Induced Abnormal Chirality in Urine via Accumulation-Assisted Plasmonic Chiral Sensing," FiO LS 2020, OSA Technical Digest (Optical Society of America, 2020), paper FTh1D.1.**
    https://www.osapublishing.org/abstract.cfm?uri=FiO-2020-FTh1D.1
21. **Z. Wu and Y. B. Zheng, "Active Modulation of Valley Excitons in a Monolayer WSe_2 via Chiral Metamaterials," FiO LS 2020, OSA Technical Digest (Optical Society of America, 2020), paper FM1B.3.**
    https://www.osapublishing.org/abstract.cfm?uri=FiO-2020-FM1B.3
22. **A. Kotnala, P. S. Kollipara, and Y. B. Zheng, "Opto-Thermoelectric Speckle Tweezers for Large-Scale Trapping and Filtration of Particles," Proc. SPIE 11463, Optical Trapping and Optical Micromanipulation XVII, 114631B, 2020.**
    https://doi.org/10.1117/12.2567825
23. **P. S. Kollipara, L. Lin, and Y. B. Zheng, "Understanding and Optimizing Laser-Induced Thermoelectric Forces for Enhanced Trapping and Manipulation of Colloidal Particles," Proc. SPIE 11463, Optical Trapping and Optical Micromanipulation XVII, 1146325, 2020.**
    https://doi.org/10.1117/12.2567506
24. **Y. Liu, Z. Wu, and Y. B. Zheng, "Microbubble-assisted concentration and ultrasensitive detection of chiral biomolecules using plasmonic chiral metamaterials," Proc. SPIE 11462, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVIII, 1146229, 2020.**
    https://doi.org/10.1117/12.2568024
25. **K. Yao, and Y. B. Zheng, "Fano-interference-enhanced optical chirality and helicity-dependent optical forces in dielectric metasurfaces," Proc. SPIE 11460, Metamaterials, Metadevices, and Metasystems, 114601U, 2020.**
    https://doi.org/10.1117/12.2568158
26. **Z. Wu, and Y. B. Zheng, "Modulating valley dynamics in a monolayer semiconductor with active chiral metamaterials," Proc. SPIE 11462, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVIII, 114621N, 2020.**
    https://doi.org/10.1117/12.2567833

27. **H. Ding, Z. Chen, and Y. B. Zheng, "Versatile optothermal micro/nanorobots for cellular biology," Proc. SPIE 11463, Optical Trapping and Optical Micromanipulation XVII, 114630E, 2020. https://doi.org/10.1117/12.2567534**
28. **J. Fang, K. Yao, and Y. B. Zheng, "Enhanced mid-infrared molecular sensing with single silicon antennas," Proc. SPIE 11468, Enhanced Spectroscopies and Nanoimaging 2020, 114680V, 2020. https://doi.org/10.1117/12.2567530**
29. **J. Li, and Y. B. Zheng, "Reconfigurable construction of all-dielectric chiral metamaterials on solid substrates," Proc. SPIE 11463, Optical Trapping and Optical Micromanipulation XVII, 1146310, 2020. https://doi.org/10.1117/12.2568038**
30. **R. Unni, K. Yao, and Y. B. Zheng, "Deep Convolutional Neural Network for the Inverse Design of Layered Photonic Structures," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper JW2D.14, 2020. https://www.osapublishing.org/abstract.cfm?uri=CLEO_SI-2020-JW2D.14**
31. **J. Li and Y. B. Zheng, "Optical Manipulation and Assembly of Colloidal Particles on Solid Substrates," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper STh1H.7, 2020. https://www.osapublishing.org/viewmedia.cfm?uri=CLEO_SI-2020-STh1H.7&seq=0**
32. **J. Fang, M. Wang, K. Yao, and Y. B. Zheng, "Directivity Modulation of Monolayer WS_2 Emission by Single Hydrogenated Amorphous Silicon Nanospheres," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper FTh4N.3, 2020. https://www.osapublishing.org/abstract.cfm?uri=CLEO_QELS-2020-FTh4N.3**
33. **Y. Liu, Z. Wu, R. Montellano, K. Sharma, and Y. B. Zheng, "Microbubble-Assisted Preconcentration and Ultrasensitive Detection of Biomolecules Using Plasmonic Chiral Metamaterials," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper ATh4K.5, 2020. https://www.osapublishing.org/abstract.cfm?uri=CLEO_AT-2020-ATh4K.5**
34. **Z. Wu, J. Li, and Y. B. Zheng, "Modulating Chiroptical Coupling and Light-Valley Interactions with Active Chiral Metamaterials," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper JM2G.4, 2020. https://www.osapublishing.org/abstract.cfm?uri=CLEO_QELS-2020-JM2G.4**
35. **K. Yao, and Y. B. Zheng, "Enhancing near-ultraviolet circular dichroism and chirality-sorting optical forces using dielectric metasurfaces," Proc. SPIE 11290, High Contrast Metastructures IX, 1129010, 2020. https://doi.org/10.1117/12.2546152**
36. **Z. Wu, and Y. B. Zheng, "Active chiral metamaterials for tunable modulation of chiroptical coupling and light-valley interactions," Proc. SPIE 11289, Photonic and Phononic Properties of Engineered Nanostructures X, 112890T, 2020. https://doi.org/10.1117/12.2545348**
37. **J. Li, Y. Liu, and Y. B. Zheng, "Nanomanipulation of colloidal particles and nanowires with optothermally gated photon nudging," Proc. SPIE 11083, Optical Trapping and Optical Micromanipulation XVI, 110832J, 2019. https://doi.org/10.1117/12.2531429**
38. **J. Li, Y. Liu, and Y. B. Zheng, "Nanomanipulation of Colloidal Particles via Optothermally-gated Photon Nudging," OSA Advanced Photonics Congress 2019, OSA Technical Digest, paper NoTh3B.4, 2019. https://www.osapublishing.org/abstract.cfm?uri=NOMA-2019-NoTh3B.4**
39. **L. Lin, X. Peng, and Y. B. Zheng, "Manipulating Fano coupling in all-dielectric meta-molecules" OSA Advanced Photonics Congress 2019, OSA Technical Digest, paper NoW1B.4, 2019. https://www.osapublishing.org/abstract.cfm?uri=NOMA-2019-NoW1B.4**
40. **Y. Liu, L. Lin, B. B. Rajeeva, and Y. B. Zheng, "Nanoradiator-Mediated Deterministic Opto-thermoelectric Manipulation," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper FTh3C.4, 2019. https://doi.org/10.1364/CLEO_QELS.2019.FTh3C.4**
41. **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, OSA Technical Digest, paper JW2A.64, 2019. https://doi.org/10.1364/CLEO_AT.2019.JW2A.64**

42. **J. Li, Y. Liu, and Y. B. Zheng, "Light-Directed Nanomanipulation of Colloidal Particles in Ambient Environments," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper SM2O.4, 2019. https://doi.org/10.1364/CLEO_SI.2019.SM2O.4**
43. **L. Lin, X. Peng, and Y. B. Zheng, "Manipulating Fano Coupling in the Opto-thermoelectric Trap," Conference on Lasers and Electro-Optics, OSA Technical Digest, paper SM1H.2, 2019. https://doi.org/10.1364/CLEO_SI.2019.SM1H.2**
44. **Y. B. Zheng, "Optothermal manipulations of colloidal particles and living cells," Proc. SPIE 10723, Optical Trapping and Optical Micromanipulation XV, 1072321, 2018. https://doi.org/10.1117/12.2324991**
45. **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," Proc. SPIE 10722, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVI, 1072205, 2018. http://spie.org/Publications/Proceedings/Paper/10.1117/12.2321516?SSO=1**

Published in previous rank at UT (18)

1. L. Lin, X. Peng, and **Y. B. Zheng**, "All-optically reconfigurable chiral metamolecules," Conference on Lasers and Electro-Optics, pp. SM2O.5, 2018. https://www.osapublishing.org/abstract.cfm?uri=CLEO_SI-2018-SM2O.5
2. 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, pp. STh1I.4, 2018. https://www.osapublishing.org/abstract.cfm?uri=CLEO_SI-2018-STh1I.4
3. X. Peng, L. Lin, and **Y. B. Zheng**, "Opto-Thermophoretic Trapping in Simple Polar Liquids," Conference on Lasers and Electro-Optics, pp. FF3F.2, 2018. https://www.osapublishing.org/abstract.cfm?uri=CLEO_QELS-2018-FF3F.2
4. J. Li, L. Lin, X, Peng and **Y. B. Zheng**, "Optothermal Nanoscissors for Versatile Low-Power Patterning of Atomic-Thin Two-Dimensional Materials," Conference on Lasers and Electro-Optics, pp. JTu2A.2, 2018. https://www.osapublishing.org/abstract.cfm?uri=CLEO_QELS-2018-JTu2A.2
5. L. Lin, X. Peng, and **Y. B. Zheng**, "Thermophoretic tweezers for low-power manipulation of colloidal particles and biological cells," OSA Biophotonics Congress: Optics in the Life Sciences, pp. OtM2E.3, 2017. https://www.osapublishing.org/abstract.cfm?uri=OTA-2017-OtM2E.3
6. L. Lin, X. Peng, and **Y. B. Zheng**, "Light-controlled reversible assembly of plasmonic nanoparticles," OSA Biophotonics Congress: Optics in the Life Sciences, pp. OtW4D.3, 2017. https://www.osapublishing.org/abstract.cfm?uri=OTA-2017-OtW4D.3
7. M. N. Yogeesh, Z. Wu, W. Li, D. Akinwande, and **Y. B. Zheng**, "Directed-Assembled Multi-Band Moiré Plasmonic Metasurfaces," American Physical Society March Meeting, R34.005, 2017. http://adsabs.harvard.edu/abs/2017APS..MARR34005N
8. **Y. B. Zheng**, "Colloidal Nanomaterials: From Single-Nanoparticle Study to Directed Assembly of Superstructures," Advanced Photonics, pp. NoTu2C.2, 2017 https://www.osapublishing.org/abstract.cfm?uri=NOMA-2017-NoTu2C.2
9. **Y. B. Zheng**, "Directed Assembly of Colloidal Particles for Micro/Nano Photonics," SPIE Photonics West, 101150J, 2017. https://www.spiedigitallibrary.org/conference-proceedings-of-spie/10115/1/Directed-assembly-of-colloidal-particles-for-micro-nano-photonics-Conference/10.1117/12.2250932.full
10. L. Lin, X. Peng, Z. Mao, W. Li, M. N. Yogeesh, B. B. Rajeeva, E. P. Perillo, A. K. Dunn, D. Akinwande, and **Y. B. Zheng**, "Laser-Directed 'Bubble-Pen' for Nanoparticle Patterning," Conference on Lasers and Electro-Optics, pp. ATu4K.3, 2016. https://www.osapublishing.org/abstract.cfm?URI=CLEO_AT-2016-ATu4K.3
11. B. B. Rajeeva, L. Lin, E. P. Perillo, X. Peng, A. K. Dunn, and **Y. B. Zheng**, "Two-Dimensional Free-Form Fabrication and Lifetime-Tuning of Quantum Dots," Conference on Lasers and Electro-Optics, pp. FW4B.5,

2016.
https://www.osapublishing.org/abstract.cfm?uri=CLEO_QELS-2016-FW4B.5

12. Z. Wu, L. Lin, and **Y. B. Zheng**, "Metasurfaces Created by Moiré Nanosphere Lithography," Conference on Lasers and Electro-Optics, pp. JW2A.87, 2016.
https://www.osapublishing.org/abstract.cfm?uri=CLEO_QELS-2016-JW2A.87
13. K. Chen, Z. Wu, S. Ishii, T. D. Dao, **Y. B. Zheng**, and T. Nagao, "Fabrication and Characterization of Moiré Metasurfaces," Conference on Lasers and Electro-Optics, pp. JW2A.104, 2016.
https://www.osapublishing.org/abstract.cfm?uri=CLEO_SI-2016-JW2A.104
14. B. B. Rajeeva, M. Wang, L. Lin and **Y. B. Zheng**, "Protein Hydrogel Immobilization via Multiphoton Plasmonic Lithography," Frontiers in Optics, pp. JW2A.74, 2015.
https://www.osapublishing.org/abstract.cfm?uri=LS-2015-JW2A.74
15. L. Lin and **Y. B. Zheng**, "Manipulating Multiple Coupling in Plasmonic Nanoantenna Arrays," Frontiers in Optics, pp. FW5C.2, 2015.
https://www.osapublishing.org/abstract.cfm?uri=FiO-2015-FW5C.2
16. K. Chen, B. B. Rajeeva, Z. L. Wu, M. Rukavina, T. D. Dao, S. Ishii, M. Aono, T. Nagao, and **Y. B. Zheng**, "Moiré Nanosphere Lithography: Use Colloidal Moiré Patterns as Masks," Proc. SPIE 9547, Plasmonics: Metallic Nanostructures and Their Optical Properties XIII, 95471L, 2015.
https://doi.org/10.1117/12.2187398
17. Z. L. Wu and **Y. B. Zheng**, "Controlling Light Scattering and Emission at Subwavelength Scale with Plasmonic Nanopatch Antennas," Proc. SPIE 9547, Plasmonics: Metallic Nanostructures and Their Optical Properties XIII, 95471X, 2015.
https://www.spiedigitallibrary.org/conference-proceedings-of-spie/9547/95471X/Controlling-light-scattering-and-emission-at-subwavelength-scale-with-plasmonic/10.1117/12.2187309.full
18. L. Lin and **Y. B. Zheng**, "Rational Design of On-Chip Refractive Index Sensors Based on Lattice Plasmon Resonances," Proc. SPIE 9550, Biosensing and Nanomedicine VIII, 95500R, 2015.
https://www.spiedigitallibrary.org/conference-proceedings-of-spie/9550/95500R/Rational-design-of-on-chip-refractive-index-sensors-based-on/10.1117/12.2187132.full

Published before joining UT (7)

1. Y. B. Zheng, B. K. Juluri, L. L. Jensen, L. Jensen, and *T. J. Huang*, "Dynamic Control of Plasmon-Exciton Coupling in Au Nanodisk-J-Aggregate Hybrid Nanostructure Arrays," MRS Proceedings, 1208, 1208-O15-02, 2009.
https://www.cambridge.org/core/services/aop-cambridge-core/content/view/S1946427400016663
2. 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*, "Molecular Active Plasmonics: Controlling Surface Plasmons with Molecular Machines," Proc. SPIE 7395, Plasmonics: Nanoimaging, Nanofabrication, and their Applications V, 73950W, 2009.
http://adsabs.harvard.edu/abs/2009SPIE.7395E..12Z
3. 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*, "A Plasmonic Switch Based on Molecular Machine-Au Nanodisk Complexes," 2009 Conference on Lasers and Electro-Optics and 2009 Conference on Quantum electronics and Laser Science Conference, Baltimore, MD, pp. 1-2, 2009.
https://ieeexplore.ieee.org/document/5225074/
4. Y. B. Zheng, Y. W. Yang, L. Jensen, L. Fang, B. K. Juluri, *P. S. Weiss*, J. F. Stoddart, and *T. J. Huang*, "A Nanoplasmonic Switch Based on Molecular Machines," TRANSDUCERS 2009 - 2009 International Solid-State Sensors, Actuators and Microsystems Conference, Denver, CO, pp. 2160-2163, 2009.
https://ieeexplore.ieee.org/document/5285604/
5. Y. B. Zheng, B. K. Juluri, and *T. J. Huang*, "Fabrication and Applications of Long-Range Ordered Au Nanodisk Arrays," ASME. ASME proceedings, Volume 13: Nano-Manufacturing Technology; and Micro and Nano Systems, Parts A and B: 267-273, 2008.
http://proceedings.asmedigitalcollection.asme.org/proceeding.aspx?articleid=1644333
6. Y. B. Zheng, V. K. S. Hsiao, and *T. J. Huang*, "All-Optical Active Plasmonics Based on Ordered Au Nanodisk Array Embedded in Photoresponsive Liquid Crystals," MRS Proceedings, 1077, 1077-L01-04, 2008.

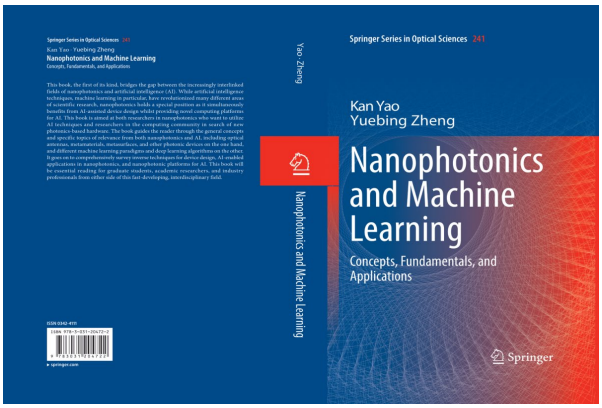
https://www.cambridge.org/core/journals/mrs-online-proceedings-library-archive/article/alloptical-active-plasmonics-based-on-ordered-au-nanodisk-array-embedded-in-photoresponsive-liquid-crystals/22A8FA9DD24A2C97623E0B7E6EDF470C

7. Y. B. Zheng, V. K.S. Hsiao, and *T. J. Huang*, "Active Plasmonic Devices Based on Ordered Au Nanodisk Arrays," 2008 IEEE 21st International Conference on Micro Electro Mechanical Systems, Tucson, AZ, pp. 705-708, 2008. https://ieeexplore.ieee.org/document/4443754/

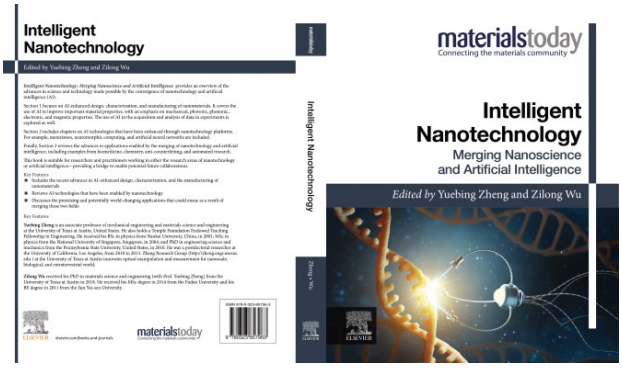
C. Books; Chapter of Books; Editor of Books

Published in rank at UT (6)

1. **(Book) K. Yao and Y. B. Zheng (authors), Nanophotonics and Machine Learning. (Springer, 2023) ISBN: 9783031204722.**
https://link.springer.com/book/9783031204722



2. **(Book) Y. B. Zheng and Z. Wu (editors), Intelligent Nanotechnology: Merging Nanoscience and Artificial Intelligence. (Elsevier Science, 2022) ISBN: 9780323901413.**
https://glose.com/book/intelligent-nanotechnology



3. **R. Sanders, Y. Liu, and Y. B. Zheng*, "Towards Single-Molecule Chiral Sensing and Separation," in Single Molecule Nanosensing and Nanosystems, edited by Dr. Warwick Bowen, Dr. Frank Vollmer, and Dr. Reuven Gordon (Springer, 2022).**
https://link.springer.com/chapter/10.1007/978-3-030-90339-8_9
4. **Z. Chen, J. Li, and Y. B. Zheng*, "Plasmon-Enhanced Optothermal Manipulation," in Plasmon-Enhanced Light-Matter Interactions (Springer Series in Lecture Note in Nanoscale Science and Technology), edited by Yu Peng, Dr. Hongxing Xu, and Dr. Zhiming Wang (Springer 2022).**

https://link.springer.com/chapter/10.1007/978-3-030-87544-2_10

5. **E. H. Hill, C. Hanske, C. Hamo, and Y. B. Zheng*, "Assembly of Plasmonic Nanoparticles," in *21st Century Nanoscience - A Handbook (Volume 6)*, edited by Dr. Klaus Sattler, Chapter 14 (CRC Press/Taylor & Francis Group, LLC, 2020).**
   https://www.taylorfrancis.com/chapters/assembly-plasmonic-nanoparticles-eric-hill-christoph-hanske-cyrille-hamon-yuebing-zheng/e/10.1201/9780429351617-14
6. **Z. Wu, L. Lin, and Y. B. Zheng*, "Nanophotonics and Optoelectronics Based on Two-Dimensional MoS_2," in *Emerging 2D Materials and Devices for the Internet of Things,* edited by Dr. Li Tao and Dr. Deji Akinwande, Chapter 5 (ELSEVIER, 2020).**
   http://doi.org/10.1016/B978-0-12-818386-1.00005-9

Published in previous rank at UT (2)

1. X. Peng, B. B. Rajeeva, D. Teal, and **Y. B. Zheng***, "Plasmofluidics for Biosensing and Medical Diagnostics," in *Nanotechnology Characterization Tools for Biosensing & Medical Diagnosis,* edited by Dr. Kumar Challa, Chapter 5, 35 pages, pp. 217-251(Springer, 2018).
   https://link.springer.com/chapter/10.1007/978-3-662-56333-5_5
2. B. B. Rajeeva and **Y. B. Zheng***, "Molecular Plasmonics: From Molecular-Scale Measurements and Control to Applications," in *Nanotechnology: Delivering on the Promise*, edited by Drs. Diane Grob Schmidt, Laurence Doemeny, Chuck Geraci, and H. N. Cheng, Chapter 2, 30 pages, pp. 23-52 (American Chemical Society, 2016).
   https://pubs.acs.org/doi/abs/10.1021/bk-2016-1224.ch002

Published before joining UT (4)

1. Y. B. Zheng and *P. S. Weiss*, "Designing, Measuring, and Controlling Functional Molecules and Precise Assemblies," in *Beilstein-Institut Proceedings: Molecular Engineering and Control*, 14 pages, pp. 107-120 (Beilstein-Institut, 2013).
   https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwiekvOqhPXcAhWp7YMKHbhBDCMQFjAAegQIBBAC&url=http%3A%2F%2Fwww.beilstein-institut.de%2Fdownload%2F57%2Fdesigning_measuring_and_controlling_functional_molecules_and_precise_assemblies.pdf&usg=AOvVaw3j2LpewIV2TQNgCxg5IEwD
2. Y. B. Zheng, B. K. Pathem, J. N. Hohman, and *P. S. Weiss*, "Functional Supramolecular Assemblies: First Glimpses and Upcoming Challenges," in *Beilstein-Institut Proceedings: Functional Nanoscience*, 20 pages, pp. 1-19 (Beilstein-Institut, 2011).
   https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwjnyJPnhPXcAhVs_4MKHZhjB-cQFjAAegQIAxAC&url=http%3A%2F%2Fwww.beilstein-institut.de%2Fdownload%2F274%2Fpdf_weiss.pdf&usg=AOvVaw3BRQ_yZx3PQPdAAqQCHwLw
3. **Y. B. Zheng**, Molecular Active Plasmonics: Harnessing Molecular Machines for Nanophotonic Applications. (VDM Verlag Dr. Müller, 2010) **ISBN-10:** 3639271750.
   https://www.amazon.com/Molecular-Active-Plasmonics-Nanophotonic-Applications/dp/3639271750
4. Y. B. Zheng and *T. J. Huang*, "Nanosphere Lithography to Enable Plasmonic Applications," in *Nanotechnology Research Progress*, edited by Julian F. Vogel and Felix T. Jung, Chapter 1, 50 pages, pp. 9-58 (Nova Science Publishers, New York, 2009).
   https://www.novapublishers.com/catalog/product_info.php?products_id=7190

D. Commentary and Reports

1. **P. S. Kollipara and Y. B. Zheng*, "Breaking Boundaries in Optical Manipulation: Beyond Nobel-Prize-Winning Tweezers" Photonics Insights 2 (2023) C04.**
   https://www.researching.cn/Articles/OJ1f29d3c5e6820b49

E. 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 work Light-Driven Single-Cell Rotational Adhesion Frequency Assay (eLight 2022) was featured by**
  - **中国光学 as eLight • 封面 | 光驱动单细胞旋转黏附测定 (August 2022)**
  - **Light: Science & Applications News & Views as Light-driven high-precision cell adhesion kinetics (September 2022)**
  - **EurekAlert! as Innovative approach to cell binding could help our understanding of diseases (August 2022)**
- **Our work Opto-Thermocapillary Nanomotors on Solid Substrates (ACS Nano 2022) was featured by**
  - **UT Research as Tiny Motors Take a Big Step Forward (July 2022)**
  - **CSE as Tiny Motors Take a Big Step Forward (July 2022)**
  - **TMI as Tiny Motors Take a Big Step Forward (July 2022)**
  - **Nanowerk as Tiny motors take a big step forward (July 2022)**
  - **Mirage News as Tiny Motors Take Big Step Forward (July 2022)**
  - **Phys.org as Tiny motors take a big step forward (July 2022)**
  - **TVN as Tiny motors take a big step forward (July 2022)**
  - **SwiftTelecast as Tiny motors take a big step forward (July 2022)**
  - **SciTechDaily as Tiny Motors Take a Big Step Forward: First-Ever Solid-State Optical Nanomotor (July 2022)**
  - **Photonics.com as Light-Powered Nanomotors Perform as Ultrasmall Energy Converters (July 2022)**
  - **OPN as First Solid-State Light-Driven Nanomotors (July 2022)**
  - **TechTimes as First-Ever Solid-State Optical Nanomotor is Here To Power Various Things (July 2022)**
  - **EurekAlert! as Tiny motors take a big step forward (July 2022)**
  - **ACS 材料 X as ACS Nano | 德克萨斯大学奥斯汀分校郑跃兵：固相光学纳米马达 (July 2022)**
  - **AZO NANO as Optical Nanomotor Drives Future Innovations in Tiny Power Sources (July 2022)**
  - **TECH BRIEFS as Tiny Motors to Power a Network of Nanomachines (July 2022)**
  - **ACS' Diversity & Inclusion Cover Art Series as Nano Letters Cover (December 2022)**
- **Our work Programmable Multimodal Optothermal Manipulation of Synthetic Particles and Biological Cells (ACS Nano 2022) was featured by**
  - **UT Research as Novel platform allows five types of programmable optothermal manipulation of micro- and nanoparticles (July 2022)**
  - **ACS 材料 X as UT Austin郑跃兵团队ACS Nano | 多模、可编程的光学操控术 (July 2022)**
- **Our work Universal Optothermal Micro/Nanoscale Rotors was featured by**
  - **Phys.org as Universal optothermal micro/nanoscale rotors (July 2022)**
  - **Nanowerk as Universal light-driven rotation platform for nanoparticles and live cells (July 2022)**
  - **Xmol as UT-Austin郑跃兵团队Sci. Adv.：光驱旋转"万灵药" (July 2022)**
- **Our work Investigating Water/Oil Interfaces with Opto-Thermophoresis (Nature Communications 2022) was featured by**
  - **Nanowerk as Investigating water/oil interfaces with opto-thermophoretic tweezers (June 2022)**
  - **xmol as UT-Austin郑跃兵Nat. Commun.：光热泳镊揭示水油界面之谜 (June 2022)**
- **Our work Room-Temperature Observation of Near-Intrinsic Exciton Linewidth in Monolayer WS2 (Advanced Materials 2022) was featured by MaterialsViews as UT Austin郑跃兵AM：折射率中庸之道——中等折射率米氏谐振器实现室温下对二维激子本征量子退相干率的观测 (April 2022)**
- **Our work Heat-Mediated Optical Manipulation (Chemical Reviews 2022) was featured by xmol as 郑跃兵团队Chem. Rev.：热介导光学操控技术综述 (December 2021)**
- **Our work Opto-Refrigerative Tweezers (*Science Advances* 2021) was featured by**
  - **UT News as Optical Tweezer Technology Tweaked to Overcome Dangers of Heat (June 2021).**

  - Nanowerk as Opto-refrigerative tweezers can dynamically manipulate objects at a laser-generated cold spot (June 2021).
  - Optics.org as Laser cooling takes the heat out of optical tweezers (June 2021).
  - AzoOptics as New Optical Tweezers Prevent Overheating Problems (June 2021).
  - SciTechDaily as Optical Tweezer Technology Breakthrough Overcomes Dangers of Heat (June 2021).
  - Photonics.com as Opto-Refrigerative Tweezers Overcome a Hot Problem (July 2021).
  - Physics World as Opto-refrigerative tweezers prevent trapped particles from overheating (July 2021).
  - Explica as Towards a revolution in optical tweezers (July 2021).
- Our work Directional Modulation of Exciton Emission Using Single Dielectric Nanospheres (Advanced Materials 2021) was featured by xmol as UT-Austin郑跃兵Adv. Mater.：亚波长尺度上对纳米光源方向性的调控 (May 2021).
- Our work Label-Free Ultrasensitive Detection of Abnormal Chiral Metabolites in Diabetes (ACS Nano 2021) was featured by Nanowerk as Ultrasensitive and label-free chirality detection of diabetes-related metabolic molecules (March 2021).
- Our work Light-Driven Magnetic Encoding for Hybrid Magnetic Micromachines (Nano Letters 2021) was featured by Nanowerk as Extending magnetic manipulation of micromachines to non-magnetic materials (February 2021)
- Our work Tunable Chiral Optics in All-Solid-Phase Reconfigurable Dielectric Nanostructures (Nano Letters 2021) was featured by Nanowerk as Tunable chiral optics suitable for on-chip devices (February 2021).
- Our work Tunable Chiral Optics in All-Solid-Phase Reconfigurable Dielectric Nanostructures (Nano Letters 2021) was featured by x-mol as UT Austin郑跃兵Nano Lett.封面：固相可重构手性超材料 (February 2021).
- Our COVID research was featured by Texas Engineering magazine as Like a Wartime Effort: Texas Engineers Mobile to Battle COVID-19 (November 2020).
- Our work Deep Convolutional Mixture Density Network for Inverse Design of Layered Photonic Structures (*ACS Photonics* 2020) was featured by Nanowerk as Applying machine learning to nanophotonic design efforts (September 2020).
- Our work Opto-Thermoelectric Nanotweezers (*Nature Photonics* 2018) was featured by 材料科学前沿 as 神操作！一把"镊子"，皆是顶刊！诺奖之后，又有新突破！(September 2020).
- Our work Opto-Thermoelectric Microswimmers (*Light: Science & Applications* 2020) was featured by
  - SYFY WIRE as Zap! Pow! Laser-Powered Micro-Bots Zoom Through the Body Like Starships in a Video Game (September 2020).
  - Phys.org (September 2020).
  - Physics World as Microswimmers benefit from thermoelectric guidance (September 2020).
  - X-mol as 光热电场中微型泳者的双模式智能操控 (September 2020).
  - Nanowerk as Active optical navigation of individual microswimmers (August 2020).
- Our work Enhancing Surface Capture and Sensing of Proteins with Low-Power Optothermal Bubbles in a Biphasic Liquid was featured by Nanowerk as A low-temperature bubble-generating system for enhanced surface capture of proteins (July 2020).
- Our work Biologically Inspired Flexible Photonic Films for Efficient Passive Radiative Cooling (PNAS 2020) was featured by
  - UT News as Beetle That Can Survive in Volcanic Areas Inspires New Cooling Materials along with a video (June 2020).
  - Sohu as 火山甲虫启发科学家发明了可被动冷却的新型材料 (June 2020).
  - ZME Science as Volcano-dwelling beetle inspires new 'passive cooling' material (June 2020).
  - The Patent as Passive cooling coating from volcano beetles (June 2020).
  - Small Tech News as Volcanic beetles inspire scientists to invent new materialthatforthistically cool (June 2020).
  - New Atlas as Volcano-dwelling beetle inspires passive cooling coating (June 2020).
  - Nanowerk as Beetle that can survive in volcanic areas inspires new cooling materials (June 2020).

  - Innovazione as Raffreddamento passivo, e se copiassimo gli scarabei? (June 2020).
  - Ikons as Kumbang yang Hidup di Daerah Vulkanik Menginspirasi Bahan Pendingin Baru (June 2020).
  - Popular Mechanics as This Badass Beetle Could Keep Your Car Cool (June 2020).
  - la Repubblica as Dagli insetti una lezione sul raffreddamento passivo (June 2020).
  - SYFY WIRE as Chill, because a beetle that can survive volcanic temperatures inspired a next-gen cooling material (June 2020).
  - Spectrum News as Beetle Inspires Researchers to Develop New Cooling Materials (June 2020).Beetle Inspires Researchers to Develop New Cooling MaterialsBeetle Inspires Researchers to Develop New Cooling MaterialsBeetle Inspires Researchers to Develop New Cooling Materials
  - Futurity as Beetles that survive volcanic heat inspire stuff that stays cool (June 2020).
  - PCI Magazine as Longicorn Beetle Inspires Cooling Photonic Film (June 2020).
  - Physics World as Beetle-inspired film reflects 95% of solar radiation (July 2020).
- Our work Optical Nanomanipulation on Solid Substrates via Optothermally-Gated Photon Nudging (*Nature Communications* 2019) was among Top 50 Physics Articles in Nature Communications (March 2020).
- Our work Opto-Thermoelectric Pulling of Light-Absorbing Particles (*Light: Science & Applications* 2020) was featured by
  - EurekAlert! as Particle travelling against the light (March 2020).
  - 中国光学 as “逆光飞翔”，简单平面波实现长程光学牵引作用 (March 2020).
  - NewScientist as Licht gebruikt om aan deeltjes te trekken(March 2020).
- Our work “Overcoming Diffusion-Limited Trapping in Nanoaperture Tweezers Using Opto-Thermal-Induced Flow” (Nano Letters 2020) was featured by Nanowerk as "Bubble- and convection-assisted trapping significantly speed up nanotweezers" (December 2019).
- Our work “Optical Nanomanipulation on Solid Substrates via Optothermally-Gated Photon Nudging” (Nature Communications 2019) was featured by
  - Nanowerk as "The first optical nanomanipulators on solid substrates" (December 2019).
  - X-Mol as "UT Austin郑跃兵Nature Commun.：固体表面的纳米材料光学操控技术" (December 2019).
- Our works “All-Optical Reconfigurable Chiral Metamolecules” (Materials Today 2019) and “Moiré Chiral Metamaterials” (Advanced Optical Materials 2017) were featured in Michael Berger's another exciting book "Nanoengineering: The Skills and Tools Making Technology Invisible" (December 2019).
- Our work “Accumulation-Driven Unified Spatiotemporal Synthesis and Structuring of Immiscible Metallic Nanoalloys” (Matter) was featured by
  - Nanowerk as “From Origin of Life to Materials Genomics” (November 2019).
  - Matter Preview as “Overcoming Immiscibility via a Milliseconds-Long “Shock” Synthesis toward Alloyed Nanoparticles” (December 2019).
- Our work “Room-Temperature Active Modulation of Valley Dynamics in a Monolayer Semiconductor through Chiral Purcell Effects” (Advanced Materials) was featured by
  - Nanowerk as “Valleytronics in a monolayer semiconductor at room temperature” (October 2019).
  - MaterialsViewsChina as “Advanced Materials：表面等离超材料中的手性Purcell效应在室温下实现对单层半导体中能谷电子的调控” (November 2019).
- Our work “Digital Manufacturing of Advanced Materials: Challenges and Perspective” is highlighted by Polymer (July 2019).
- 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).

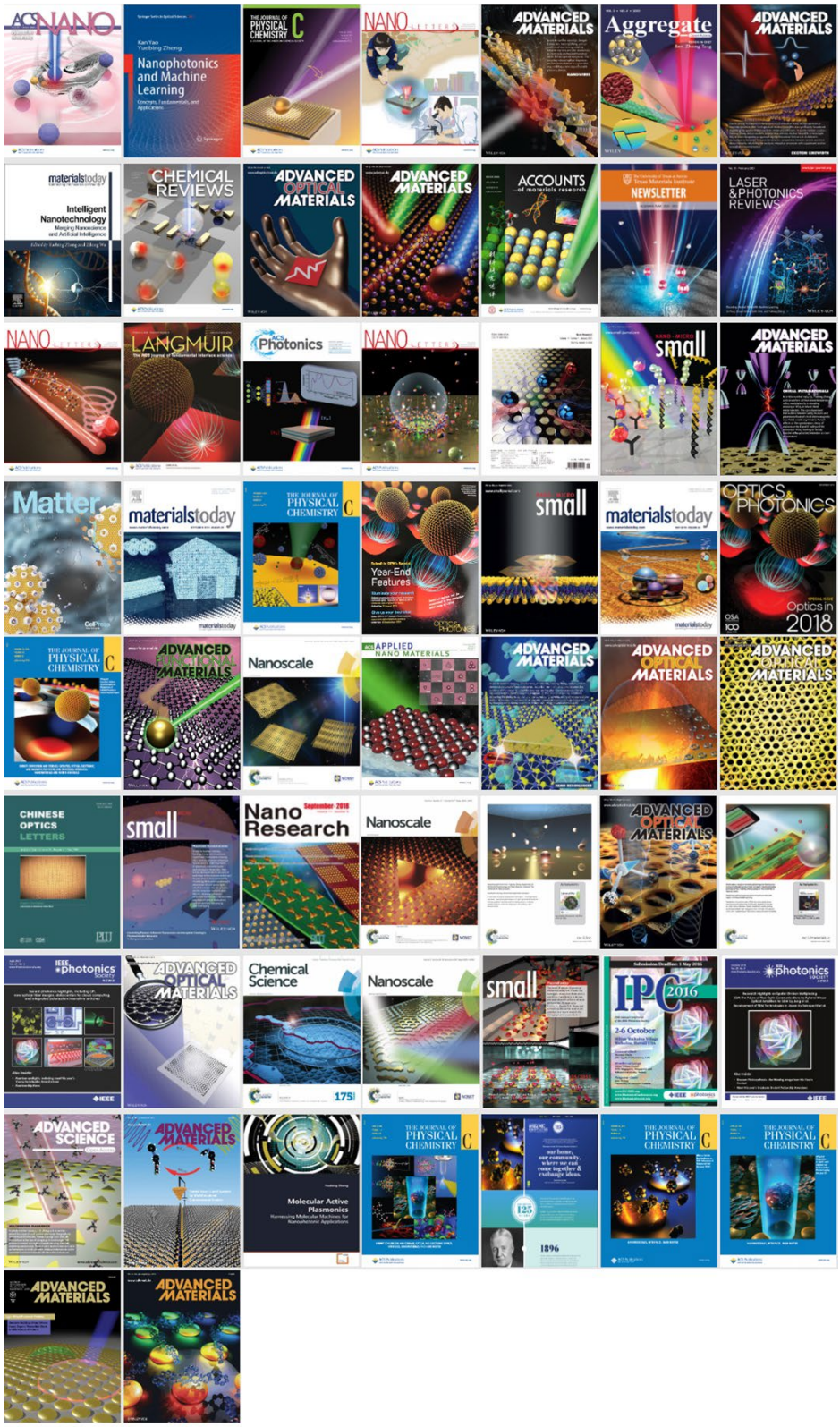
- **Our work "Manipulating Nanoparticles in an Opto-Thermoelectric Field" was featured as cover article of 2018 December issue of *Optics & Photonics News* (November 2018).**
- **Our work "Opto-Thermoelectric Nanotweezers" was included in "Nature Collection of Nobel Prize in Physics 2018" (October 2018).**
- **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 (48 of our published journal papers were featured as cover articles)



ORAL/POSTER PRESENTATIONS (268):

1. **Y. B. Zheng, "Biophotonic Technology Gets Hot," Seminar in BioFrontiers Institute, University of Colorado Boulder, Fall 2023.**
2. **H. Ding, Z. Chen, and Y. B. Zheng, "Optothermal mulimodal manipulations along transparent surfaces," SPIE Optics + Photonics, San Diego, CA, August 20-24, 2023.**
3. **P. S. Kollipara, Z. Chen, and Y. B. Zheng, "Optical manipulation of light-absorbing particles in a surfactant-based solid media," SPIE Optics + Photonics, San Diego, CA, August 20-24, 2023.**
4. **Z. Chen, and Y. B. Zheng, "Understanding Collective Motion of Living Systems with Fully Steerable Optical Active Particles," SPIE Optics + Photonics, San Diego, CA, August 20-24, 2023.**
5. **Y. Liu, R. Unni, and Y. B. Zheng, "Rotation-Assisted Optical Trapping for Deep-Learning-Based Single-Cell Imaging and Classification," SPIE Optics + Photonics, San Diego, CA, August 20-24, 2023.**
6. **Y. B. Zheng, "Driving Nanomachines with Plasmonically Powered Heat Engines," Gordon Research Conference – Plasmonically Powered Processes, Ventura, CA, June 4-9, 2023.**
7. **K. Yao, J. Fang, and Y. B. Zheng, "Mirror-Enabled Tuning of Mid-Infrared Light Scattering by Dielectric Optical Resonators", CLEO 2023, San Jose, May 7-12, 2023.**
8. **J. Fang, K. Yao, and Y. B. Zheng, "Moderate-Refractive-Index Mie Resonators for Versatile Modulation of Two-Dimensional Excitons", CLEO 2023, San Jose, May 7-12, 2023.**
9. **A. Swain, P. S. Kollipara, and Y. B. Zheng, "Opto-Thermocapillary Machining", CLEO 2023, San Jose, May 7-12, 2023.**
10. **P. S. Kollipara, H. Ding, Z. Chen, and Y. B. Zheng, "Hypothermal optothermal tweezers for versatile manipulation of colloids in native solutions", CLEO 2023, San Jose, May 7-12, 2023.**
11. **Y. Kim, C. Ponce, Z. Chen, and Y. B. Zheng, "Optothermal Manipulation at Fluid Interfaces", CLEO 2023, San Jose, May 7-12, 2023.**
12. **H. Ding, P. S. Kollipara, K. Yao, and Y. B. Zheng, "Optothermal multimodal manipulation of micro/nanoparticles", CLEO 2023, San Jose, May 7-12, 2023.**
13. **Z. Chen, H. Ding, and Y. B. Zheng, "Vortex Formation of Active Particles within a Confined Geometry by Velocity Alignment", CLEO 2023, San Jose, May 7-12, 2023.**
14. **C. Ponce, Y. Kim, and Y. B. Zheng, "Motion of Microparticles at Liquid-Liquid Interfaces under Laser-Induced Heating," The National Conferences on Undergraduate Research, University of Wisconsin-Eau Claire, April 13-15, 2023.**
15. **H. Ding and Y. B. Zheng, "Multimodal Optothermal Manipulation of Synthetic Particles and Biological Cells", UT Sensors Research Interest Group Seminar, April 6, 2023.**
16. **Y. B. Zheng, "Light Technology Heats Up," Physics Today Lecture Series, Nankai University, Tianjin, China, March 18, 2023.**
17. **Y. B. Zheng, "Optical Liquid Biopsy for Non-invasive Brain Tumor Monitoring and Neuroscience," Neurodegeneration & Brain Tumor Chalk Talk Series, MD Anderson and UT Austin, March 10, 2023.**
18. **P. S. Kollipara, and Y. B. Zheng, "Opto-Thermophoretic Tweezers in Liquid and Solid Media for Biological and Photonic Applications", American Chemical Society Student Chapter Lecture, UT Austin, February 22, 2023.**
19. **Y. B. Zheng, "Nano-Architected-Materials-on-Demand for Versatile Light Control," SPIE Photonics West, San Francisco, CA, January 28-February 2, 2023**
20. **Y. B. Zheng, "Nanodevices and Nanomachines Powered by Photonic Heat Engines," SPIE Photonics West, San Francisco, CA, January 28-February 2, 2023.**
21. **C. Ponce, Y. Kim, and Y. B. Zheng, "Motion of Microparticles at Liquid-Liquid Interfaces under Laser-Induced Heating," The National Collegiate Research Conference, Harvard University, January 20-22, 2023.**
22. **J. Fang and Y. B. Zheng, "Efficient Modulation of Two-Dimensional Excitons via Subwavelength Mie Resonators," NSF-DMR-Materials Innovation Platform Forum, Boston, MA, November 30, 2022.**
23. **J. Fang and Y. B. Zheng, "Efficient Modulation of Two-Dimensional Excitons via Subwavelength Mie Resonators," 2022 MRS Fall Meeting, Boston, MA, November 27 - December 2, 2022.**
24. **J. Li and Y.B. Zheng, "Tunable Strong Light-Matter Coupling in Colloidal Transition Metal Dichalcogenide Nanowires," 2022 MRS Fall Meeting, Boston, MA, November 27 - December 2, 2022.**

25. **Y. B. Zheng, "Reconfigurable Photonic Metamolecules and Metamaterials," SPIE-CLP Conference on Advanced Photonics, Hangzhou, China, November 21-23, 2022 (online).**
26. **Y. B. Zheng, "Light Technology Gets Hot," Seminar in Institute of Photonics Technology, Jinan University, November 14, 2022.**
27. **M. Blanco de Paz, P. A. Huidobro, and Y. B. Zheng, "QMETA: Realising Quantum METAsurfaces with Quantum Dot Arrays," UT Austin Portugal Annual Conference, Porto Cruise Terminal, Matosinhos, Portugal, October 19, 2022**
28. **C. Ponce, Y. Kim, and Y. B. Zheng, "Motion of Microparticles at Liquid-Liquid Interfaces under Optothermal Actuation," the 14th annual Gulf Coast Undergraduate Research Symposium, Rice University, October 8, 2022.**
29. **Y. B. Zheng, "On-Demand Assembly of Reconfigurable Photonic Metamolecules and Metamaterials," IEEE Research and Applications of Photonics in Defense Conference (RAPID), Miramar Beach, FL, September 12-14, 2022.**
30. **K. Yao and Y. B. Zheng, "Controlling the emission behavior of chiral dipole emitters with a dielectric nanoantenna," SPIE Optics + Photonics, San Diego, CA, August 21-25, 2022.**
31. **Z. Chen, J. Li and Y. Zheng, "Reconfigurable optical manipulation and assembly of functional nanowires on solid substrate," SPIE Optics + Photonics, San Diego, CA, August 21-25, 2022.**
32. **P. S. Kollipara, J. Li, Y. Zheng, "Rotation of nanoparticles on solid substrates via opto-thermocapillary forces," SPIE Optics + Photonics, San Diego, CA, August 21-25, 2022.**
33. **Y. Kim and Y. B. Zheng, "Investigating opto-thermophoresis of liquid droplets to understand charging of water/oil interfaces," SPIE Optics + Photonics, San Diego, CA, August 21-25, 2022.**
34. **Y. B. Zheng, "On-Demand Assembly of Reconfigurable Optical Metamolecules and Metamaterials," The 12th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos, Spain, July 19-22, 2022.**
35. **Y. B. Zheng, "Enhancing Chiral Analysis with Metamaterials and Opto-thermo-fluidic Technology," The 32th International Symposium on Chirality, Chicago, Illinois, USA, July 17-20, 2022.**
36. **Y. B. Zheng, "Enhancing Chiral Analysis with Metamaterials and Optofluidic Technology," The 8th Annual Conference of AnalytiX, Amsterdam, Netherlands, July 15-17, 2022.**
37. **Y. B. Zheng, "Dielectric Nanoantennas for Versatile Light Control," The 8th International Conference on Antennas and Electromagnetic Systems, Marrakesh, Morocco, May 24-27, 2022.**
38. **Y. B. Zheng, "Light-Controlled Assembly of Reconfigurable Architected Nanomaterials," CLEO 2022, San Jose, May 15-20, 2022.**
39. **J. Fang, K. Yao, and Y. B. Zheng, "Achieving Near-Intrinsic Exciton Linewidth at Room Temperature in Monolayer WS2 Coupled with a Mie Resonator," CLEO 2022, San Jose, May 15 – 20, 2022.**
40. **Y. B. Zheng, "Metamolecules and Metamaterials: Directed Assembly and Applications," The International Meeting on Metamaterials and Nanophotonics, Dubai, UAE, March 28-30, 2022. (Plenary)**
41. **Y. B. Zheng, "Reconfigurable Chiral Metamaterials for Valleytronics and Enantiodiscrimination of Chiral Molecules," Symposium on Chiral Micro & Nano Materials at the International Conference on Frontier Materials, March 29-30, 2022, online (rescheduled from Zhuhai, China, Dec. 8-12, 2021).**
42. **Y. B. Zheng, "Biophotonic Technology Gets Hot," Seminar in Department of Biomedical Engineering and Institute of Quantitative Health Science and Engineering, Michigan State University, April 27, 2022.**
43. **Y. B. Zheng, "Light Technology Gets Hot," Department of Mechanical Engineering Seminar, University of Texas at Dallas, April 15, 2022.**
44. **Y. B. Zheng, "Light Technology Gets Hot," Department of Mechanical Engineering Seminar, Texas A&M University, February 23, 2022.**
45. **Y. B. Zheng, "Heat-Mediated Optical Manipulation," SPIE Photonics West, San Francisco, CA, January 22-27, 2022.**
46. **Y. B. Zheng, "Directed-Assembled Metamolecules and Metamaterials," The Global Summit on Metamaterials, Nanophotonics and Plasmonics, London, UK, December 7-9, 2021.**
47. **Y. B. Zheng, "Chiroptics with Reconfigurable Metamolecules and Metamaterials," Materials Research Society (MRS) Fall Meeting, Boston, MA, November 29-December 8, 2021.**
48. **J. Li and Y. B. Zheng, "All-Optical Reconfigurable Metamolecules," Materials Research Society (MRS) Fall Meeting, Boston, MA, November 29-December 8, 2021.**

49. **R. Unni, K.Yao, and Y. B. Zheng, "A Deep Mixture Density Network for On-Demand Inverse Design of Photonic Nanostructures," The 43rd Photonics & Electromagnetics Research Symposium (PIERS), Hangzhou, China, November 21-25, 2021.**
50. **Z. Wu, Y. Liu, and Y. B. Zheng, "Moire Chiral Metamaterials," The 43rd Photonics & Electromagnetics Research Symposium (PIERS), Hangzhou, China, November 21-25, 2021.**
51. **Y. B. Zheng, "Enhanced Chiroptical Spectroscopy with Directed-Assembled Chiral Metamaterials," the 2021 IEEE Photonics Conference (IPC), Vancouver, Canada, October 17-21, 2021.**
52. **Y. Liu and Y. B. Zheng, "Microbubble-Assisted Concentration and Ultrasensitive Detection of Chiral Biomolecules," Pi Tau Sigma General Meeting, October 5, 2021.**
53. **Y. B. Zheng, "On-Demand Assembly of Reconfigurable Architected Nanomaterials for Nanophotonics," Army Research Office workshop on "Exploring Novel 3D Nano-Assembly Processes for Photonics", California Institute of Technology, CA, September 13-14, 2021.**
54. **Y. B. Zheng, "Reconfigurable Superstructures: Directed Assembly and Applications," AAAFM-UCLA International Conference, UCLA, CA, August 18-20, 2021.**
55. **Y. B. Zheng, "Reconfigurable Photonic Metamolecules and Metamaterials for Chiroptical Technology," IEEE Research and Applications of Photonics in Defense Conference (RAPID), Miramar Beach, FL, August 2-4, 2021.**
56. **A. Kotnala, and Y. B. Zheng, "Convection-Flow-Driven High-Throughput Plasmonic Tweezers," SPIE Optics + Photonics, San Diego, CA, August 1-5, 2021.**
57. **Z. Chen, and Y. B. Zheng, "All-Optical Actuation and Navigation of Opto-Thermoelectric Microswimmers," SPIE Optics + Photonics, San Diego, CA, August 1-5, 2021.**
58. **J. Li, and Y. B. Zheng, "Trapping Nanoparticles with Optical Refrigeration," SPIE Optics + Photonics, San Diego, CA, August 1-5, 2021.**
59. **K. Yao, J. Fang, and Y. B. Zheng, "Directional Light Emission by Dipoles Coupled to a Dielectric Nanosphere at Atomically Small Distances," SPIE Optics + Photonics, San Diego, CA, August 1-5, 2021.**
60. **H. Ding, P. Kollipara, A. Kotnala, Z. Chen, and Y. B. Zheng, "Symmetric and Isotropic Micro/Nanorotors Driven by a Plane-Polarized Gaussian Laser Beam," SPIE Optics + Photonics, San Diego, CA, August 1-5, 2021.**
61. **J. Fang, K. Yao, and Y. B. Zheng, "High-Quality-Factor Fano Resonances in Monolayer WS2 Coupled with a Single Dielectric Nanosphere at Room Temperature," SPIE Optics + Photonics, San Diego, CA, August 1-5, 2021.**
62. **G. L. Drisko, M. L. De Marco, T. Jiang, J. Fang, B. Korgel, Y. B. Zheng, P. Barois, and C. Aymonier, "Silicon, an Ideal Element for Optical Metamaterials: From Core-Shell Particle Synthesis to Light Scattering," The 19th International Symposium on Silicon Chemistry, Toulouse, France, July 2-7, 2021.**
63. **Y. B. Zheng, "Moire Metamaterials," The 2nd Global Conference on Nanotechnology and Nanomaterials, Berlin, Germany, June 17-18, 2021. (Plenary)**
64. **Y. B. Zheng, "Optically Reconfigurable Architected Nanomaterials," The 7th International Conference on Mechanical Structures and Smart Materials, Changsha, China, June 14-15, 2021. (Keynote)**
65. **Y. B. Zheng, "Directed Colloidal Assembly with Opto-Thermophoresis," CHESS Soft Matter Far From Equilibrium – CHESS 2030 Workshop, June 10-11, 2021.**
66. **Y. B. Zheng, "On-Chip Adhesion Frequency Assay," NIH Common Fund' 2021 High-Risk, High-Reward Research Symposium, June 9-11, 2021.**
67. **R. Unni, K. Yao, and Y. B. Zheng, "A Deep Mixture Density Network for On-Demand Inverse Design of Thin Film Reflectors," Conference on Lasers and Electro-Optics, Virtual Meeting, May 9-14, 2021.**
68. **Y. Kim and Y. B. Zheng, "Optothermal Manipulation of Liquid Droplets," Conference on Lasers and Electro-Optics, Virtual Meeting, May 9-14, 2021.**
69. **Y. Liu and Y. B. Zheng, "Plasmonic Chiral Sensing of Biomarkers in Human Body for Chronic Disease Monitoring," UT Sensors Research Interest Group Seminar, May 7, 2021.**
70. **Y. B. Zheng, "Architected Nanomaterials via Optically Directed Assembly," The 2nd Edition of International Materials Science & Nanoscience Webinar, April 16-17, 2021. (Keynote)**
71. **Y. Kim and Y. B. Zheng, "Liquid-in-Liquid Manipulation Using Optothermal Tweezers," ACS Spring 2021, Online, April 5-16, 2021.**

72. **H. Ding, P. Kollipara, A. Kotnala, and Y. B. Zheng, "Light-Powered Rotation of Micro/Nanocolloids at a Liquid-Solid Interface," ACS Spring 2021, Online, April 5-16, 2021.**
73. **Y. B. Zheng, "Versatile Optothermal Manipulations of Nanoparticles: from Digital Nanomanufacturing to Nanorobotics," The International Conference on Nano Research and Development, Singapore, March 25-27, 2021.**
74. **Z. Chen and Y. B. Zheng, "All-Optical Microswimmers in an Opto-Thermoelectric Field with Active Navigation," SPIE Photonics West, San Francisco, CA, March 6-11, 2021.**
75. **K. Yao, J. Fang, and Y. B. Zheng, "Mid-Infrared Molecular Sensing Using Mie Antennas on a Mirror," 2020 MRS Fall Meeting, Virtual Meeting, November 27 - December 4, 2020.**
76. **J. Li, and Y. B. Zheng, "Optical Nanomanipulation and Reconfigurable Assembly of Colloidal Nanostructures," 2020 MRS Fall Meeting, Virtual Meeting, November 27 - December 4, 2020.**
77. **J. Fang, M. Wang, K. Yao, and Y. B. Zheng, "On-Demand Directivity Modulations of the Excitation and Emission of Nanoemitters Using a Subwavelength Mie Antenna," 2020 MRS Fall Meeting, Virtual Meeting, November 27 - December 4, 2020.**
78. **Y. B. Zheng, "Additive Nanomanufacturing for Architected Nanomaterials," Webinar on 3D Printing and Additive Manufacturing, November 26-27, 2020.**
79. **S. C. Huang, X. Z. Zhao, and Y. B. Zheng, "Optoelectronic Thinning of Transition Metal Dichalcogenides for Device Fabrication," IMECE 2020, Virtual Meeting, November 16-19, 2020.**
80. **P. S. Kollipara, L. Lin, X. Peng, Z. Chen, Y. Liu, and Y. B. Zheng, "Mesoscopic Modeling of Laser-Induced Thermoelectricity Interactions with Polystyrene Microparticles," IMECE 2020, Virtual Meeting, November 16-19, 2020.**
81. **H. Ding, P. S. Kollipara, L. Lin, and Y. B. Zheng, "Unraveling the Opto-Thermo-Mechanic Coupling at Atomic Scale: Experimental and Theoretical Studies," IMECE 2020, Virtual Meeting, November 16-19, 2020.**
82. **Y. B. Zheng, "New Optical Tweezers for Nanoscience and Nanotechnology," Pi Tau Sigma General Meeting #5, November 3, 2020.**
83. **Y. B. Zheng, "Inverse Design of Photonic Nanostructures with a Deep Convolutional Mixture Density Network," Asia Communications and Photonics Conference, Beijing, China, October 24-27, 2020.**
84. **Y. Liu, Z. Wu, and Y. B. Zheng, "Microbubble-Assisted Concentration and Ultrasensitive Detection of Biomolecules Using Plasmonic Chiral Metamaterials," 2020 IEEE Photonics Conference (IPC), IEEE Virtual Meeting, September 28 - October 1, 2020.**
85. **P. S. Kollipara, L. Lin, Z. Chen, X. Peng, Y. Liu, and Y. B. Zheng, "Quantifying the Response of Diverse Nanoparticles Towards Laser-Induced Thermoelectric Field to Enhance Applications in Nanorobotics," 2020 IEEE Photonics Conference (IPC), IEEE Virtual Meeting, September 28 - October 1, 2020.**
86. **J. Li and Y. B. Zheng, "Reconfigurable Assembly of Chiral Nanostructures on Solid Substrates," 2020 IEEE Photonics Conference (IPC), IEEE Virtual Meeting, September 28 - October 1, 2020.**
87. **J. Li and Y. B. Zheng, "Solid-Phase Optical Manipulation and Assembly of Colloidal Particles," 2020 IEEE Photonics Conference (IPC), IEEE Virtual Meeting, September 28 - October 1, 2020.**
88. **Z. Wu and Y. B. Zheng, "Active Chiral Metamaterials for Tunable Chiroptical Coupling and Valley Dynamics," 2020 IEEE Photonics Conference (IPC), IEEE Virtual Meeting, September 28 - October 1, 2020.**
89. **A. Kotnala, P. S. Kollipara, and Y. B. Zheng, "Opto-thermal Induced Flow Enables Faster Trapping in Nanoaperture Tweezers," FiO LS 2020, OSA Virtual Meeting, September 14-17, 2020.**
90. **P.S. Kollipara, L. Lin, Z. Chen, X. Peng, Y. Liu, and Y. B. Zheng, "Quantifying Thermo-Electro-Mechanics for Manipulation and Rotation of Single Dielectric Particles under Laser Illumination," FiO LS 2020, OSA Virtual Meeting, September 14-17, 2020.**
91. **J. Fang, M. Wang, K. Yao, and Y. B. Zheng, "Controllable Directional Excitation and Emission of Nanoemitters by a Subwavelength Mie Antenna," FiO LS 2020, OSA Virtual Meeting, September 14-17, 2020.**
92. **K. Yao and Y. B. Zheng, "Engineering Dielectric Metasurfaces for Chirality-Sorting Optical Forces and Fano-Interference-Enhanced Chirality," FiO LS 2020, OSA Virtual Meeting, September 14-17, 2020.**
93. **Y. Liu, Z. Wu, and Y. B. Zheng, "Detecting Diabetes-Induced Abnormal Chirality in Urine via Accumulation-Assisted Plasmonic Chiral Sensing," FiO LS 2020, OSA Virtual Meeting, September 14-17, 2020.**

94. **J. Li and Y. B. Zheng, "Reconfigurable Assembly of All-Dielectric Chiral Nanostructures on Solid Substrates" FiO LS 2020, OSA Virtual Meeting, September 14-17, 2020.**
95. **Z. Wu and Y. B. Zheng, "Active Modulation of Valley Excitons in a Monolayer WSe2 via Chiral Metamaterials," OSA Frontiers in Optics and Laser Science APS/DLS (FiO LS) 2020, OSA Virtual Meeting, September 14-17, 2020.**
96. **Z. Wu and Y. B. Zheng, "Development of a Fully Integrated Opto-Thermo-Fluidic System for In Situ Detection of Trace Chiral Prebiotic Molecules on Icy Bodies," Center for Planetary Systems Habitability seminar, September 14, 2020.**
97. **A. Kotnala, P. S. Kollipara, and Y. B. Zheng, "Opto-Thermoelectric Speckle Tweezers for Large-Scale Trapping and Filtration of Particles," SPIE Nanoscience + Engineering, San Diego, CA, August 23-27, 2020.**
98. **P. S. Kollipara, L. Lin, and Y. B. Zheng, "Understanding and Optimizing Laser-Induced Thermoelectric Forces for Enhanced Trapping and Manipulation of Colloidal Particles," SPIE Nanoscience + Engineering, San Diego, CA, August 23-27, 2020.**
99. **J. Wang and Y. B. Zheng, "Density-Regulated Assembly of Highly Aligned Carbon Nanotubes via Bubble Printing," SPIE Nanoscience + Engineering, San Diego, CA, August 23-27, 2020.**
100. **Y. Kim, H. Ding, and Y. B. Zheng, "Perfluoropentane-in-water biphasic system for low-power photothermal bubble generation and sensitive immunoassay," SPIE Nanoscience + Engineering, San Diego, CA, August 23-27, 2020.**
101. **Y. Liu, and Y. B. Zheng, "Microbubble-assisted concentration and ultrasensitive detection of chiral biomolecules using plasmonic chiral metamaterials," SPIE Optics + Photonics, San Diego, CA, August 23-27, 2020.**
102. **K. Yao, and Y. B. Zheng, "Fano-interference-enhanced optical chirality and helicity-dependent optical forces in dielectric metasurfaces," SPIE Optics + Photonics, San Diego, CA, August 23-27, 2020.**
103. **R. Unni, K. Yao, and Y. B. Zheng, "Deep convolutional gaussian mixture network for unique inverse design of layered photonic structures," SPIE Optics + Photonics 2020, San Diego, CA, August 23-27, 2020.**
104. **Z. Wu, and Y. B. Zheng, "Modulating valley dynamics in a monolayer semiconductor with active chiral metamaterials," SPIE Optics + Photonics, San Diego, CA, August 23-27, 2020.**
105. **H. Ding, Z. Chen, and Y. B. Zheng, "Versatile optothermal micro/nanorobots for cellular biology," SPIE Optics + Photonics, San Diego, CA, August 23-27, 2020.**
106. **J. Fang, K. Yao, and Y. B. Zheng, "Enhanced mid-infrared molecular sensing with single silicon antennas," SPIE Optics + Photonics, San Diego, CA, August 23-27, 2020.**
107. **J. Li, and Y. B. Zheng, "Reconfigurable construction of all-dielectric chiral metamaterials on solid substrates," SPIE Optics + Photonics, San Diego, CA, August 23-27, 2020.**
108. **Y. B. Zheng, "Directed Assembly for Architected Nanomaterials," Symposium on Information-Rich Molecular Assembly for Patterning Applications at the Nanoscale, Molecular Foundry User Meeting, August 21, 2020.**
109. **Y. B. Zheng, "Light-Directed Assembly of Photonic Nanostructures," IEEE Research and Applications of Photonics in Defense Conference (RAPID), Miramar Beach, FL, August 10-12, 2020.**
110. **P. S. Kollipara and Y. B. Zheng, "Bubble Pen Lithography for Flexible Device Fabrication," NextFlex Innovation Days 2020, August 04-06, 2020.**
111. **Y. Liu and Y. B. Zheng, "Label-Free Detection of Diabetes-Induced Abnormal Chirality of Metabolites in Urine using Chiral Plasmonic Biosensor," 2020 IEEE 20th International Conference on Nanotechnology (IEEE-NANO), IEEE Virtual Meeting, July 29-31, 2020.**
112. **S. C. Huang, X. Z. Zhao, and Y. B. Zheng, "Optoelectronic Thinning of Transition Metal Dichalcogenides for Device Fabrication," 2020 IEEE 20th International Conference on Nanotechnology (IEEE-NANO), IEEE Virtual Meeting, July 29-31, 2020.**
113. **Z. Wu and Y. B. Zheng, "Modulating Valley Dynamics in a Monolayer WSe2 with Active Chiral Metamaterials," 2020 IEEE 20th International Conference on Nanotechnology (IEEE-NANO), IEEE Virtual Meeting, July 29-31, 2020.**
114. **Z. Wu and Y. B. Zheng, "Tunable Chiroptical Coupling and Valley Dynamics using Active Chiral Metamaterials," OSA Advanced Photonics Congress 2020, OSA Virtual Meeting, July 13-16, 2020.**

115. **Y. Kim and Y. B. Zheng, "A Biphasic Liquid System for Low-Power Optothermal Bubble Generation and Enhanced Surface Binding of Proteins," OSA Advanced Photonics Congress 2020, OSA Virtual Meeting, July 13-16, 2020.**
116. **J. Li and Y. B. Zheng, "Reconfigurable Assembly of Chiral Metamaterials on Solid Substrates," OSA Advanced Photonics Congress 2020, OSA Virtual Meeting, July 13-16, 2020.**
117. **Y. B. Zheng, "Mass Customization and Applications of Architected Nanomaterials Enabled by Digital Nanomanufacturing," IAAM Scientist Award Lecture, The International Association of Advanced Materials (IAAS) Lecture Series (Sweden), Virtual Lecture, July 13, 2020.**
118. **H. Ding, P. S. Kollipara, and Y. B. Zheng, "Atomistic Modeling and Rational Design of Optothermal Tweezers for Targeted Applications," Sigma Xi Virtual Student Scholars Symposium, May 13-14, 2020.**
119. **Z. Wu and Y. B. Zheng, "Room-Temperature Active Modulation of Valley Dynamics in a Monolayer Semiconductor through Chiral Purcell Effects," 2D Crystal Consortium (NSF Materials Innovation Platform) User Meeting, The Pennsylvania State University, PA, May 11, 2020.**
120. **R. Unni, K. Yao, and Y. B. Zheng, "Deep Convolutional Neural Network for the Inverse Design of Layered Photonic Structures," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
121. **B. B. Rajeeva, P. S. Kollipara, P. Kunal, S. Humphrey, and Y. B. Zheng, "Accumulation-Driven Single-Step Synthesis and Structuring of Immiscible Metallic Nanoalloys," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
122. **J. Li and Y. B. Zheng, "Optical Manipulation and Assembly of Colloidal Particles on Solid Substrates," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
123. **A. Kotnala and Y. B. Zheng, "Opto-thermoelectric Speckle Tweezers" Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
124. **J. Wang and Y. B. Zheng, "Bubble Printing of Nanocomposites with Aligned Carbon Nanotubes for Wearable Devices," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
125. **H. Ding, Z. Chen, and Y. B. Zheng, "Versatile Optothermal Micro/Nanorobots for Cellular Biology," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
126. **Y. Kim, H. Ding, P. S. Kollipara, and Y. B. Zheng, "Perfluoropentane-in-Water Biphasic System for Low-Power Photothermal Bubble Generation and Sensitive Immunoassay", Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
127. **J. Fang, M. Wang, K. Yao, and Y. B. Zheng, "Directivity Modulation of Monolayer WS2 Emission by Single Hydrogenated Amorphous Silicon Nanospheres," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
128. **Y. Liu, Z. Wu, R. Montellano, K. Sharma, and Y. B. Zheng, "Microbubble-Assisted Preconcentration and Ultrasensitive Detection of Biomolecules Using Plasmonic Chiral Metamaterials," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
129. **Z. Wu, J. Li, and Y. B. Zheng, "Modulating Chiroptical Coupling and Light-Valley Interactions with Active Chiral Metamaterials," Conference on Lasers and Electro-Optics, San Jose, CA, May 10-15, 2020.**
130. **J. Fang, M. Wang, and Y. Zheng, "Modulating the emission directionality of monolayer WS2 by single hydrogen-doped amorphous silicon nanospheres," SPIE Photonics West, San Francisco, CA, February 1-6, 2020.**
131. **P. S. Kollipara, L. Lin, and Y. B. Zheng, "Theoretical determination and experimental validation of opto-thermoelectric force on colloidal microparticles in surfactant solutions," SPIE Photonics West, San Francisco, CA, February 1-6, 2020.**
132. **J. Wang and Y. B. Zheng, "Light-driven bubble printing of nanocomposites with aligned nanocomponents for wearable medical devices", SPIE Photonics West, San Francisco, CA, February 1-6, 2020.**
133. **A. Kotnala, P. S. Kollipara and Y. B. Zheng, "Convection- and bubble-assisted nanoaperture-based plasmonic tweezers," SPIE Photonics West, San Francisco, CA, February 1-6, 2020.**
134. **K. Yao, and Y. B. Zheng, "Enhancing near-ultraviolet circular dichroism and chirality-sorting optical forces using dielectric metasurfaces," SPIE Photonics West, San Francisco, CA, February 1-6, 2020.**
135. **Z. Wu, and Y. B. Zheng, "Active chiral metamaterials for tunable modulation of chiroptical coupling and light-valley interactions," SPIE Photonics West, San Francisco, CA, February 1-6, 2020.**

136. **Y. B. Zheng, "Digital Manufacturing of Nanomaterials," Research Spotlight Forum-Advanced Manufacturing, Sandia National Laboratories, January 7, 2020.**
137. **Y. B. Zheng, "Opto-Thermo-Fluidic Lab on a Chip," Department of Biomedical Engineering, University of Houston, November 15, 2019.**
138. **J. Wang, and Y. B. Zheng, "Mass-customized, high-performance and multifunctional CNT/SF nanocomposite enabled by all-in-one bubble nanoprinting," Salt Lake City, Utah, IMECE 2019, November 11-14, 2019.**
139. **J. Wang, and Y. B. Zheng, "Dynamic nanoprint of SWCNT/SF nanocomposites with on-the-fly electrical anisotropy via opto-thermo-bubble interface," Salt Lake City, Utah, IMECE 2019, November 11-14, 2019.**
140. **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.**
141. **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.**
142. **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.**
143. **A. Kotnala and Y. B. Zheng, "Opto-thermophoretic fiber tweezers: Design and Applications", SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.**
144. **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.**
145. **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.**
146. **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.**
147. **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.**
148. **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.**
149. **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.**
150. **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.**
151. **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.**
152. **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.**
153. **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.**
154. **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.**
155. **Y. B. Zheng, "Opto-Thermo-Fluidics," Harrington Symposium – Physics of Microfluidics, Austin, TX, June 9-11, 2019.**
156. **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.**
157. **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.**
158. **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.**
159. **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.**

160. **Y. B. Zheng, "Optothermal Manipulations of Colloidal Particles and Living Cells," Biophotonics Congress: Optics in the Life Sciences, Tucson, AZ, April 14-17, 2019.**
161. **Y. B. Zheng, "Digital Assembly and Applications of Hybrid Nanomaterials with Complex Architectures," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 22-26, 2019.**
162. **Y. B. Zheng, "Digital Manufacturing of Nanomaterials," NASCENT Seminar, The University of Texas at Austin, Austin, TX, October 5, 2018.**
163. **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.**
164. **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.**
165. **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.
166. **Y. B. Zheng**, ''Optothermal manipulations of colloidal particles and living cells," SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
167. 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.
168. 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.
169. 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.
170. 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.
171. 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.
172. 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.
173. 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.
174. **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.
175. 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
176. 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.
177. **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.
178. 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.
179. 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.
180. 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.
181. 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.

182. J. Li, L. Lin, X, Peng and **Y. B. Zheng**, ''Optothermal Nanoscissors for Versatile Low-Power Patterning of Atomic-Thin Two-Dimensional Materials," Conference on Lasers and Electro-Optics, San Jose, CA, May 13-18, 2018.
183. Y. Liu, L. Lin, B. B. Rajeeva and **Y. B. Zheng**, "Thermophoretic Manipulation of Colloidal Particles on Single Plasmonic Nanoantenna," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
184. X. Peng, L. Lin, J. Li and **Y. B. Zheng**, "Opto-Thermophoretic Trapping and Assembly of Colloidal Particles," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
185. Z. Wu and **Y. B. Zheng**, "Tunable Moiré Chiral Metamaterials and Their Applications in Ultrasensitive Sensing," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
186. M. Wang and **Y. B. Zheng**, "Tunable Plasmon-Exciton Interactions in Hybrid Systems of Single Plasmonic Nanoparticle and Two-Dimensional Transition Metal Dichalcogenides," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
187. B. B. Rajeeva, Z. Wu, A. Briggs, P. V. Acharya, V. Bahadur, S. R. Bank, **Y. B. Zheng**, ""Point-and-Shoot" Printing of Metallic Rings for Dual-Mode Spectroscopy," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
188. J. Li, L. Lin, X. Peng, and **Y. B. Zheng**, "Plasmon-enhanced optothermal nanoscissors," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
189. L. Lin, X. Peng, and **Y. B. Zheng**, "Light-directed reconfigurable assembly of colloidal chiral metamolecules," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
190. B. B. Rajeeva and **Y. B. Zheng** "Plasmon-Mediated Nano/Micro Patterning and Applications," Graduate and Industry Networking, Austin, TX, Jan 30, 2018.
191. Z. Wu and **Y. B. Zheng**, "Nanoscale Moiré Metamaterials for Biological and Chemical Applications," Graduate and Industry Networking, Austin, TX, Jan 30, 2018.
192. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," University of California, San Diego, November 17, 2017.
193. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Duke University, November 8, 2017.
194. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," University of Illinois Urbana-Champaign, October 24, 2017.
195. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Northwestern University, October 12, 2017.
196. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," University of California, Merced, September 28, 2017.
197. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Stanford University, September 27, 2017.
198. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Rice University, Houston, September 20, 2017.
199. **Y. B. Zheng**, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Purdue University, West Lafayette, September 15, 2017.
200. **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 3-6, 2017.
201. **Y. B. Zheng**, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," Tsinghua University, Shenzhen, China, June 23, 2017.
202. **Y. B. Zheng**, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," International Conference on Energy, Materials and Photonics, Shenzhen, China, June 24, 2017.
203. B. B. Rajeeva, L. Lin, E. P. Perillo, M. Wang, A. K. Dunn and **Y. B. Zheng**, "Immobilization of proteins and quantum dots on plasmonic nanostructures" Biomaterials Day at UT Austin, Austin, TX, June 2, 2017.
204. X. Peng, L. Lin and **Y. B. Zheng**, "Exploitation of cell membrane-water interactions for low-power and versatile thermophoretic trapping of bacteria" Biomaterials Day at UT Austin, Austin, TX, June 2, 2017.
205. Z. Wu, **Y. B. Zheng**, "Moiré plasmonic metasurfaces and metamaterials for biomedical applications", Biomaterials Day at UT Austin, Austin, TX, June 2, 2017.

206. **Y. B. Zheng**, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," University of Southern California, Los Angeles, CA, May 24, 2017.
207. **Y. B. Zheng**, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," University of Washington, Seattle, WA, May 23, 2017
208. **Y. B. Zheng**, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," University of Maryland, College Park, MD, May 10, 2017
209. Z. Wu, M. N. Yogeesh, W. Li, D. Akinwande, and **Y. B. Zheng**, "Nanophotonic Chip for Treatment of Cancer," UT Idea to Product, 2017.
210. **Y. B. Zheng**, "Optothermal Tweezers for Low-Power and Versatile Manipulation of Biological Cells and Nanoparticles," the 12th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems, Los Angeles, CA, April 9-12, 2017.
211. **Y. B. Zheng**, "Optically Directed Assembly of Colloidal Particles," the 253rd ACS National Meeting, San Francisco, CA, April 2-6, 2017.
212. L. Lin, X. Peng, and **Y. B. Zheng**, "Thermophoretic tweezers for low-power manipulation of colloidal particles and biological cells," OSA Biophotonics Congress: Optics in the Life Sciences, San Diego, CA, April 2-5, 2017.
213. L. Lin, X. Peng, and **Y. B. Zheng**, "Light-controlled reversible assembly of plasmonic nanoparticles," OSA Biophotonics Congress: Optics in the Life Sciences, San Diego, CA, April 2-5, 2017.
214. M. N. Yogeesh, Z. Wu, W. Li, D. Akinwande, and **Y. B. Zheng**, "Directed-Assembled Multi-Band Moiré Plasmonic Metasurfaces," American Physical Society March Meeting, New Orleans, LA, March 13-17, 2017.
215. **Y. B. Zheng**, "Directed Assembly of Colloidal Particles for Micro/Nano Photonics," SPIE Photonics West, San Francisco, CA, January 28-2 February 2017.
216. M. Wang, and **Y. B. Zheng**, "Harnessing Molecule-Plasmon Interactions for Advanced Biosensing and Rewritable Hybrid Plasmonic Waveguides," Material Research Society Fall Meeting, Boston, MA, November 27- December 2, 2016.
217. B. B. Rajeeva, L. Lin, E. P. Perillo, X. Peng, A. K. Dunn, and **Y. B. Zheng**, "High-Resolution Bubble Printing of Quantum Dots on Plasmonic Substrates" Material Research Society Fall Meeting, Boston, MA, November 27- December 2, 2016.
218. Z. Wu, and **Y. B. Zheng**, "Directed-Assembled Moiré Plasmonic Metasurfaces for Multi-Functional Biomedical Applications," Material Research Society Fall Meeting, Boston, MA, November 27- December 2, 2016.
219. **Y. B. Zheng**, "Plasmofluidic Tweezers and Sensors," Southwest Regional Meeting, Galveston, TX, November 10-13, 2016.
220. J. Lee, B. Rajeeva, T. Yuan, Z. Guo, Y. Lin, M. Al-Hashimi, **Y. B. Zheng**, and L. Fang, "Thermodynamic Synthesis of Ladder Polymers," American Chemical Society 252nd National Meeting & Exposition, Philadelphia, PA, August 21-25, 2016.
221. **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 6-8, 2016.
222. **Y. B. Zheng**, "Plasmon-Enhanced Optical Tweezers, Scissors and Sensors," IEEE OMN 2016, Singapore, July 31-August 04, 2016.
223. L. Lin, X. Peng, Z. Mao, W. Li, M. N. Yogeesh, B. B. Rajeeva, E. P. Perillo, A. K. Dunn, D. Akinwande, and **Y. B. Zheng**, "Laser-Directed 'Bubble-Pen' for Nanoparticle Patterning," Conference on Lasers and Electro-Optics, San Jose, CA, June 5-10, 2016.
224. B. B. Rajeeva, L. Lin, E. P. Perillo, X. Peng, A. K. Dunn, and **Y. B. Zheng**, "Two-Dimensional Free-Form Fabrication and Lifetime-Tuning of Quantum Dots," Conference on Lasers and Electro-Optics, San Jose, CA, June 5-10, 2016.
225. Z. Wu, L. Lin, and **Y. B. Zheng**, "Metasurfaces Created by Moiré Nanosphere Lithography," Conference on Lasers and Electro-Optics, San Jose, CA, June 5-10, 2016.
226. K. Chen, Z. Wu, S. Ishii, T. D. Dao, **Y. B. Zheng**, and T. Nagao, "Fabrication and Characterization of Moiré Metasurfaces," Conference on Lasers and Electro-Optics, San Jose, CA, June 5-10, 2016.

227. X. Peng, L. Lin and **Y. B. Zheng**, "Bubble-Pen Technique for Low-Power Optical Manipulation and Patterning of Cells and Biomolecules" ASME - Nanoengineering for Medicine and Biology, Houston, TX, February 21 - 24, 2016.
228. X. Peng, L. Lin and **Y. B. Zheng**, "Plasmonic Tweezers for Biology and Medicine: Towards Low-Power and Versatile Manipulations of Cells and Biomolecules," Nanoengineering for Medicine and Biology, Houston, TX, February 21-24, 2016.
229. Z. Wu and **Y. B. Zheng**, "Moire Metasurfaces: From Nanoengineering to Applications in Biology and Medicine," Nanoengineering for Medicine and Biology, Houston, TX, February 21-24, 2016.
230. Z. Wu and **Y. B. Zheng**, "Dual-Functional Moiré Metasurfaces for Nanospectroscopy and Phototherapy," Nanoengineering for Medicine and Biology, Houston, TX, February 21-24, 2016.
231. L. Lin, X. Peng, and **Y. B. Zheng**, "Bubble-Pen Technique for Low-Power Optical Manipulation and Patterning of Cells and Biomolecules," Nanoengineering for Medicine and Biology, Houston, TX, February 21-24, 2016.
232. **Y. B. Zheng**, "Advancing Plasmonic Tweezers for Nanomanufacturing and Healthcare," Northeastern University, December 1, 2015.
233. **Y. B. Zheng**, "Cooperative Functions in Engineered Light-Harvesting Systems: From Supramolecules to Metamaterials," Materials Research Society Fall Meeting, Boston, MA, November 29-December 4, 2015.
234. **Y. B. Zheng**, "Merging Plasmonic Tweezers and Spectroscopy for Enhanced Sensing and Analytics," IEEE-Nanomed, Honolulu, HI, November 15-18, 2015.
235. W. Li, Z. Wu, M. Yogeesh, E. Mason, H. Mowa, D. Wu, S. Sonde, S. Banerjee, K. Lai, **Y. B. Zheng**, and D. Akinwande, "Towards Plasmon-Enhanced Light-Emitting Diodes Based on TMD Heterostructures," SWAN 2015.
236. B. B. Rajeeva, M. Wang, L. Lin and **Y. B. Zheng**, "Protein Hydrogel Immobilization via Multiphoton Plasmonic Lithography," Frontiers in Optics, San Jose, CA, October 18-22, 2015.
237. L. Lin and **Y. B. Zheng**, "Manipulating Multiple Coupling in Plasmonic Nanoantenna Arrays," Frontiers in Optics, San Jose, CA, October 18-22, 2015.
238. K. Chen and **Y. B. Zheng**, "Twisted Nanosphere Lithography: Use Colloidal Moiré Patterns as Masks," SPIE Optics + Photonics, San Diego, CA, August 9-13, 2015.
239. Z. L. Wu and **Y. B. Zheng**, "Controlling Light Scattering and Emission at Subwavelength Scale with Plasmonic Nanopatch Antennas," SPIE Optics + Photonics, San Diego, CA, August 9-13, 2015.
240. L. Lin and **Y. B. Zheng**, "Rational Design of On-Chip Refractive Index Sensors Based on Lattice Plasmon Resonances," SPIE Optics + Photonics, San Diego, CA, August 9-13, 2015.
241. **Y. B. Zheng**, "On-Chip Optical Manipulation and Analysis of Biological Cells, Particles, and Molecules," Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering, Irvine, August 6-8, 2015.
242. **Y. B. Zheng**, "Harnessing Light at the Nanoscale," 3M Tech Forum Science and Engineering Faculty Day, Minneapolis, MN, June 25, 2015.
243. L. Lin, M. S. Wang, B. B. Rajeeva, and **Y. B. Zheng**, "Plasmonic Nanosensors: Improving Spectral and Spatial Resolution," ASME 2015 4th Global Conference on Nanoengineering for Medicine and Biology, Minneapolis, MN, April 19-22, 2015.
244. **Y. B. Zheng**, "Molecular Photonics for Materials Science, Energy and Healthcare," the 249th ACS National Meeting, Denver, CO, March 22-26, 2015.
245. J. Y. Gan, X. Lu, Y. Tong, and **Y. B. Zheng**, "Nanoporous Hydrogen-Reduced Bismuth Vanadate Coupled with Electrocatalysts as High-Performance Photoanodes for Solar Fuels", the 249th ACS National Meeting, Denver, CO, March 22-26, 2015.
246. M. S. Wang, B. B. Rajeeva, and **Y. B. Zheng**, "Rational Design and Control of Functional Molecules on Single Metal Nanoparticles", the 249th ACS National Meeting, Denver, CO, March 22-26, 2015.
247. M. S. Wang, B. B. Rajeeva, and **Y. B. Zheng**, "Exploring Photoswitchable Plasmon-Molecule Interactions at the Single-Molecule and Single-Nanoparticle Levels," APS March Meeting, San Antonio, March 2-6, 2015.
248. J. Y. Gan and **Y. B. Zheng**, "Nanoporous Hydrogen-Reduced BiVO4: Better Charge Separation with Ni-Bi Electrocatalysts for Photoelectrochemical Water Oxidation," APS March Meeting, San Antonio, March 2-6, 2015.

249. **Y. B. Zheng**, "Surface-Enhanced Raman Spectroscopy to Study Single Molecules and Supramolecular Assemblies in Well-Defined Environments," the Army Research Office Workshop on Flexible SERS Substrates: Challenges and Opportunities, University of Washington in St. Louis, St. Louis, June 24-26, 2014.
250. M. S. Wang and **Y. B. Zheng**, "Single-Nanoparticle Study of Switchable Plasmon-Exciton Couplings," CLEO 2014, San Jose, June 10-15, 2014.
251. Y. B. Zheng, "Surface-Enhanced Raman Spectroscopy to Probe Photoreaction of Isolated Reactants in Well-Defined Nanoscale Environments," the Army Research Office Workshop on Surface Plasmons, Metamaterials, and Catalysis, Rice University, Houston, TX, October 23, 2013.
252. Y. B. Zheng, J. L. Payton, B. K. Pathem, C. H. Chung, S. Cheunkar, Y. Yang, L. Jensen, and *P. S. Weiss*, "Measuring and Controlling Optical Interactions at the Molecular Scale: Photoswitching and Interference," the 243th ACS National Meeting, San Diego, CA, USA, March 25-29, 2012.
253. Y. B. Zheng, B. K. Juluri, L. Fang, Q. Hao, L. Jensen, *P. S. Weiss*, J. F. Stoddart, and *T. J. Huang*, "Engineering Active Molecular Plasmonics," the 2011 MRS Spring Meeting, San Francisco, CA, USA, April 25-29, 2011.
254. Y. B. Zheng, B. K. Juluri, L. L. Jensen, L. Jensen, and *T. J. Huang*, "Dynamic Control of Plasmon-Exciton Coupling in Au Nanodisk-J-Aggregate Hybrid Nanostructure Arrays," the 2009 MRS Fall Meeting, Boston, MA, USA, November 30 - December 4, 2009.
255. 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*, "Harnessing Artificial Molecular Machines for Molecular Active Plasmonic Nanomaterials and Nanosystems," the 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, FL, USA, November 13-19, 2009.
256. 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*, "Molecular Active Plasmonics: Controlling Surface Plasmons with Molecular Machines," SPIE Optics + Photonics 2009, San Diego, CA, USA, August 2-6, 2009.
257. 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*, "A Plasmonic Switch Based on Molecular Machine-Au Nanodisk Complexes," postdeadline presentation at CLEO/IQEC 2009, Baltimore, MD, USA, May 31 - June 5, 2009.
258. 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 Surface Plasmon Resonances of Metal Nanoparticles with Biomimetic Molecular Machines," Gordon Research Conference on Clusters, Nanocrystals & Nanostructures 2009, Mount Holyoke College in South Hadley, MA, USA, July 19-24, 2009.
259. Y. B. Zheng, Y. W. Yang, L. Jensen, L. Fang, B. K. Juluri, *P. S. Weiss*, J. F. Stoddart, and *T. J. Huang*, "A Nanoplasmonic Switch Based on Molecular Machines," IEEE Transducers 2009, Denver, CO, USA, June 21-25, 2009.
260. Y. B. Zheng, J. Shi, B. K. Juluri, and *T. J. Huang*, "Active Plasmonic Devices for Tomorrow's Communication Systems," Micro & Nano Technology Society-Wide Forum, the 2008 ASME International Mechanical Engineering Congress & Exposition, Boston, MA, USA, November 2-6, 2008.
261. Y. B. Zheng, B. K. Juluri, and *T. J. Huang*, "Fabrication and Applications of Long-Range Ordered Au Nanodisk Arrays," the 2008 ASME International Mechanical Engineering Congress & Exposition, Boston, MA, USA, November 2-6, 2008.
262. Y. B. Zheng, W. Yan, T. R. Walker, and *T. J. Huang*, "Incident Angle-Dependent Redshifts of Surface Plasmon Resonance in Long-Range Coupled Au Nanostructure Arrays," the 2008 MRS Spring Meeting, San Francisco, CA, USA, March 24-28, 2008.
263. Y. B. Zheng, W. Yan, T. R. Walker, and *T. J. Huang*, "Continuous Redshifts of Surface Plasmon Resonance in Ordered Au Nanodisk Arrays via Chemical Etching," the 2008 MRS Spring Meeting, San Francisco, CA, USA, March 24-28, 2008.
264. Y. B. Zheng, V. K. S. Hsiao, and *T. J. Huang*, "All-Optical Active Plasmonics Based on Ordered Au Nanodisk Array Embedded in Photoresponsive Liquid Crystals," the 2008 MRS Spring Meeting, San Francisco, CA, USA, March 24-28, 2008.
265. Y. B. Zheng, V. K.S. Hsiao, and *T. J. Huang*, "Active Plasmonic Devices Based on Ordered Au Nanodisk Arrays," The 21st IEEE International Conference on Micro Electro Mechanical Systems, Tucson, Arizona, USA, January 13-17, 2008.

266. Y. B. Zheng, B. K. Juluri, and *T. J. Huang*, "Large-Scale Fabrication of Ordered Au Nanodisk Arrays for Label-Free Biosensing and Imaging," the Biomedical Engineering Society 2007 Annual Fall Meeting, Los Angeles, California, USA, September 26-29, 2007.
267. Y. B. Zheng, S. J. Wang, and A. C. H. Huan, "Fabrication of Large Area Ordered Metal Nanoring Arrays for Nanoscale Optical Sensors," the First Conference on Advances in Optical Materials, Tucson, Arizona, USA, October 12 – 15, 2005.
268. Y. B. Zheng, S. J. Wang, and C. H. A. Huan, "Effect of Donor and Acceptor Dopants on the Band Structure of Barium Strontium Titanate Thin Films," Materials Research Society Spring Meeting 2005, San Francisco, CA, USA, March 28 - April 1, 2005.

PATENTS (12):

** Based on work conducted at UT*

A. Patents Issued (6):

1. ***Y. B. Zheng**, L. Lin, and X. Peng, "Methods and Systems for Optical Control of Metal Particles with Thermophoresis," issued as US Patent No. 11,060,976 on July 13, 2021.
2. ***Y. B. Zheng** and B. B. Rajeeva, "Optical Printing Systems and Methods," issued as U.S. Patent No. 10,640,873 on May 5, 2020.
3. ***Y. B. Zheng**, L. Lin, and X. Peng, "Methods and Systems for Optothermal Particle Control," issued as US Patent No. 10,620,121 on April 14, 2020.
4. ***Y. B. Zheng**, L. Lin, and X. Peng, "Methods and Systems for Assembly of Particles with Superstructures," issued as US Patent No. 10,603,685 on March 31, 2020.
5. ***Y. B. Zheng**, L. Lin, and M. Wang, "Nanostructured Photonic Materials," issued as U.S. Patent No. 10,371,892 on August 6, 2019.
6. ***Y. B. Zheng**, L. Lin, and X. Peng, "Lithographic Systems and Methods," issued as U.S. Patent No. 10,281,398 on May 7, 2019.

B. Patents Applications (6):

1. ***Y. B. Zheng and S. Huang, "Systems and Methods for Thinning Transition Metal Dichalcogenides," Provisional Patent Application, 63/113,752 (2020).**
2. ***Y. B. Zheng and Y. Kim, "Devices, Systems, and Methods for Analyte Sensing with Optothermally Generated Bubbles in Biphasic Liquid Samples," Provisional Patent Application (2020).**
3. ***Y. B. Zheng**, K. Sharma, Y. Liu, and Z. Wu, "Devices, Systems, and Methods for Chiral Sensing," Provisional Patent Application (2020).
4. ***Y. B. Zheng** and J. Li, "Methods of Manipulating Particles on Solid Substrates via Optothermally-Gated Photon Nudging," Provisional Patent Application (2019).
5. ***Y. B. Zheng**, L. Lin, and J. Li, "Optical Patterning Systems and Methods," PCT/US2019/042756 (Jul. 23, 2018).
6. ***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).

GRANTS AND CONTRACTS:

Role and Co-Investigators	Title	Agency	Grant Total (My share)	Grant Period
External Sources				

PI **Co-PIs: Blerta Xhemalce (Molecular Biology/UT Austin), Brian Hobbs (Dell Medical School/UT Austin)**	**Four-Dimensional Adhesion Frequency Assay for Full Profiling of Receptor-Ligand Interactions on Cells**	**National Institute of Health**	**$1,520,610 ($1,450,087)**	**9/21/2022-8/31/2026**
PI	**PFI-TT: Development of a Bubble Printer for Low-Cost, Rapid Fabrication of High-Resolution Displays**	**National Science Foundation**	**$250,000 ($250,000)**	**2/15/2022-1/31/2024**
UT PI **Portugal PI: Huidobro, Arroyo**	**Realizing Quantum METAmaterials with Quantum Dot Arrays**	**FCT - UT Austin Portugal Program**	**$111,179 ($50,000)**	**3/1/2022-2/28/2023**
PI	**I-Corps: Bubble Printing of Colloidal Nanoparticles for Commercial Display and Other Applications**	**National Science Foundation**	**$50,000 ($50,000)**	**12/1/2021-05/31/2023**
UT PI **MPI: Hejazi, Leila (Sygnamap Inc.)**	**On-Chip Filtration and Fractionation Components for High-Sensitive POC Device to Measure Chiral Metabolites in Urine**	**National Institute of Health (SBIR/STTR)**	**$307,229 ($100,000)**	**4/1/2021-3/31/2022**
PI	**Laser-Cooling-Driven Opto-Thermophoretic Tweezers**	**National Science Foundation (NSF) INTERN**	**$51,585 ($51,585)**	**9/1/2020-8/31/2023**
PI	**Laser-Cooling-Driven Opto-Thermophoretic Tweezers**	**National Science Foundation (NSF)**	**$360,000 ($360,000)**	**9/1/2020-8/31/2023**

PI	**Bubble Printing of Colloidal Nanoparticles into Functional Materials and Devices**	**National Science Foundation (NSF) INTERN**	**$55,000 ($55,000)**	**9/1/2020-2/28/2021**
PI	**Integrated System for Precise Nanoscale Layer-by-Layer Alignment**	**Office of Naval Research (ONR) (DURIP award)**	**$356,893 ($356,893)**	**6/15/2019-6/14/2020**
PI	**Bubble Printing of Colloidal Nanoparticles into Functional Materials and Devices**	**National Science Foundation (NSF) INTERN**	**$55,000 ($55,000)**	**9/15/2019-3/14/2020**
PI	Bubble Printing of Colloidal Nanoparticles into Functional Materials and Devices	National Science Foundation (NSF)	$336,633 ($336,633)	7/1/2018-6/30/2022
PI	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)	$104,060 ($104,060)	6/1/2018-5/31/2021
PI	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)	$599,961 ($599,961)	10/16/2017-10/15/2022
PI	Optically Assembled Meta-Materials	Army Research Office (ARO)	$175,346 ($175,346)	10/15/2017-4/14/2019
PI	On-Chip Multiplexed Adhesion Frequency Assay for Measuring Receptor-Ligand Interactions on Cells	National Institute of Health (NIH) (Director's New Innovator Award)	$2,235,836 ($2,235,836)	9/30/2017-8/31/2022
PI Co-PI: Edgar, Thomas (Energy Institute/UT Austin)	Bubble Printing of Micro/Nanostructured Metal Oxide Catalysts for NO_x Abatement	ExxonMobil	$200,000 ($196,660)	9/1/2017-8/31/2019

PI Co-PI: Milliron, Delia (Chemical Eng./UT Austin)	Enhanced Efficiency in Transparent Organic Photovoltaics Using Oxide Plasmonic Nanostructures	National Science Foundation (NSF)	$395,000 ($282,916)	8/15/2017-7/31/2021
PI	Reconfigurable Multiband Metasurfaces and Devices with Atomic-Layer Materials	Office of Naval Research (ONR) (Young Investigator Award)	$509,937 ($509,937)	6/1/2017-5/31/2022
PI	Exploring Plasmonic Oxide Nanoparticles for High-Efficiency Low-Cost	Oak Ridge Associated Universities/UT (Junior Faculty Enhancement Award)	$10,000 ($10,000)	6/1/2015-5/31/2016
PI	High-Performance Electromagnetic Wave Absorbers Based on Reduced Graphene Oxide Functionalized with Dual Magnetic Nanoparticles in Epoxy	3M Company (Faculty Award)	$45,000 ($45,000)	3/1/2015-2/28/2018
PI	Virtual Infrared Plasmonic Tweezers for Versatile Manipulations of Cells and Biomolecules	Beckman Foundation (Young Investigator Award)	$750,000 ($750,000)	9/1/2014-8/31/2019
Total (External – In Rank)			**$3,117,496 ($2,778,565)**	
Total (External)			$8,479,269 ($8,024,914)	
UT Sources				
PI	**Undergraduate Research Fellowship (Caroline Ponce)**	**Office of Undergraduate Research, UT Austin**	**$1,000 ($1,000)**	**2022-2023**
PI	**Temple Foundation Endowed Teaching Fellowship in Engineering #2**	**Cockrell School of Engineering, UT Austin**	**$10,000 ($10,000)**	**9/1/2021-8/31/2023**
PI	**University Graduate Continuing Fellowship (Youngsun Kim)**	**UT Austin**	**$44,000 ($44,000)**	**9/1/2021-8/31/2022**

PI	**William W. Hagerty Fellowship in Engineering**	**Cockrell School of Engineering, UT Austin**	**$5,000 ($5,000)**	**9/1/2020-8/31/2021**
PI	**Development of a Fully Integrated Opto-Thermo-Fluidic System for In Situ Detection of Trace Chiral Prebiotic Molecules on Icy Bodies**	**Center for Planetary Systems Habitability Seed Grant**	**$20,000 ($20,000)**	**9/1/2020-8/31/2021**
PI	**Chiroptical Nano-device for Rapid Determination of Molecular Chirality Purity to Facilitate Drug Development**	**Texas Health Catalyst Award, Dell Medical School, UT Austin**	**$10,000 ($10,000)**	**1/31/2020-1/31/2021**
PI	**University Graduate Continuing Fellowship (Jingang Li)**	**UT Austin**	**$44,000 ($44,000)**	**9/1/2020-8/31/2021**
PI **Co-PI Xhemalce, Blerta (Co-PI, Molecular Biosciences/UT Austin)**	**Elucidating Mechanism of Progeria Accelerated Aging Syndrome at the Single-Molecule Level**	**VPR APX funding, UT Austin**	**$100,000 ($50,000)**	**1/1/2020-12/31/2020**
PI	**Nanofactory on a Chip**	**ME Research Seed Grant Award, UT Austin**	**$25,000 ($25,000)**	**9/1/2019-8/31/2020**
PI	**J. Mike Walker Faculty Scholarship**	**Walker Department of Mechanical Engineering, UT Austin**	**$10,000 ($10,000)**	**9/1/2018-8/31/2020**
PI	University Graduate Continuing Fellowship (Xiaolei Peng)	UT Austin	$40,000 ($40,000)	9/1/2018-8/31/2019
PI	University Graduate Continuing Fellowship (Mingsong Wang)	UT Austin	$40,000 ($40,000)	9/1/2017-8/31/2018
PI	Graduate School Diversity Mentoring Fellowship	UT Austin	$40,000 ($40,000)	9/1/2016-8/31/2017
PI	A Novel Device for Detection and Collection of Intact Circulating Tumor Cells	VPR Research & Creative Grant, UT Austin	$5,000 ($5,000)	9/1/2015-8/31/2016
Total (Internal – In Rank)			**$269,000 ($219,000)**	

Total (Internal)	$394,000 ($344,000)	

PH.D. SUPERVISIONS COMPLETED:

Name	Dissertation Title	Date of graduation	Graduate program	Name of institution	Co-supervisor	Placement
Jie Fang	**Subwavelength Optical Resonators for Efficient Modulation of Two-Dimensional Semiconductor Excitonic Properties**	**05/2023**	**Materials Science & Engineering**	**UT Austin**		**Postdoctoral Researcher at University of Washington**
Pavana Siddhartha Kollipara	**Optothermal Manipulation: Theoretical And Experimental Advances In Liquid And Solid Environments**	**05/2023**	**Mechanical Engineering**	**UT Austin**		**Engineer at AMD, Texas, USA**
Hongru Ding	**Opto-thermal micro/nanorobots: principle and applications**	**05/2023**	**Mechanical Engineering**	**UT Austin**		**Engineer at Intel, USA**
Jingang Li	**"Optothermal Approaches to Architected Functional Nanomaterials and Nanostructures"**	**12/2021**	**Materials Science & Engineering**	**UT Austin**		**Postdoctoral Researcher at University of California, Berkeley**
Yaoran Li	**"Plasmon-Mediated Optothermal Control and Sensing of nano-objects"**	**08/2021**	**Electrical and Computer Engineering**	**UT Austin**		**Engineer at KLA Tencor, California, USA**
Xiaolei Peng	**"Optothermal Manipulation of Colloidal Particles and Biological Objects"**	**05/2019**	**Materials Science & Engineering**	**UT Austin**		**Engineer at KLA, Shanghai, China**
Bharath Bangalore Rajeeva	**"Plasmon-Mediated Patterning of Nanoparticles and**	**12/2018**	**Materials Science & Engineering**	**UT Austin**		**Engineer at Intel, Oregon, USA**

	Biomolecules for Functional Nano-Devices"					
Mingsong Wang	"Hybrid Systems of Plasmonic Nanostructures and Functional Materials for Plasmon-Matter Interaction and Active Plasmonic Devices"	08/2018	Mechanical Engineering	UT Austin		Postdoctoral Researcher at CUNY, USA
Zilong Wu	"Plasmonic Moiré Metamaterials and Metasurfaces: Tunable Optical Properties and Nanophotonic Applications"	05/2018	Materials Science & Engineering	UT Austin		Engineer at Samsung, Texas, USA

M.S. SUPERVISIONS COMPLETED:

Name	Dissertation Title	Date of graduation	Graduate program	Name of institution	Co-supervisor	Placement
Benjamin Weaver	"Synthesis, Characterization and Magnetic Properties of $A_xB_{1-x}V_2O_4$ Spinels for A, B = Mg, Co, Zn, Fe, Mn"	08/2015	Materials Science & Engineering	UT Austin	Jianshi Zhou	Founder at Moontower Cider Company

PH.D. IN PROGRESS:

A. Students admitted to candidacy

Chen, Zhihan (Co-Supervisor: NA)
Kim, Youngsun (Co-Supervisor: NA)
Unni, Rohit (Co-Supervisor: NA)
Liu, Zengqi (Co-Supervisor: NA)

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

Swain, Anand (Co-Supervisor: NA)
Huang, Siyuan (Co-Supervisor: NA, starting in Fall 2023)
Hsieh, Ming-feng (Co-Supervisor: NA, starting in Fall 2023)
Vickneswaran, Arune (Co-Supervisor: NA, starting in Fall 2023)
Nguyen, Kent (Co-Supervisor: NA, starting in Fall 2023)

M.S. IN PROGRESS: NA

POSTDOCS:

Yao, Kan (2018 - current)

RESEARCH ASSOCIATE COMPLETED:

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

POSTDOCS COMPLETED:

Wu, Zilong (2018-2021, current position: Process Integration Engineering, Samsung, Austin, United States)
Kotnala, Abhay (2018 – 2021, current position: Specialist, Polish Academy of Sciences, Poland)
Wang, Mingsong (2018-2019, current position: Postdoctoral researcher, CUNY, United States)
Sun, Yunlu (2018-2019, current position: Faculty Member, Fudan University, China)
Hill, Eric (2017-2018, current position: Leader of independent junior research group, Hamburg University of Technology, Germany)
Lin, Linhan (2014-2018, current position: Associate Professor, Young 1000 Plan Professor, Tsinghua University, China)

UNDERGRADUATE STUDENTS:
*indicates authors of peer-reviewed publications

Alrwaished, Meshal (Summer 2022, KAUST Scholar-University of California, San Diego)
Suarez, Ismene Gutierrez (Spring 2022, BME)
Duncan, John (Spring 2022, Summer 2022 – Research for Credit, ECE)
Muniz, Carl (Spring 2022)
Ponce, Carolina (Spring 2022, Summer 2022, Fall 2022)
*** Mahendra, Ritvik (Summer 2021, Fall 2021, Spring 2022, ECE)**
*** Alfares, Ali Hesham (Summer 2021, KAUST Scholar-University of Colorado, Boulder)**
Alhijab, Hussain (Summer 2021, KAUST Scholar-Texas A&M University)
Kottegoda, Seriru (Fall 2020)
Nivarthi, Akash (Summer 2020)
***Gonzales, John (Summer 2020)**
Zhang, David (Summer 2020)
***Sanders, Riley (Spring, Summer 2020)**
***Pughazhendi, Agat (Spring, Summer 2020)**
Desai, Adnan (Fall 2019)
Scott, Perry (Fall 2019)
Salvatierra, Catalina
Guo, Danny
Broussard, Blake
Fu, Christina
Khoja, Ghaith (KAUST Scholar)
Wong, Kenneth
*Inouse, Yuji
Benavides, Ryan J.
Aljamed, Faris Fathi (KAUST Scholar)
Alshehri, Abdulmalek (KAUST Scholar)
Teeters, McKenzie
*Rukavina, Michael
*Menz, Ryan
Liu, Ethan
Kulkarni, Shardul

Schiotz, Eiler
Pingali, Prapul
*Pingali, Bharadwaj
*Alabandi, Majd
*Teal, Daniel
*Penley, Daniel
Bhatt, Neel

HIGH SCHOOL STUDENT:

Lu, David

EXCHANGE GRADUATE STUDENTS:

Huang, Suichu (PhD student from Harbin Institute of Technology)
Gan, Jiayong (PhD student from Sun Yat-sen University)

AWARDS AND HONORS FOR STUDENTS AND TRAINEES

Anand Swain:
2023 Harris L. Marcus Graduate Fellowship in Materials Science and Engineering, UT Austin
2023 Professional Development Award, Office of Graduate Studies, UT Austin

Zengqi Liu:
2022-2026 OGS College Recruitment Fellowship, UT Austin

Suichu Huang:
2020 IEEE NANO Best Poster Award

Linhan Lin:
2019 1000Plan Professorship for Young Talents, Tsinghua University, Beijing, China
2019 Associate Professorship, Tsinghua University, Beijing, China

Jimi Wang:
2019 Professional Development Award, Materials Science and Engineering Program, UT Austin

Hongru Ding:
2022 Warren A. and Alice L. Meyer Endowed Scholarship in Engineering
2022 KLA Internship as an Optical Engineer
2021 Professional Development Award, Office of Graduate Studies, UT Austin
2020 Professional Development Award, Office of Graduate Studies, UT Austin
2020-2021 Cockrell School of Engineering Fellowship Award, UT Austin
2020 OSA Foundation and Incubic/Milton Chang Travel Grant, Optical Society of America
2019 Professional Development Award, Office of Graduate Studies, UT Austin

Jie Fang:
2022 Professional Development Award, Office of Graduate Studies, UT Austin
2022 George J. Heuer, Jr. Ph.D. Endowed Graduate Fellowship
2022 Runner-up for the Inaugural *Nano Letters* Seed Grant Program, North America Region
2022 Meta (Facebook) Reality Labs Internship as an Optical Scientist
2021-2022 Cockrell School of Engineering Fellowship Award, UT Austin
2021 Professional Development Award, Office of Graduate Studies, UT Austin
2020 Professional Development Award, Office of Graduate Studies, UT Austin

2020 Jean Bennett Memorial Student Travel Grant, Optical Society of America
2020 OSA Foundation and Incubic/Milton Chang Travel Grant, Optical Society of America
2020 Professional Development Award, Office of Graduate Studies, UT Austin

Zhihan Chen:
2023 Graduate Engineering Council Travel Grant, UT Austin
2023-2024 George J. Heuer, Jr. Ph.D. Endowed Graduate Fellowship Fund, UT Austin
2023 Materials Science and Engineering Poster Competition Award, UT Austin

Yaoran Liu:
2020 Professional Development Award, Office of Graduate Studies, UT Austin

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

Rohit Unni:
2023-2024 Engineering Foundation Endowed Graduate Presidential Scholarship, UT Austin
2018-2023 Cockrell School of Engineering Fellowship Award, UT Austin

Bharath Rajeeva:
2017 Oculus VR Internship for research on virtual reality displays
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:
2018-2019 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:
2022 Winner of ACS's Diversity & Inclusion Cover Art competition
2022 Chinese Government Award for Outstanding Self-financed Students Abroad
2021 Materials Research Society Graduate Student Award, Materials Research Society
2020-2021 University Graduate Continuing Fellowship, UT Austin
2020 Professional Development Award, Office of Graduate Studies, UT Austin
2019 Ben Streetman Prize, UT Austin
2019-2020 George J. Heuer Jr. Ph.D. Endowed Graduate Fellowship, Cockrell School of Engineering, UT Austin
2019 Professional Development Award, Office of Graduate Studies, UT Austin
2019 Graduate Engineering Travel Grant, Cockrell School of Engineering, UT Austin
2018 Professional Development Award, Office of Graduate Studies, UT Austin

Mingsong Wang:
2018 Chinese Government Award for Outstanding Self-financed Students Abroad
2017-2018 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:
2020 Baxter Young Investigator Award
2015 Professional Development Award, Office of Graduate Studies, UT Austin

2015 Graduate Student Conference Grant, Office of Graduate Studies, UT Austin

Youngsun Kim:
2023-2024 Agnes T. and Charles F. Wiebusch Fellowships, UT Austin
2022-2023 Non-Academic Research Internships for Graduate Student, National Science Foundation
2021-2022 University Graduate Continuing Fellowship, UT Austin
2020 Professional Development Award, Office of Graduate Studies, UT Austin
2018 Kwanjeong Educational Foundation Fellowship

Pavana Kollipara:
2022 Outstanding Cover Award of *Aggregate*
2022 Co-Op with AMD
2022 Warren A. and Alice L. Meyer Endowed Scholarship in Engineering
2022 I-Corps Award, National Science Foundation
2021 Graduate Continuing Bruton Fellowship, UT Austin Graduate School
2020 Professional Development Award, Office of Graduate Studies, UT Austin
2020 Professional Development Award, Office of Graduate Studies, UT Austin
2020-2021 Non-Academic Research Internships for Graduate Student, National Science Foundation
2019-2020 Non-Academic Research Internships for Graduate Student, National Science Foundation
2017-2021 Provost's International Graduate Excellence Fellowship, UT Austin

Daniel Vong:
2017 Cockrell School of Engineering Fellowship Award, UT Austin

Jiayong Gan:
2015 IEEE Photonics Society Image Contest Winner, Institute of Electrical and Electronics Engineers

Carolina Ponce (Undergraduate student):
2023 Selected to present research at the 2023 National Collegiate Research Conference, Harvard University
2023 Selected to present research at the 2023 National Conferences on Undergraduate Research, University of Wisconsin-Eau Claire
2022 Selected to present research at the 14th annual Gulf Coast Undergraduate Research Symposium, Rice University
2022 Undergraduate Research Fellowship, UT Austin

Agat Pughazhendi (Undergraduate student):
2020 Selected to attend the FUTURE Ignited at Caltech

Majd A Alabandi (Undergraduate student):
2016 One of six finalists for the 2016 Texas Student Research Showdown. Majd's research on "Integrating Mobile App Software with Bubble Pen Lithography" develops a friendly haptic user interface to give users a real nanofabrication experience.

VITA:

Yuebing Zheng is an Associate Professor of Mechanical Engineering and Materials Science and Engineering at The University of Texas at Austin (UT Austin). He holds the Temple Foundation Endowed Teaching Fellowship in Engineering #2. Yuebing joined UT Austin as an Assistant Professor in Fall 2013 and was promoted to Associate Professor in Fall 2019. He did postdoctoral research in Chemistry and Biochemistry (with Prof. Paul S. Weiss) at the University of California, Los Angeles from 2010 to 2013. He received his Ph.D. in Engineering Science and Mechanics (with Prof. Tony Jun Huang) from the Pennsylvania State University in 2010 and was a recipient of *Alumni Association Dissertation Award* and *Graduate School Alumni Society Early Career Award*. His research group (Zheng Research Group: https://zheng.engr.utexas.edu) innovates optical manipulation and measurement for the

biological and nanoscale world. Specific aims are to 1) push the boundaries of knowledge in light-matter interactions and opto-thermo-fluidic multiphysics, which are critical to advancing optical manipulation and measurement, 2) invent novel optical manipulation and measurement technologies that can drive progress in biology and nanoscience, while enabling the creation of novel materials and devices for diverse applications from healthcare to sustainability, and 3) make further breakthrough discoveries and innovations by utilizing machine-learning-enhanced design and data analysis in optical manipulation and measurement. Due to their highly interdisciplinary research, Zheng Research Group is also affiliated with UT's Department of Biomedical Engineering, Department of Electrical and Computer Engineering, Texas Materials Institute, Center for Electrochemistry, and Center for Planetary Systems Habitability.