

**THE UNIVERSITY OF TEXAS AT AUSTIN**  
**Cockrell School of Engineering**  
**Standard Resume**

**FULL NAME:** Yuebing Zheng      **TITLE:** Assistant Professor

**DEPARTMENT:** Mechanical Engineering

**EDUCATION:**

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

**CURRENT AND PREVIOUS ACADEMIC POSITIONS:**

University of Texas at Austin	Asst. Professor	Fall 2013-present
University of California, Los Angeles	Postdoc	Summer 2010-Fall 2013

**OTHER PROFESSIONAL EXPERIENCE:**

Institute of Materials Research and Engineering	Research Fellow	Jan. 2004-Aug. 2006
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**HONORS AND AWARDS:**

2017 National Institute of Health (NIH) Director's New Innovator Award  
 2017 Early Career Faculty Award, National Aeronautics and Space Administration (NASA)  
 2017 Young Investigator Award, Office of Naval Research (ONR)  
 2017 *Chemical Communications* Emerging Investigator, Royal Society of Chemistry  
 2016 *Journal of Materials Chemistry* Emerging Investigator, Royal Society of Chemistry  
 2015 *Analyst* Emerging Investigator, Royal Society of Chemistry  
 2015 Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities  
 2015 3M Nontenured Faculty Award, 3M Company

- 2015 Asian/Asian-American Faculty Staff Association Professional Development Award, UT Austin
- 2014 Beckman Young Investigator Award, Arnold and Mabel Beckman Foundation
- 2014 Graduate School Alumni Society Early Career Awards, The Pennsylvania State University
- 2012 Chancellor's Award Finalist for Postdoctoral Research, University of California, Los Angeles
- 2010 Alumni Association Dissertation Award, Pennsylvania State University
- 2009 Materials Research Society Graduate Student Award, Materials Research Society
- 2009 Rustum and Della Roy Innovation in Materials Research Award, The Pennsylvania State University
- 2008 Founder's Grant and Prize of the American Academy of Mechanics, Robert M. and Mary Haythornthwaite Foundation
- 2008 KAUST Scholar Award, KAUST Foundation
- 2007 Sabih and Güler Hayek Graduate Scholarship, The Pennsylvania State University

#### **MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:**

American Society for Engineering Education  
 American Chemical Society  
 Materials Research Society  
 The International Society for Optics and Photonics  
 The Optical Society of America  
 The Institute of Electrical and Electronics Engineers  
 American Society of Mechanical Engineers  
 Biomedical Engineering Society  
 Marquis Who's Who in the World  
 Sigma Xi

#### **UNIVERSITY COMMITTEE ASSIGNMENTS:**

Departmental-	Graduate Admission Committee for Materials Science and Engineering Program	2017, 2018
	Committee for Strategic Plan for Materials Engineering	2017
	Faculty Advisor for Design Projects Program	2015
	Judge for Poster Exhibition at annual graduate recruitment event	2015-2017

College-	Judge for Cockrell School Poster Exhibition on Engineering Research	2015, 2016
University-	Review Committee for ORAU Ralph E. Powe Junior Faculty Enhancement Awards	2017
	<i>DoD Young Investigator Programs "Ask us Anything"</i> Panel Member for the Office of the Vice President of Research	2017
	<i>Outstanding Dissertation</i> Selection Committee	2017
	Mentor for the Office of the Vice President of Research <i>Mentor Pairing for Junior Faculty</i>	2017
	Selection Panel for the Office of the Vice President of Research <i>Research and Creative Grants</i>	2017
	Mentor for <i>Texas Student Research Showdown</i>	2017
	Dissertation Committees:	2014-present
	Maruthi Nagavalliyogeesh (advisor: Dr. Deji Akinwande)	
	Wei Li (advisor: Dr. Deji Akinwande)	
	Evan P Perillo (advisor: Dr. Andrew Dunn)	
	Boxue Chen (advisor: Dr. Zheng Wang)	
	Babak Nasouri	

### PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES:

#### Professional Society/Conference Organization

- 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 Organizing Committee at International Conference on Photoelectric Materials and Devices
- 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

### COMMUNITY ACTIVITIES:

#### Editorship:

- 2015-present Associate Editor of *Journal of Electronic Materials*

2015-present Associate Editor of *Applied Nanoscience*  
2015 Guest Editor of Journal of *Nanomaterials*  
2015-present Editorial Board Member of *Scientific Reports*  
2015-present Editorial Board Member of *Journal of Materials Sciences and Applications*  
2014-present Editorial Board Member of *Scholarena Journal of Nanoscience and Nanotechnology*

Reviewer for Proposals:

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

Reviewer for Journals (partial list):

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

Outreach Activities:

- 2017 TED Talk on "The Invisible Man" at TEDgt, West Ridge Middle School
- 2014-2017 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

### **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. 22 of our published papers have been featured as journal cover articles. Selected media highlights are listed below:

- Our work "Opto-Thermoelectric Nanotweezers" was featured by
  - *Nature Photonics* "News & Views" as "Thermoelectric fields hold nanoparticles.";
  - 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 *Journal 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".

**PUBLICATIONS:**

## A. Refereed Archival Journal Publications (93)

1. Y. B. Zheng, S. J. Chua, C. H. A. Huan, and Z. L. Miao, "Growth of InAs Quantum Dots on Shallow Spherically Shaped Crater Prepared on GaAs (001) Substrates: An Extended Set of Vicinal Surfaces," *Journal of Crystal Growth* 263 (March 2004) 161-166.
2. Y. B. Zheng, S. J. Chua, C. H. A. Huan, and Z. L. Miao, "Selective Growth of GaAs QDs on the Triangle Nanocavities Bounded by SiO<sub>2</sub> Mask on Si substrate by MBE," *Journal of Crystal Growth* 268 (August 2004) 369-374.
3. Y. B. Zheng, S. J. Wang, C. H. A. Huan, C. Y. Tan, L Yan, and C. K. Ong, "Al<sub>2</sub>O<sub>3</sub>-Incorporation Effect on the Band Structure of Ba<sub>0.5</sub>Sr<sub>0.5</sub>TiO<sub>3</sub> Thin Film," *Applied Physics Letters* 86 (March 2005) 112910.
4. Y. B. Zheng\*, Y. H. Wang, S. J. Wang, and C. H. A. Huan, "Size-Controllable Heteroporous Films as Templates for Ordered Uniform Nanocolloidal Cluster Arrays," *Journal of Materials Chemistry* 15 (August 2005) 4109-4111.
5. J. W. Chai, J. S. Pan, S. J. Wang, C. H. A. Huan, G. S. Lau, Y. B. Zheng, and S. Xu, "Thermal Behaviour of Ultra-Thin Co Overlayers on Rutile TiO<sub>2</sub> (100) Surface," *Surface Science* 589 (September 2005) 32-41.
6. Y. B. Zheng, S. J. Wang, A. C. H. Huan, S. Tripathy, J. W. Chai, L. B. Kong, and C. K. Ong, "Band-gap Energies and Structural Properties of Doped Ba<sub>0.5</sub>Sr<sub>0.5</sub>TiO<sub>3</sub> Thin Films," *Journal of Applied Physics* 99 (January 2006) 014106.
7. Y. B. Zheng\*, S. J. Wang, C. H. A. Huan, and Y. H. Wang, "Fabrication of Tunable Nanostructure Arrays Using Ion-Polishing-Assisted Nanosphere Lithography," *Journal of Applied Physics* 99 (February 2006) 034308.
8. W. Zhao, Y. B. Zheng, and H. Y. Low, "Fabrication of Multi-Dimensional Colloidal Crystals on Raised Surfaces via Reversal Nanoimprint Lithography," *Microelectronic Engineering* 83 (March 2006) 404-408.
9. Y. B. Zheng\*, Y. H. Wang, S. J. Wang, and C. H. A. Huan, "Fabrication of Nonspherical Colloidal Particles via Reactive Ion Etching of Surface-Patterned Colloidal Crystals," *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 277 (April 2006) 27-36.
10. Y. B. Zheng, S. J. Wang, and C. H. A. Huan, "Microstructure-Dependent Band Structure of HfO<sub>2</sub> Thin Films," *Thin Solid Films* 504 (May 2006) 197-200.
11. Y. B. Zheng\*, S. J. Wang, C. H. A. Huan, and Y. H. Wang, "Fabrication of Large Area Ordered Metal Nanoring Arrays for Nanoscale Optical Sensors," *Journal of Non-crystalline Solids* 352 (July 2006) 2532-2535.
12. Y. B. Zheng, S. J. Wang, L. B. Kong, S. Tripathy, A. C. H. Huan, and C. K. Ong, "Structural Properties and Dopant-Modified Bandgap Energies of Ba<sub>0.5</sub>Sr<sub>0.5</sub>TiO<sub>3</sub>

- Thin Films Grown on LaAlO<sub>3</sub> Substrates," *Journal of Electroceramics* 16 (July 2006) 571-574.
13. M. A. S. Chong, Y. B. Zheng, H. Gao, and L. K. Tan, "Self-Organized Template-Assisted Fabrication of Hierarchically Ordered Nanowire Arrays on Substrates," *Applied Physics Letters* 89 (December 2006) 233104.
  14. Y. B. Zheng, T. J. Huang, A. Y. Desai, S. J. Wang, L. K. Tan, H. Gao, and C. H. A. Huan, "Thermal Behavior of Localized Surface Plasmon Resonance of Au/TiO<sub>2</sub> Core/Shell Nanoparticle Arrays," *Applied Physics Letters* 90 (May 2007) 183117.
  15. Y. B. Zheng, B. K. Juluri, and T. J. Huang, "The Self-Assembly of Monodisperse Nanospheres within Microtubes," *Nanotechnology* 18 (June 2007) 275706.
  16. V. K. S. Hsiao, J. R. Waldeisen, Y. B. Zheng, P. F. Lloyd, T. J. Bunning, and T. J. Huang, "Aminopropyltriethoxysilane (APTES)-Functionalized Nanoporous Polymeric Gratings: Fabrication and Application in Biosensing," *Journal of Materials Chemistry* 17 (October 2007) 4896-4901.
  17. Y. B. Zheng, B. K. Juluri, X. Mao, T. R. Walker, and T. J. Huang, "Systematic Investigation of Localized Surface Plasmon Resonance of Long-Range Ordered Au Nanodisk Arrays," *Journal of Applied Physics* 103 (January 2008) 014308.
  18. B. K. Juluri, Y. B. Zheng, D. Ahmed, L. Jensen, and T. J. Huang, "Effects of Geometry and Composition on Charge-Induced Plasmonic Shifts in Gold Nanoparticles," *Journal of Physical Chemistry C* 112 (April 2008) 7309-7317.
  19. V. K. S. Hsiao, Y. B. Zheng, B. K. Juluri, and T. J. Huang, "Light-Driven Plasmonic Switches Based on Au Nanodisk Arrays and Photoresponsive Liquid Crystals," *Advanced Materials* 20 (August 2008) 3528-3532. (featured as Cover Article)
  20. Y. B. Zheng and T. J. Huang, "Surface Plasmons of Metal Nanostructure Arrays: From Nanoengineering to Active Plasmonics," *Journal of the Association for Laboratory Automation* 13 (August 2008) 215-226.
  21. W. Yan, V. K.S. Hsiao, Y. B. Zheng, Y. M. Shariff, T. Gao, and T. J. Huang, "Towards Nanoporous Polymer Thin Film-Based Drug Delivery Systems," *Thin Solid Films* 517 (January 2009) 1794-1798.
  22. Y. B. Zheng, Y.-W. Yang, L. Jensen, L. Fang, B. K. Juluri, A. H. Flood, P. S. Weiss, J. F. Stoddart, and T. J. Huang, "Active Molecular Plasmonics: Controlling Plasmon Resonances with Molecular Switches," *Nano Letters* 9 (January 2009) 819-825. (listed as Fast Moving Front by ScienceWatch; Research Highlight by journal *Nature Materials*)
  23. Y. B. Zheng, L. L. Jensen, W. Yan, T. R. Walker, B. K. Juluri, L. Jensen, and T. J. Huang, "Chemically Tuning the Localized Surface Plasmon Resonances of Gold Nanostructure Arrays," *Journal of Physical Chemistry C* 113 (April 2009) 7019-7024.

24. Y. J. Liu, Y. B. Zheng, J. Shi, H. Huang, T. R. Walker, and T. J. Huang, "Optically Switchable Gratings Based on Azo-Dye-Doped, Polymer-Dispersed Liquid Crystals," *Optics Letters* 34 (August 2009) 2351–2353.
25. B. K. Juluri, M. Lu, Y. B. Zheng, L. Jensen, and T. J. Huang, "Coupling between Molecular and Plasmonic Resonances: Effect of Molecular Absorbance," *Journal of Physical Chemistry C* 113 (October 2009) 18499–18503.
26. Y. B. Zheng, B. K. Juluri, L. L. Jensen, D. Ahmed, M. Lu, L. Jensen, and T. J. Huang, "Dynamical Tuning of Plasmon-Exciton Coupling in Arrays of Nanodisk-J-aggregate Complexes," *Advanced Materials* 22 (July 2010) 3603–3607. (featured as Cover Article)
27. Y. B. Zheng, B. K. Juluri, B. T. Kiraly, and T. J. Huang, "Ordered Au Nanodisk and Nanohole Arrays: Fabrication and Applications," *ASME Journal of Nanotechnology in Engineering and Medicine* 1 (August 2010) 031011.
28. Y. B. Zheng, Q. Hao, Y.-W. Yang, B. Kiraly, I.-K. Chiang, and T. J. Huang, "Light-Driven Artificial Molecular Machines," *Journal of Nanophotonics* 4 (August 2010) 042501.
29. Q. Hao, B. K. Juluri, Y. B. Zheng, B. Wang, I.-K. Chiang, L. Jensen, V. Crespi, P. C. Eklund, and T. J. Huang, "Effects of Intrinsic Fano Interference on Surface Enhanced Raman Spectroscopy: Comparison between Platinum and Gold," *Journal of Physical Chemistry C* 114 (September 2010) 18059–18066. (featured as Cover Article)
30. V. K.S. Hsiao, Y. B. Zheng, H. Betz, B. Kiraly, W. Yan, P. F. Lloyd, T. J. Bunning, A. N. Cartwright, and T. J. Huang, "Holographically Fabricated Dye-Doped Nanoporous Polymers as Matrix for Laser Desorption/Ionization Mass Spectrometry," *ASME Journal of Nanotechnology in Engineering and Medicine* 1 (October 2010) 041011.
31. Y. B. Zheng, B. Kiraly, and T. J. Huang, "Molecular Machines Drive Smart Drug Delivery," *Nanomedicine* 5 (December 2010) 1309–1312.
32. Y. J. Liu, Y. B. Zheng, J. Liou, I.-K. Chiang, I. C. Khoo, and T. J. Huang, "All-Optical Modulation of Localized Surface Plasmon Coupling in a Hybrid System Composed of Photo-Switchable Gratings and Au Nanodisk Arrays," *Journal of Physical Chemistry C* 115 (March 2011) 7717–7722. (Featured as Cover Article)
33. M. I. Lapsley, I.-K. Chiang, Y. B. Zheng, X. Ding, X. Mao, and T. J. Huang, "A Single-Layer, Planar, Optofluidic Mach-Zehnder Interferometer for Label-Free Detection," *Lab on a Chip* 11 (April 2011) 1795–1800.
34. Y. B. Zheng, B. Kiraly, S. Cheunkar, T. J. Huang, and P. S. Weiss, "Incident-Angle-Modulated Molecular Plasmonic Switches: A Case of Weak Exciton-Plasmon Coupling," *Nano Letters* 11 (April 2011) 2061–2065.
35. Y. B. Zheng, J. L. Payton, C.-H. Chung, R. Liu, S. Cheunkar, B. K. Pathem, Y. Yang, L. Jensen, and P. S. Weiss, "Surface-Enhanced Raman Spectroscopy to Probe

- Reversibly Photoswitchable Azobenzene in Controlled Nanoscale Environments," *Nano Letters* 11 (July 2011) 3447-3452.
36. R. Zhu, C.-H. Chung, K. Cha, W. Yang, Y. B. Zheng, H. Zhou, T.-B. Song, C.-C. Chen, P. S. Weiss, G. Li, and Y. Yang, "Fused Silver Nanowires with Metal Oxide Nanoparticles and Organic Polymers for Highly Transparent Conductors," *ACS Nano* 5 (October 2011) 9877-9882.
  37. Y. B. Zheng, B. Kiraly, P. S. Weiss, and T. J. Huang, "Molecular Plasmonics for Biology and Nanomedicine," *Nanomedicine* 7 (May 2012) 751-770.
  38. C. C. Chen, L. Dou, R. Zhu, T. B. Song, Y. B. Zheng, C. H. Chung, G. Li, P. S. Weiss, and Y. Yang, "Visibly Transparent Polymer Solar Cells," *ACS Nano* 6 (July 2012) 7185-7190.
  39. Y. Zhao, T. Walker, Y. B. Zheng, S. C. S. Lin, A. A. Nawaz, B. Kiraly, J. Scott, and T. J. Huang, "Mechanically Tuning the Localized Surface Plasmon Resonances of Gold Nanostructure Arrays", *ASME Journal of Nanotechnology in Engineering and Medicine* 3 (August 2012) 011007.
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#### B. Refereed Journal Publications Under Review (5)

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2. *J. Li, E. H. Hill, Y. Liu, X. Peng, Z. Wu, and Y. B. Zheng\**, "Recent Progress in Nano-printing and Nano-lithography," Under Review (Submitted on April 21, 2018)
3. *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," Under Review (Submitted on April 23, 2018)
4. *X. Peng, J. Li, L. Lin, Y. Liu, and Y. B. Zheng\**, "Opto-Thermophoretic Manipulation and Construction of Colloidal Superstructures in Photocurable Hydrogels," Under Review (Submitted on April 29, 2018)
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### C. Refereed Conference Proceedings (20)

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#### D. Chapters of Books (7)

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#### ORAL PRESENTATIONS (90):

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  10. 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.
  11. 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.
  12. 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.
  13. 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.

14. 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.
15. 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.
16. 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.
17. 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.
18. 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.
19. M. S. Wang and Y. B. Zheng, "Single-Nanoparticle Study of Switchable Plasmon-Exciton Couplings," CLEO 2014, San Jose, June 10-15, 2014.
20. 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.
21. J. Y. Gan and Y. B. Zheng, "Nanoporous Hydrogen-Reduced BiVO<sub>4</sub>: Better Charge Separation with Ni-Bi Electrocatalysts for Photoelectrochemical Water Oxidation," APS March Meeting, San Antonio, March 2-6, 2015.
22. 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.
23. 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.
24. 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.

25. Y. B. Zheng, "Molecular Photonics for Materials Science, Energy and Healthcare," the 249th ACS National Meeting, Denver, CO, March 22-26, 2015.
26. 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.
27. Y. B. Zheng, "Harnessing Light at the Nanoscale," 3M Tech Forum Science and Engineering Faculty Day, Minneapolis, MN, June 25, 2015.
28. 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.
29. 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.
30. 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.
31. 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.
32. L. Lin and Y. B. Zheng, "Manipulating Multiple Coupling in Plasmonic Nanoantenna Arrays," Frontiers in Optics, San Jose, CA, October 18-22, 2015.
33. 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.
34. 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.
35. Y. B. Zheng, "Merging Plasmonic Tweezers and Spectroscopy for Enhanced Sensing and Analytics," IEEE-Nanomed, Honolulu, HI, November 15-18, 2015.
36. 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.
37. Y. B. Zheng, "Advancing Plasmonic Tweezers for Nanomanufacturing and Healthcare," Northeastern University, December 1, 2015.
38. 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.
39. 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.

40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. Y. B. Zheng, "Plasmon-Enhanced Optical Tweezers, Scissors and Sensors," IEEE OMN 2016, Singapore, July 31-August 04, 2016.
48. Y. B. Zheng, "Virtual Plasmonic Tweezers for Versatile Manipulation of Biological Cells and Molecules," Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering, Irvine, August 6-8, 2016.
49. Y. B. Zheng, "Plasmofluidic Tweezers and Sensors," Southwest Regional Meeting, Galveston, TX, November 10-13, 2016.
50. 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.
51. 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.
52. 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.
53. Y. B. Zheng, "Directed Assembly of Colloidal Particles for Micro/Nano Photonics," SPIE Photonics West, San Francisco, CA, January 28-2 February 2017.

54. 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.
55. 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.
56. 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.
57. Y. B. Zheng, "Optically Directed Assembly of Colloidal Particles," the 253rd ACS National Meeting, San Francisco, CA, April 2-6, 2017.
58. 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.
59. Z. Wu, M. N. Yogeesh, W. Li, D. Akinwande, and Y. B. Zheng, "Nanophotonic Chip for Treatment of Cancer," UT Idea to Product, 2017.
60. Y. B. Zheng, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," University of Maryland, College Park, MD, May 10, 2017
61. Y. B. Zheng, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," University of Washington, Seattle, WA, May 23, 2017
62. Y. B. Zheng, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," University of Southern California, Los Angeles, CA, May 24, 2017.
63. Z. Wu, Y. B. Zheng, "Moiré plasmonic metasurfaces and metamaterials for biomedical applications", Biomaterials Day at UT Austin, Austin, TX, June 2, 2017.
64. 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.
65. 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.
66. Y. B. Zheng, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," International Conference on Energy, Materials and Photonics, Shenzhen, China, June 24, 2017.
67. Y. B. Zheng, "Manipulating Light, Mass and Energy with Plasmonic Nanotechnology," Tsinghua University, Shenzhen, China, June 23, 2017.
68. Y. B. Zheng, "Virtual Plasmonic Tweezers for Versatile Manipulation of Biological Cells and Molecules," Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering, Irvine, August 3-6, 2017.

69. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Purdue University, West Lafayette, September 15, 2017.
70. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Rice University, Houston, September 20, 2017.
71. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Stanford University, September 27, 2017.
72. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," University of California, Merced, September 28, 2017.
73. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Northwestern University, October 12, 2017.
74. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," University of Illinois Urbana-Champaign, October 24, 2017.
75. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," Duke University, November 8, 2017.
76. Y. B. Zheng, "Manipulating Light, Matter and Energy with Plasmonic Nanotechnology," University of California, San Diego, November 17, 2017.
77. 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.
78. J. Li, L. Lin, X. Peng, and Y. B. Zheng, "Plasmon-enhanced optothermal nanoscissors," MRS Spring Meeting & Exhibit, Phoenix, AZ, April 2-6, 2018.
79. 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.
80. 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.
81. 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.
82. 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.
83. 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.
84. Z. Wu and Y. B. Zheng, "Nanoscale Moiré Metamaterials for Biological and Chemical Applications," Graduate and Industry Networking, Austin, TX, Jan 30, 2018.

85. B. B. Rajeeva and Y. B. Zheng "Plasmon-Mediated Nano/Micro Patterning and Applications," Graduate and Industry Networking, Austin, TX, Jan 30, 2018.
86. J. Li, L. Lin, X. Peng and Y. 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.
87. 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.
88. B. B. Rajeeva, Z. Wu, A. Briggs, P. V. Acharya, V. Bahadur, S. R. Bank, Y. 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.
89. 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.
90. 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.

#### **PATENTS (8):**

1. Y. B. Zheng, L. Lin, and X. Peng, "Lithographic Systems and Methods," PCT Application, 10046-182WO1 (Dec. 13, 2016).
2. Y. B. Zheng and J. Gan, "Nanostructured Electrodes and Methods of Making and Use Thereof," US Application, 15/376,760 (Dec. 13, 2016).
3. Y. B. Zheng, L. Lin, and X. Peng, "Methods and Systems for Optothermal Particle Control," Provisional Patent Application, 62/324,464 (2016).
4. Y. B. Zheng, L. Lin, and X. Peng, "Methods and Systems for Optical Control of Metal Particles with Thermophoresis," Provisional Patent Application, 62/385,454 (2016).
5. Y. B. Zheng, L. Lin, and X. Peng, "Methods and Systems for Assembly of Particles with Superstructures," Provisional Patent Application, 62/462,581 (2017).
6. Y. B. Zheng, L. Lin, and M. Wang, "Nanostructured Photonic Materials," Provisional Patent Application, 62/476,992 (2017).
7. Y.B. Zheng and Z. Wu, "Nanostructured Plasmonic Materials and Methods of Making and Use Thereof," Provisional Patent Application, 62/561,339 (2017).
8. Y. B. Zheng and B. B. Ajeeva, "Optical Printing Systems and Methods," Invention Disclosure (2018).

#### **GRANTS AND CONTRACTS:**

<b>Co- Investig ators</b>	<b>Title</b>	<b>Agency</b>	<b>Grant Period</b>	<b>Grant Total</b>	<b>Candidate Share</b>
<b>External Sources</b>					
None	On-Chip Multiplexed Adhesion Frequency Assay for Measuring Receptor-Ligand Interactions on Cells	National Institute of Health	9/30/2017-5/31/2022	\$2,235,836	\$2,235,836
None	Bubble Printing of Colloidal Nanoparticles into Functional Materials and Devices	National Science Foundation	7/1/2018-6/30/2021	\$336,633	\$336,633
None	An Ultracompact Opto-Electro-Fluidic System for Preconcentration and Separation of Chiral Molecules in In-Situ Life Detection	National Aeronautics and Space Administration	10/16/2017-10/15/2020	\$599,961	\$599,961
None	Optically Assembled Meta-Materials	Army Research Office	10/15/2017-4/14/2019	\$175,346	\$175,346
None	Reconfigurable Multiband Metasurfaces and Devices with Atomic-Layer Materials	Office of Naval Research	6/1/2017-5/31/2020	\$509,937	\$509,937
Delia Milliron	Enhanced Efficiency in Transparent Organic Photovoltaics Using Oxide Plasmonic Nanostructures	National Science Foundation	8/15/2017-7/31/2020	\$395,000	\$282,916
None	Bubble Printing of Micro/Nanostructured Metal Oxide Catalysts for NO <sub>x</sub> Abatement	ExxonMobil	9/1/2017-8/31/2019	\$200,000	\$200,000

None	Virtual Infrared Plasmonic Tweezers for Versatile Manipulations of Cells and Biomolecules	Beckman Foundation	9/1/2014-8/31/2018	\$750,000	\$750,000
None	High-Performance Electromagnetic Wave Absorbers Based on Reduced Graphene Oxide Functionalized with Dual Magnetic Nanoparticles in Epoxy	3M Company	3/1/2015-2/28/2018	\$45,000	\$45,000
Laura Liu, Prashant Jain, Yongmin Liu	MRS symposium on Functional Plasmonics	Army Research Office	11/27/2016-12/2/2016	\$5,000	\$0
None	Exploring Plasmonic Oxide Nanoparticles for High-Efficiency Low-Cost	Oak Ridge Associated Universities/UT	6/1/2015-5/31/2016	\$10,000	\$10,000
<b>Total (External)</b>				<b>\$5,262,713</b>	<b>\$5,145,629</b>
<b>UT Sources</b>					
None	A Novel Device for Detection and Collection of Intact Circulating Tumor Cells	UT Austin	9/1/2015-8/31/2016	\$5,000	\$5,000
<b>Total (Internal)</b>				<b>\$5,000</b>	<b>\$5,000</b>

**PH.D. SUPERVISIONS COMPLETED:**

Wu, Zilong	2018	Plasmonic Moiré Metamaterials and Metasurfaces: Tunable Optical Properties and Nanophotonic Applications	Materials Science and Engineering	The University of Texas at Austin
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Wang, Mingsong	2018	Hybrid Systems of Plasmonic Nanostructures and Functional Materials for Plasmon-Matter Interaction and Active Plasmonic Devices	Mechanical Engineering	The University of Texas at Austin
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**M.S. SUPERVISIONS COMPLETED:**

Weaver, Benjamin	2015	Synthesis, Characterization and Magnetic Properties of $A_xB_{1-x}V_2O_4$ Spinels for A, B = Mg, Co, Zn, Fe, Mn	Materials Science and Engineering	The University of Texas at Austin
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**PH.D. IN PROGRESS:**

A. Students admitted to candidacy

Peng, Xiaolei  
Rajeeva, Bharath  
Liu, Yaoran

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

Li, Jingang  
Kollipara, Pavana

**M.S. IN PROGRESS:**

**POSTDOCS:**

Lin, Linhan  
Hill, Eric  
Kotnala, Abhay  
Yao, Kan

**UNDERGRADUATE STUDENTS:**

\*indicates authors of peer-reviewed publication

\*Bhatt, Neel

\*Penley, Daniel

\*Teal, Daniel

\*Alabandi, Majd

\*Pingali, Bharadwaj

Pingali, Prapul

Schiotz, Eiler

Kulkarni, Shardul

Liu, Ethan

\*Menz, Ryan

\*Rukavina, Michael

Teeters, McKenzie

Abdulmalek Alshehri (KAUST Scholar)

Faris Fathi Aljamed (KAUST Scholar)

#### **HIGH SCHOOL STUDENT:**

Lu, David

#### **Student and Trainee Awards**

*Eric Hill:*

2018 Leadership of an Independent Junior Research Group, Germany

*Bharath Rajeeva:*

2016 Friends of Alec Graduate Student Fellowship, Cockrell School of Engineering, UT Austin

2015 Professional Development Award, Office of Graduate Studies, UT Austin

2015 George J. Heuer, Jr. Ph.D. Endowed Graduate Fellowship, Cockrell School of Engineering

2014 Harris L. Marcus Graduate Fellowship in Materials Science and Engineering, UT Austin

*Xiaolei Peng:*

2018 University Graduate Continuing Fellowship, Office of Graduate Studies, UT Austin

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

*Mingsong Wang:*

2017 University Graduate Continuing Fellowship, Office of Graduate Studies, UT Austin

2015 Warren A. and Alice L. Meyer Endowed Scholarship, Cockrell School of Engineering

*Zilong Wu:*

2015 Professional Development Award, Office of Graduate Studies, UT Austin

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

*Pavana Kollipara:*

2017 Provost's International Graduate Excellence Fellowship, UT Austin

*Majd A Alabandi (Undergraduate student):*

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

**VITA:**

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