

Wei Li

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Education

- Doctor of Philosophy, Department of Chemistry, University of Toronto, Canada.
Sept.2005– June 2010
Advisor: Prof. Eugenia Kumacheva
- Master of Applied Science, Department of Chemical Engineering, University of Toronto, Canada. Sept. 2003- June 2005
Advisor: Prof. Yu-Ling Cheng
- Master of Science, Department of Chemistry, Wuhan University, China, Sept.1999-June 2002
Advisor: Prof. Renxi Zhuo
- Bachelor of Science, Department of Chemistry, Wuhan University, China, Sept 1995- June1999

Appointments

Jan. 2014-Present
Assistant Professor
Institute: Department of Chemical Engineering
Texas Tech University, Lubbock, TX, USA
Research Areas: Responsive LbL nanofilms, Cell capture and release, Polyelectrolyte hydrogels, Exosomes, Cell microenvironments, Biomedical microdevices

Nov. 2010- Oct. 2013
NSERC Postdoctoral Research Fellow
Institute: Department of Chemical Engineering,
MIT, Cambridge, MA, USA
Research Areas: LbL nanofilms, microfluidic devices for capture and release of cancer cells, 3D cell microenvironments,
Advisor: Prof. Paula T. Hammond

Honors and Awards

- WCOE Whitacre Research Award (2017)
- NSERC Postdoctoral Fellowship (2010)
- Chinese Government Award for Outstanding Students Abroad (2009)
- Ontario Graduate Scholarships in Science and Technology (2008)
- Edwin Walter Warren Graduate Student Awards (2007, 2008)
- Xerox Research Centre of Canada Graduate Award (2007)
- Ontario Centers of Excellence Professional Outreach Award (2007)
- Graduate Travel Award, University of Toronto (2009)
- Open Fellowship, University of Toronto (2003-2007)
- Outstanding Graduate Student, Wuhan University, (2000-2002)

Sponsored Projects

External

- Utilizing glycoside hydrolases to degrade biofilms in wounds. NIH R21. \$138,487, Feb. 2019-Jan. 2021, Subcontracted from Texas Tech University Health Science Center, PI Kendra Rumbaugh, Total amount \$285,612.
- Recapitulation of sex-disparity in PAH on a microfluidic device and elucidation of the differences and similarities in the development, progression and therapy of PAH in male versus female patients. NIH R01. \$194,156, Feb. 2019-Jan. 2023, Subcontracted from Texas Tech University Health Science Center, PI Fakhru Ahsan, Total amount \$1,911,694.
- Isolation and in situ profiling of circulating tumor cell subpopulations using a hyperuniform structured microchip. Cancer Prevention and Research Institute of Texas (CPRIT) HI/HR Award. \$200,000, Nov. 2017-Feb. 2020. Sole PI.
- Integrated on-chip networks for investigating exosome-mediated drug expulsion, Cancer Prevention and Research Institute of Texas (CPRIT) HI/HR Award. \$120,000, June 2015-May 2017. PI 60%, Co-PI J. Kim 40% from MechE at TTU, Total amount \$200,000.
- New technology for ultra-high throughput enumeration of circulating tumor cells, Cancer Prevention and Research Institute of Texas (CPRIT) HI/HR Award. \$29,999, Sept. 2014-Aug. 2016. Collaborator 15%, PI S. Vanapalli from ChE at TTU, Total amount \$ 199,993.

Internal

- Supporting the Global Laboratory for Energy Asset Management & Microgrid, GLEAMM, TX Emerging Technology Fund. \$93,000, Jan 2017-Dec. 2020, Collaborator 3%, PI R. Duncan from Physics at TTU. Total amount \$3.1 M.
- Preliminary Assessment on Electro-Active Polymer Materials as Smart Components for Microgrid Systems. TTU GLEAMM Spark Funds. \$50,000, May 2018-Dec 2019. Sole PI.
- An integrated biomimetic human adipose tissue microchip. TTU Obesity Research Cluster Seed Funds. \$7000, July 2016-June 2017. PI 60% with Co-PIs N. Moustaid-Moussa and L. Ramalingam from Nutritional Sci. at TTU, Total Amount \$10,500.

Publications

h-index 19 with citations of 2560, June 2019, Researcher ID: P-3546-2016

[Google Scholar link: <https://scholar.google.com/citations?user=E3XTpssAAAAJ&hl=en>]

Referred Journal Articles (* corresponding author)

- **From work at TTU**

38. Y. Zhou, Z. Dong, H. Andarge, W. Li, and D. Pappas*. Nanoparticle Modification of Microfluidic Cell Separation for Cancer Cells Detection and Isolation. (Submitted)
37. J. Tan*, Z. Ding, and W. Li*. Circulating tumor cell transport, adhesion, and capture efficiency prediction in cell suspensions in microfluidic devices: a numerical and experimental study. (Submitted)
36. T. A. Al-Hilal1, A. Keshavarz1, H. Kadry, B. Lahooti1, A. Al-Obaida1, Z. Ding, W Li, R. Kamm, I. F. McMurtry, T. Lahm, E. Nozik-Grayck, K. R. Stenmark, and F. Ahsan* A microfluidic tissue chip recapitulating human pulmonary arterial hypertension: Fabrication, validation and application. (Submitted)
35. Z. Dong, N. Zhang, Y. Wang, J. Wu, Q. Gan,* W. Li*. Photo-Patternable Nanolayered Polymeric Films with Fast Tunable Color Responses Triggered by Humidity. **Advanced Functional Materials**, 2019, (Accepted).
34. D. Yu,[#] Z. Dong,[#] HT, Lim, Y. Chen, Z. Ding, N. Sultana, J. Wu, B. Qin, J. Chen,* and W. Li*. Microfluidic Preparation, Post Shrinkage, and Surface Modification of Monodispersed Alginate Microbeads for 3D Cell Culture. **RSC Advances**, 2019, 9, 11101-11110.
33. Z. Ding, Y. Zhang,* Y. Xu, Y. Jiao, and W. Li*. Hyperuniform flow fields resulting from hyperuniform configurations of circular disks. **Physical Review E**, 2018, 98, 063101.
32. T. Hou, H. Zhang, D. He, Q. Liu,* Z. Zhang, L. Xiao, W. Li, and M. Barnes. Enhanced Adsorption Behaviors of Co²⁺ on Robust Chitosan Hydrogel Microspheres Derived from Alkali Solution System: Kinetics and Isotherm Analysis. **RSC Advances**, 2018, 8, 36858-36868.
31. D. Yu, [#] L. Tang, [#] Z. Dong, K.A. Loftis, Z. Ding, J. Chen, B. Qin,* J. T. Yan,* and W. Li*. Effective Reduction of Non-Specific Binding of Blood Cells in a Microfluidic Chip for Isolation of Rare Cancer Cells. **Biomaterials Science**, 2018, 2871-2880 (Inside front cover).
30. Z. Dong, D. Yu, Q. Liu, Z. Ding, V. J. Lyons, R. K. Bright, D. Pappas, X. Liu, and W. Li*. Enhanced Capture and Release of Circulating Tumor Cells Using Hollow Glass Microspheres with Nanostructured Surface. **Nanoscale**, 2018, 10, 16795-16804.
29. Q. Liu, Z. Dong, Z. Ding, Z. Hu, D. Yu, Y. Hu, N. Abidi, and W. Li*. Electroresponsive Homogeneous Polyelectrolyte Complex Hydrogels from Naturally Derived Polysaccharides. **ACS Sustainable Chemistry & Engineering**, 2018, 6,

7052-7063.

28. Y. Chen, L. Ramalingam, J. Wu, N. Moustaid-Moussa, W. Li*. An Integrated Biomimetic Adipose Tissue Microchip. **The FASEB Journal**, 2017, 31(1 Supplement), 590-594.
 27. C. C. Ahrens, Z. Dong, and W. Li*. Engineering Cell Aggregates through Incorporated Polymeric Microparticles. **Acta Biomaterialia** 2017, 15, 64-81.
 26. D. K. Singh, C. C. Ahrens, W. Li, S. A. Vanapalli*. Label-Free, High-Throughput Holographic Screening and Enumeration of Tumor Cells in Blood. **Lab on a Chip** 2017, 17, 2920-2932.
 25. Z. Hu, C. Uzun, Z. Dong, W. Li, A. A. Bernussi and G. Kumar*. Elastocapillary Bundling of High Aspect-Ratio Metallic Glass Nanowires. **Applied Physics Letters** 2017, 111, 023107.
 24. Z. Dong, C. C. Ahrens, D. Yu, Z. Ding, H. T. Lim, and W. Li*. Cell Isolation and Recovery Using Hollow Glass Microspheres Coated with Nanolayered Films for Applications in Resource-Limited Settings. **ACS Applied Materials & Interfaces** 2017, 9, 15265-15273.
 23. D. K. Singh, C. C. Ahrens, W. Li, S. A. Vanapalli*. Label-free fingerprinting of tumor cells in bulk flow using inline digital holographic microscopy. **Biomedical Optics Express** 2017, 8, 536-554.
 22. Z. Dong, # L. Tang, # C. C. Ahrens, V. Cao, ‡ Z. Ding, S. A. Castleberry, J. T. Yan*, W. Li*. A Benchtop Capillary Flow Layer-by-Layer (CF-LbL) Platform for Rapid Assembly and Screening of Biodegradable Nanolayered Films. **Lab on a Chip** 2016, 23, 4601-4611.
 21. N. Zhang, Z. Dong, D. Ji, H. Song, X. Zeng, Z. Liu, S. Jiang, A. Bernussi, W. Li*, Q. Q. Gan*. Tunable Coupled and Decoupled Super Absorbing Structures. **Applied Physics Letters** 2016, 108, 091105-091108.
 20. Z. Wang, D. Voicu, L. Tang, W. Li*, E. Kumacheva*. Microfluidic Studies of Polymer Absorption in Flow. **Lab on a Chip** 2015, 15, 2110-2116.
- **From work before joining TTU**
 19. M-H. Park, E. Reategui, W. Li, S. N. Tessier, K. H. K. Wong, A. Jensen, V. Thapar, D. Ting, M. Toner, S. L. Stott, P. T. Hammond. Enhanced Isolation and Release of Circulating Tumor Cells Using Nanoparticle Binding and Ligand Exchange in a Microfluidic Chip. **Journal of the American Chemical Society** 2017, 139, 2741-2749.
 18. W. Li, E. Reategui, M-H. Park, S. A. Castleberry, J. Z. Deng, B. Hsu, S. Mayner, A. Jensen, L. V. Sequist, S. Maheswaran, D. A. Haber, M. Toner, S. L. Stott, P. T. Hammond. Biodegradable Nano-Films for Capture and Non-invasive Release of Circulating Tumor Cells. **Biomaterials** 2015, 65, 93-102.
 17. S. A. Castleberry, B. D. Almquist, W. Li, T. Reis, J. Chow, S. Mayner, P. T. Hammond. Self-Assembled Wound Dressings Silence MMP-9 and Improve Diabetic

- Wound Healing In Vivo. **Advanced Materials** 2016, 28, 1809-1817.
16. E. Reátegui, N. Aceto, E. J. Lim, J. P. Sullivan, A. E. Jensen, M. Zeinali, J. M. Martel, W. Li, S. A. Castleberry, A. Bardia, L. V. Sequist, D. A. Haber, S. Maheswaran, P. T. Hammond, M. Toner, S. L. Stott. Tunable Nanostructured Coating for the Capture and Selective Release of Viable Circulating Tumor Cells. **Advanced Materials** 2015, 27, 1593-1599.
 15. S. A. Castleberry, # W. Li, # D. Deng, S. Mayner, P. T. Hammond. Capillary Flow Layer-by-Layer: A Microfluidic Platform for the High Throughput Assembly and Screening of Nanolayered Film Libraries. **ACS Nano** 2014, 8, 6580-6589.
 14. W. Li, S. Lee, M. Ma, S. M. Kim, P. Guye, J. R. Pancoast, D. G. Anderson, R. Weiss, R. T. Lee, P. T. Hammond. Microbead-based Biomimetic Synthetic Neighbors Enhance Survival and Function of Rat Pancreatic β -cells. **Scientific Reports** 2013, 3, 2863.
 13. W. Li, K. Liu, R. Simms, J. Greener, S. Pinto, A. Guenther, and E. Kumacheva. A Microfluidic Study of fast gas-liquid reactions. **Journal of the American Chemical Society** 2012, 134, 3127-3132.
 12. D. Voicu, C. Scholl, W. Li, D. Jagadeesan, I. Nazimova, J. Greener, E. Kumacheva. Kinetics of Multicomponent Polymerization Reaction Studied in a Microfluidic Format. **Macromolecules** 2012, 45, 4469-4475.
 11. K. Liu, Z. Nie, N. Zhao, W. Li, M. Rubinstein, E. Kumacheva. Step-Growth Polymerization of Inorganic Nanoparticles. **Science** 2010, 329, 197-200.
 10. J. Greener, # W. Li, # J. Ren, V. Pakharensko, D. Voicu, T. Tang, E. Kumacheva. Rapid, Cost-efficient Fabrication of Microfluidic Reactors in Thermoplastic Polymers by Combining Photo-lithography and Hot Embossing. **Lab on a Chip** 2010, 10, 522-524.
 09. W. Li, J. Greener, D. Voicu, E. Kumacheva. Multiple Modular Microfluidic (M^3) Reactors for the Synthesis of Polymer Particles. **Lab on a Chip** 2009, 9, 2715-2722. (Front cover).
 08. W. Li, H. H. Pham, Z. Nie, B. MacDonald, A. Güenther, E. Kumacheva. Multi-Step Microfluidic Polymerization Reactions Conducted in Droplets. **Journal of the American Chemical Society** 2008, 130, 9935-9941.
 07. W. Li, E. Young, P. Garstecki, C. A. Simmons, E. Kumacheva. Simultaneous Microfluidic Generation of Droplets with Different Dimensions. **Soft Matter** 2008, 4, 258-262.
 06. Z. Nie, J. L. Park, W. Li, S. Bon, and E. Kumacheva. An "Inside-Out" Microfluidic Approach to Monodisperse Emulsions Stabilized by Solid Particles. **Journal of the American Chemical Society** 2008, 130, 16508-16509.
 05. W. Li, Z. Nie, H. Zhang, E. Kumacheva. Screening of the Effect of Surface Energy of Microchannels on Microfluidic Emulsification. **Langmuir** 2007, 23, 8010-8014.
 04. Z. Nie, W. Li, M. Seo, SQ Xu, E Kumacheva. Janus and Ternary Particles Generated by Microfluidic Synthesis: Design, Synthesis and Self-Assembly. **Journal of the**

- American Chemical Society** 2006, 128, 9408-9412.
03. Y. Liu, J. Ling, W. Li, X. Zhang. Effective Synthesis of Carbon-coated Co and Ni Nanocrystallites with Improved Magnetic Properties by AC Arc Discharge under an N₂ Atmosphere, **Nanotechnology** 2003, 15, 43-47.
 02. GP. Yan, RX. Zhuo, CY. Zheng, W. Cao, W. Li, L. Li, ML. Liu, YX. Zhang. Synthesis and Preliminary Evaluation of Gadolinium Complexes Containing Sulfonamide Groups as Potential MRI Contrast Agents. **Radiography** 2003, 9, 35-41.
 01. RX. Zhuo, W Li. Preparation and Characterization of Macroporous PNIPAAm Hydrogels for Controlled Release of Proteins. **Journal of Polymer Science Part A: Polymer Chemistry** 2002, 41, 152-159.

Invited Book Chapters

02. X. Liu and W. Li. Nanomedicine and Nanoemulsion in Increasing the Availability of Antibiotics, Antibacterial Drug Discovery to combat MDR – Natural Compounds, Nanotechnology and Novel Synthetic Sources (In press, Springer 2019).
01. C. C. Ahrens, Z. Dong, W. Li. Microfluidic Devices for Isolation of Circulating Tumor Cells (CTCs), Microfluidics. Fundamental Devices and Applications (John Wiley & Sons. 2018).

Patents or Invention Disclosures

- 08 Z. Dong, W. Li. Patternable Humidity-sensitive multilayer nanofilm with fast color tuning properties (TTU invention disclosure 2019-103)
- 07 S. Shimul, W. Li. Electro-active polymer frames for 3D shape change (TTU invention disclosure 2019)
06. Z. Dong, W. Li. Rapid cell isolation and recovery using hollow glass microspheres coated with biodegradable nanostructured films (TTU invention disclosure D-1565, pending provisional)
05. Z. Dong, W. Li. Responsive Metamaterial for dynamic color change (TTU invention disclosure D-1474)
04. W. Li, S. A. Castleberry, P. T. Hammond. Biodegradable LbL films for cell capture and release. (MIT Technology disclosure No. 15894)
03. W. Li, S. A. Castleberry, P. T. Hammond. Capillary flow layer-by-layer assembly of polyelectrolytes. (MIT Technology disclosure No. 15867, provisional 61/719,068, filed in Oct. 2012)
02. W. Li, S. A. Castleberry, P. T. Hammond. Automated capillary flow layer-by-layer systems (MIT Technology disclosure No. 15541, provisional 61/719,093, filed in Oct. 2012)
01. W. Li, J. Greener, E. Kumacheva, Photo-resist stamp for hot embossing. (Invention Disclosure No. 10001883, US patent filed on Feb. 3rd, 2010)

Conference Presentations

16. W. Li, Q. Liu, Biopolymer-Derived Tough Homogeneous Polyelectrolyte Complexes Hydrogels As the Potential Electro-Responsive Actuators. AIChE 2018 Annual Conference, Oct.28-Nov. 2, 2018, Pittsburgh, PA, USA.
15. W. Li, Z. Dong, Biodegradable Multilayered Nanofilms for Isolation and Recovery of Circulating Tumor Cells (Poster), AIChE 2018 Annual Conference, Oct.28-Nov. 2, 2018, Pittsburgh, PA, USA.
14. Z. Dong, W. Li, 8B Biomaterials Graduate session, Enhanced Capture and Release of Circulating Tumor Cells Using Hollow Glass Microspheres with Nanostructured Surface, AIChE 2018 Annual Conference, Oct.28-Nov. 2, 2018, Pittsburgh, PA, USA.
13. A. Keshavarz, T. A. Al-Hilal, W. Li, and F. Ahsan. Capturing, counting and identifying CECs: a potential diagnostic marker for patients with pulmonary arterial hypertension. American Association of Pharmaceutical Sciences “PharmSci360” Conference, Nov. 4-7, 2018, Washington, D.C. USA.
12. A. Keshavarz, T. A. Al-Hilal, W. Li, F. Ahsan. A micropattern-engraved two-compartment tissue-chip as a model for studying right ventricular hypertrophy induced by pulmonary arterial hypertension. Biomedical Engineering Society (BMES) 2018 Annual Meeting, Oct. 17-20, 2018 Atlanta, GA, USA.
11. W. Li. Biodegradable Nano-films for Cancer Cell Capture and Release. International Layer-by-Layer Conference, June 19-21, 2017, Seoul, Korea.
10. W. Li. Biodegradable Multilayered Nanofilms for Cell Isolation and Recovery, AIChE 2017 Annual Conference, Oct.29-Nov. 3, 2017, Minneapolis, MN, USA.
09. Z. Dong, W. Li. Graduate Student Award Session: Biodegradable Nano-Film Coated Self-Floating Hollow Glass Microspheres for Rapid Cell Isolation and Recovery, AIChE 2017 Annual Conference, Oct.29-Nov. 3, 2017, Minneapolis, MN, USA.
08. Z. Dong, W. Li. Graduate Student Award Session: Self-Separable Hollow-Microspheres Coated With Enzymatically Degradable Nanofilm For Rapid Cell Isolation And Recovery, Biomedical Engineering Society (BMES) 2017 Annual Meeting, Oct. 11-14, 2017 Phoenix, AZ, USA.
07. W. Li. Biodegradable Multilayered Nanofilms for Isolation and Recovery of Circulation Tumor cells, Biomedical Engineering Society (BMES) 2017 Annual Meeting, Oct. 11-14, 2017 Phoenix, AZ, USA.
06. Y. Chen, L. Ramalingam, J. Wu, N. Moustaid-Moussa, W. Li. An Integrated Biomimetic Adipose Tissue Microchip (Poster) Biomedical Engineering Society (BMES) 2017 Annual Meeting, Oct. 11-14, 2017 Phoenix, AZ, USA.
05. T. A. Al-Hilal, A. Keshavarz, W. Li, and F. Ahsan. Multi-Channel Chips to Simulate Pulmonary Arterial Hypertension (PAH) Pathophysiology and Screen Anti-PAH Drugs. MicroTAS International Conference 2017, Oct. 22-26, 2017, Savannah, GA, USA.
04. Y. Chen, L. Ramalingam, J. Wu, N. Moustaid-Moussa, W. Li. The Adipose Tissue Niche: Role in Health and Diseases, NIH, An Integrated Biomimetic Adipose Tissue Microchip,

November 30 2016. Bethesda, MD, USA.

03. C.C. Ahrens, D. Singh, W. Li, S. Vanapalli. Applying Digital Holography Microscopy (DHM) to Label-Free Detection of CTCs. Gordon Research Conference Circulating Tumor Cells and Other Tumor Products in the Circulation, August 23-26, 2016. South Hadley, MA, USA.
02. C.C. Ahrens, D. Singh, W. Li, S. Vanapalli. Applying Digital Holography Microscopy (DHM) to Label-Free Detection of CTCs. Innovations in Cancer Prevention and Research Conference, November 11, 2015. Austin, TX, USA
01. Z. Dong, L. Tang, W. Li. High-Throughput Layer-By-Layer (LbL) Platform for Assembly and Screening of Multi-Layered Nanofilm Libraries, AIChE 2015 Annual Conference, Nov. 8-13, 2015, Salt Lake City, UT, USA.

Invited Talks

14. Workshop 3 - Advanced lung cell culture models and microfluidic tissue chips in aerosol medicine and respiratory disorders, The International Society for Aerosols in Medicine (ISAM), Microfluidic Chips for Isolation and Release of Circulating Lung-Cancer Cells, Montreux, Switzerland, May 25, 2019.
13. Symposium "Hybrid Functional Materials from Controlled Assembly of Polymer and Inorganic Nanoparticles" (in the Division of Polymer Materials Science and Engineering), the 257th ACS National Meeting & Exposition, Nanostructured Biodegradable multilayered films for Cell Isolation and Recovery, Orlando, FL. April 2nd, 2019.
12. Ohio State University, Department of Chemical and Biomolecular Engineering, Biodegradable multilayered nanofilms for cell isolation and recovery, March 28, 2019.
11. Texas Tech University Health Science Center (TTUHSC), School of Medicine, Biodegradable multilayered nanofilms for cell isolation and recovery, Oct. 10, 2018.
10. Obesity Research Cluster (ORC) Guest Lecture, Texas Tech University. Biodegradable Nanofilms for Cancer Applications, Feb 26, 2018.
09. Society of Plastics Engineers (SPE) Guest Lecture, Texas Tech University. Biodegradable Nanofilms for Cancer Applications, Nov 22, 2017.
08. Huazhong University of Science and Technology, Department of Chemical Engineering, 3D Biomimetic Cell Culture and Nanofilms, July 10, 2017.
07. ChungAng University, School of Chemical Engineering & Material Science, Biodegradable Nanofilms for Cancer Cell Capture and Release, June 23, 2017.
06. Sogang University, Department of Chemistry & Institute of Biological Interfaces, Biodegradable Nanofilms for Cancer Cell Capture and Release, June 22, 2017.
05. University of Maryland, College Park, Department of Chemical Engineering, Biodegradable Nanofilms for Cancer Applications, April 17, 2017.
04. Texas Tech University Health Science Center (TTUHSC), School of Pharmacy, Biodegradable Nanofilms for Capture and Non-invasive Release of Circulating Tumor

Cells, Feb. 17, 2016.

03. Wuhan University, Department of Chemistry, 3D Biomimetic Cell Culture and Nanofilms, Dec. 18, 2015.
02. Wuhan Institute of Technology, Department of Materials Science and Engineering, 3D Biomimetic Cell Culture, Dec. 20, 2014.
01. State University of New York (SUNY) at Buffalo, Department of Electrical Engineering Surface Engineering of Polymer Materials and Microdevices for Biological Applications, Nov. 14, 2014.

Media Coverage

2018	Texas Tech Discoveries	Capturing Cancer Cells in the Act
2018	Phys.org	Fishing for one bad cell out of trillions of good ones
2017	Texas Tech Discoveries	Fishing for One Bad Cell Out of Trillions of Good Ones
2015	Exosome-RNA.com	Texas Tech University awarded CPRIT grant to develop microchip method for studying exosomes
2015	Texas Tech Today	Chemical Engineering Professor Receives CPRIT Grant for Cancer Research
2015	TTU System News	TTU System Institutions Receive Nearly \$2 Million in CPRIT Grants
2015	MaterialsToday	Nanofilm takes gentle approach to cell capture

Teaching

Spring 2018, 2019	Fluid Mechanics (ChE 3315, UG) Principles of momentum transport. Application of laminar and turbulent flow, metering, porous media, and settling
Spring 2015, 2016, and 2017	Engineering Material Science (ChE 3330, UG) Engineering properties of metals, ceramics, and polymers; molecular, crystal, and microstructure configurations; selection of materials for applications
Spring 2014	Polymerization Engineering (ChE4341/5341 UG/G) Polymerization reactions, mechanisms and kinetics, control of properties through reaction and processing, polymerization reactor and process design, degradation reactions.
Fall 2014-2018	Biochemical Engineering (ChE4363/5363 UG/G) Introduction to biochemical engineering, including design of processes that involve biological organisms; cellular, molecular and tissue engineering; biomaterials and biotransport.

Student Supervision

Ph.D. Students (5)

Ziye Dong, 2015-2019 (defended in May 2019)
Zhenya Ding, 2016-2020 (expected)
Celine Gacia, 2018-2022 (expected)
Karl Gardner 2019-2013 (expected)
MD Nayeem Hasan Kashem, 2019~2023 (expected)

M.S. Students (6)

Xu Liu, 2018-2020
Garce Tambe, 2018-2020
HyunTaek Lim, 2016-2018
Cheng-Ta Cho, 2015-2017
Nadia Sultana, 2014-2015
Samira Abedi, 2014-2015

Undergraduate Students (14)

Amy Yang, UT Austin, 2019-present
Chung Tosi, Texas Tech, 2019-present
Qixiang Will Hua, Texas Tech, 2019-present
Tri Nguyen, Texas Tech, 2019-present
Alpha Mavungu, Texas Tech, 2019-present
Charles Adilike, Texas Tech, 2019-present
Caulen Ward, Texas Tech, 2018-present
Tram, Nguyen, Texas Tech, 2018-2019
Chris Halario Garza, Texas Tech, 2018-2019
Kevin Loftis, Texas Tech, 2018
Clarissa Meza, Texas Tech, 2017
Vi Cao, Texas Tech, 2016
Neftaly Zapata, Texas Tech, 2015
Kabindra Sedhain, Texas Tech, 2014

High School Students (2)

Andrey Nguyen, Clark scholar, 2019
Veronica O'brain, 2019

Visiting Scholars (5)

Yinggui Wang 2018-present
Dan Yu 2017-2018
Yuting Chen 2016-17
Xue Zhang, 2015-2016
Ling Tang, 2014-16

Postdoc Scholars (3)

Qingye Liu 2017-2019
Caroline C. Ahrens 2015-2017
Anil Khanal 2015

Student Awards (5)

05. Ziyue Dong, First place. Graduate Research Award. 8B Biomaterials Session, AIChE Annual Conference, October 2018.
04. Ziyue Dong, Biomedical Engineering Society (BMES) Graduate Student Design and Research Award. BMES Annual Conference, August 2017.
03. Ziyue Dong, 3rd place. Graduate Research Award, Chemical Engineering, TTU, May 2017.
02. Yuting Chen, Graduate/Postdoc Travel Award in American Society of Biochemistry and Molecular Biology (ASBMB) 2017, Jan. 2017.
01. TTU iGEM team won Silver in the International Genetically Engineered Machine Competition 2016. Dr. Li supervised the materials development activities.

Thesis Committees Served On

Ph.D. (12) Wenqian Tao (ChE, graduated in 2016), Shashwati U. Atwe (ChE, graduated in 2017), Md Rashedul Islam (ChE, graduated in 2017), MD Jasim Uddin (ChE, graduated in 2018), Shixue Cheng (ChE), Madhu Pallaka (ChE), Yerbol Dauletov (ChE), Zhonglue Hu (ME, graduated in 2018), Yingge Zhou (IMSE), Ali Keshavarz (Pharmacy, TTUHSC), Hasan Ahasanul (Pharmacy, TTUHSC), Ismail Walbi (Pharmacy, University of Houston).

Service

Professional Service

Organizer of Conference

Co-organizer, Texas Soft Matter Meeting, 2019

Session Chair of Conferences

- American Institute of Chemical Engineer (AIChE) 2019 Annual Conference, co-chair, Biomaterials session, Orlando, FL, USA.
- American Institute of Chemical Engineer (AIChE) 2017 Annual Conference, co-chair, Biomimetic Materials session, Minneapolis, MN, USA
- Biomedical Engineering Society (BMES) 2017 Annual Conference, co-chair Cancer Micro/Nano Technology Session, Phoenix, AZ, USA.
- Biomedical Engineering Society (BMES) 2014 Annual Conference, chair, Microfluidic Platform Session II, Atlanta, GA, USA
- Biomedical Engineering Society (BMES) 2014 Annual Conference, chair, Microtechnologies for Cancer Session II, Atlanta, GA, USA

Invited Reviewer

- National Science Foundation Panelist for CBET, CMMI and DMR, 2014-2019
- Reviewer for Early Career Fellowship, The Wellcome Trust DBT India Alliance, 2016
- Reviewer for Discover Grants, Natural Sciences and Engineering Research Council of Canada (NSERC), 2018
- Academic journals: Lab on a Chip, Angewandte Chemie International Edition, Science Advances, Advanced Healthcare Materials, ACS Nano, ACS Applied Materials and Interface, RSC Advances, Soft Matter, Chemical Communications, Polymers, Chemical Engineering Journal, Journal of Polymer Science B, Journal of Bioactive and Compatible Polymers.

University Service

2014-2019	Graduate School Dean's representative for Ph.D. defense, 8 times
2015-2016	Department of Chemistry and Biochemistry, Faculty Search Committee, Member
2014-2015	TTU Raider Badminton Club, Faculty Advisor

College Service

2016-2017	WCOE Academic Program Committee, Member
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Departmental Service

2017-2018	Department of Chemical Engineering, Faculty Search Committee, Member
2015-2019	Department of Chemical Engineering, Art Committee, Co-chair
2016-2019	Department of Chemical Engineering, AIChE Reception Committee, Co-chair