

Yue Zhang Ph.D., Assistant Professor

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EDUCATION

Ph.D.	Nanoengineering, University of California San Diego, CA, USA Advisor: Prof. Liangfang Zhang	2019
B.S.	School of Pharmacy, Huazhong University of Science and Technology	2014

PROFESSIONAL APPOINTMENTS

Assistant Professor	School of Engineering, Westlake University, China	2022
Postdoctoral scholar	Bioengineering, University of California, Los Angeles, CA, USA	2019

AWARD AND HONOR

Young Scientists Fund (Class B), NSFC	2025
Young Investigator Award, Chinese Association of Biomaterials (CAB)	2025
Emerging investigator, Journal of Material Chemistry B	2025
Zhejiang provincial overseas Talent program	2024
Hangzhou municipal overseas Talent program	2023
Keystone Symposia Scholarship	2022
Nanoscale Horizons Poster Prize at Nanoscale Horizons Symposium	2018
Best Poster Award at Research Expo, UC San Diego	2017
2nd Prize at Nanoexpo, Department of Nanoengineering, UC San Diego	2017
Institute of Engineering in Medicine scholarship, UC San Diego	2017
Chinese Government Graduate Student Overseas Study Program Scholarship	2014
Chinese Government Undergraduate Student Scholarship	2013

INVITED TALKS

Antimicrobial Peptides Conference, Gordon research Conference, Ventura, USA	2025
Biointerface Science, Gordon research Conference, Lucca, Italy	2024
Shetech summit, Beyond Expo, Macao, China	2024
The 18 th International Conference on Biomedical Engineering, Singapore	2024
The 3 rd Small angle scattering annual meeting, Dongguan, China	2024
The 6 th Asian Symposium on Pharmaceutical Science and Technology, Zhengzhou, China	2023
The 15 th China Pharmaceutical Conference, Shanghai, China	2022

PUBLICATIONS (Google scholar citation 4666, h-index = 23, * corresponding author)

- Huang, J., Fu, H., Zhai, L., Wang, S., Fan, W., Alimohamadi, H.*, Chen, H.*, **Zhang, Y.***, *Cell Biomaterials* 2026; 0.
Link: [https://www.cell.com/cell-biomaterials/fulltext/S3050-5623\(26\)00068-1](https://www.cell.com/cell-biomaterials/fulltext/S3050-5623(26)00068-1).
- Zhang, Y.***, et al., "SARS-CoV-2 peptide fragments selectively dysregulate specific immune cell populations via Gaussian curvature targeting", *Proc. Natl. Acad. Sci. U. S. A.*, 2026, 123 (2) e2521841122.
Link: <https://www.pnas.org/doi/10.1073/pnas.2521841122>.
News: <https://newsroom.ucla.edu/releases/covid-19-viral-fragments-target-kill-specific-immune-cells>.
- Gao, M., Zhong, J., Liu, X., Zhao, Y., Zhu, D., Shi, X., Xu, X., Zhou, Q., Xuan, W., **Zhang, Y.**, Zhou, Y., Cheng, J. "Deciphering the role of PEGylation on the lipid nanoparticle-mediated mRNA delivery to the liver", *ACS nano*, 2025, 19(6), 5966-5978.

4. Wang, H., Fu, H., Zhai, L., Le, J., Guo, B., Zhou, Y., Ji, C., Li, D., **Zhang, Y.***, "Nanocrystalline Alloy-Mediated Delivery of Mosaic Epitope Peptides for Universal Influenza Vaccine", *J. Mater. Chem. B*, Emerging Investigators 2025 issue, 2024, 12, 12530-12539.
Link: <https://pubs.rsc.org/en/content/articlelanding/2025/tb/d5tb90150b>.
5. Fu, H., Zhai, L., Wang, H., Li, M., Wang, G.*, **Zhang, Y.***, "SARS-CoV-2 viral remnants and implications for inflammation and post-acute infection sequelae", *Curr. Opin. Solid State Mater. Sci.* 2024, 33, 101191.
Link: <https://www.sciencedirect.com/science/article/pii/S1359028624000573>.
6. Liu, X., Chen, S., Huang, J., Du, Y., Zhi, L., **Zhang, Y.***, Liu, L.*, Chen, Y.*, "Synthetic Polypeptides Inhibit Nucleic Acid-induced Inflammation in Autoimmune Diseases by Disrupting Bundled DNA's Multivalent Binding to TLR9", *Nature Nanotechnology* 2024, 19, 1745–1756.
Link: <https://www.nature.com/articles/s41565-024-01759-2>.
7. **Zhang, Y.**, et al., "Viral afterlife: SARS-CoV-2 as a reservoir of immunomimetic peptides that re-assemble into pro-inflammatory supramolecular complexes", *Proc. Natl. Acad. Sci. U. S. A.* 2024, 121 (6) e2300644120.
Link: <https://www.pnas.org/doi/full/10.1073/pnas.2300644120>.
News: <https://www.eurekalert.org/news-releases/1032621>.
8. **Zhang, Y.**; Chen, Y.; Lo, C.; Zhuang, J.; Angsantikul, P.; Zhang, Q.; Wei, X.; Zhou, Z.; Obonyo, M.; Fang, R.; Gao, W.; Zhang, L. *, "Inhibition of pathogen adhesion by bacterial outer membrane-coated nanoparticles", *Angewandte Chemie International Edition* 2019, 58, 11404-11408.
9. Karshalev, E.; **Zhang, Y.**; Bsteban-Fernandez de Avila, B.; Beltran-Gastelum, M.; Chen, Y.; Mundaca-Urbe, R.; Zhang, F.; Nguyen, B.; Tong, Y.; Fang, R.; Zhang, L., Wang, J. *, "Micromotors for active delivery of minerals toward the treatment of iron deficiency anemia", *Nano Letters* 2019, 19, 7816-7826. (co-first author)
10. **Zhang, Y.**; Miyamoto, Y.; Ihara, S.; Yang, J.; Zuill, D.; Angsantikul, P.; Zhang, Q.; Gao, W.; Zhang, L., Eckmann, L. *, "Composite thermoresponsive hydrogel with auranofin-loaded nanoparticles for topical treatment of vaginal trichomonad infection", *Advanced Therapeutics* 2019, 2, 1900157.
11. Chen, Y.; **Zhang, Y.**; Chen, M.; Zhuang, J.; Fang, R.; Gao, W.; Zhang, L. "Biomimetic nanosponges suppress the in vivo lethality induced by the whole secreted proteins of pathogenic bacteria", *Small* 2019, 15, 1804994.
12. Chen, Y.; **Zhang, Y.**; Zhuang, J.; Lee, J. H.; Wang, L.; Fang, R.; Gao, W.; Zhang, L. *, "Cell membrane-cloaked oil nanosponges enable dual-modal detoxification", *ACS Nano* 2019, 13, 7209-7215.
13. Gong, H.; Chen, F.; Huang, Z.; Gu, Y.; Zhang, Q.; Chen, Y.; **Zhang, Y.**; Zhuang, J.; Cho, Y.; Fang, R.; Gao, W.; Xu, S.; Zhang, L. *, "Biomembrane-modified field effect transistors for sensitive and quantitative detection of biological toxins and pathogens", *ACS Nano* 2019, 13, 3714-3722.
14. Zhang, F.; Mundaca-Urbe, R.; Gong, H.; Bsteban-Fernandez de Avila, B.; Beltran-Gastelum, M.; Karshalev, E.; Nourhani, A.; Tong, Y.; Nguyen, B.; Gallot, M.; **Zhang, Y.**; Zhang, L., Wang, J. *, "A macrophage-magnesium hybrid biomotor: Fabrication and characterization", *Advanced Materials* 2019, 31, 1901828
15. Zhuang, J.; Ying, M.; Spiekermann, K.; Holay, M.; **Zhang, Y.**; Chen, F.; Gong, H.; Lee, J-H.; Gao, W.; Fang, R.; Zhang, L. *, "Biomimetic nanoemulsions for oxygen delivery in vivo", *Advanced Materials* 2018, 30, 1805693.
16. Zhang, Q.; Dehaini, D.; **Zhang, Y.**; Zhou, J.; Chen, X.; Zhang, L.; Fang, R.; Gao, W.; Zhang, L. *, "Neutrophil membrane-coated nanoparticles inhibit synovial inflammation and alleviate joint damage in inflammatory arthritis", *Nature Nanotechnology* 2018, 13, 1182-1190.
17. Ying, M.; Zhuang, J.; Wei, X.; Zhang, X.; **Zhang, Y.**; Jiang, Y.; Dehaini, D.; Chen, M.; Gu, S.; Gao, W.; Lu, W.; Fang, R.; Zhang, L. *, "Remote-loaded platelet vesicles for disease-targeted delivery of therapeutics", *Advanced Functional Materials* 2018, 28, 1801032.
18. Chen, Y.; Chen, M.; **Zhang, Y.**; Lee, J. H.; Escajadillo, T.; Gong, H.; Fang, R.; Gao, W.; Nizet, V.; Zhang, L. *, "Broad-spectrum neutralization of pore-forming toxins with human erythrocyte membrane-coated nanosponges", *Advanced Healthcare Materials* 2018, 7, 1701366.

19. Gao, W.; Chen, Y.; **Zhang, Y.**; Zhang, Q.; Zhang, L. *, "Nanoparticle-based local antimicrobial drug delivery", **Advanced Drug Delivery Reviews** 2018, 127, 46-57.
20. Li, J.; Angsantikul, P.; Liu, W.; Esteban-Fernandez de Avila, B.; Chang, X.; Sandraz, E.; Liang, Y.; Zhu, S.; **Zhang, Y.**; Chen, C.; Gao, W.; Zhang, L., Wang, J. *, "Biomimetic platelet-camouflaged nanorobots for binding and isolation of biological threats", **Advanced Materials** 2018, 30, 1704800.
21. **Zhang, Y.**; Gao, W.; Chen, Y.; Escajadillo, T.; Ungerleider, J.; Fang, R.; Christman, K.; Nizet, V.; Zhang, L. *, "Self-assembled colloidal gel using cell membrane-coated nanosponges as building blocks", **ACS Nano** 2017, 11, 11923-11930.
22. **Zhang, Y.**; Zhang, J.; Chen, W.; Angsantikul, P.; Spiekermann, K.; Fang, R.; Gao, W.; Zhang, L. *, "Erythrocyte membrane-coated nanogel for combinatorial antivirulence and responsive antimicrobial delivery against Staphylococcus aureus infection", **Journal of Controlled Release** 2017, 263, 185-191.
23. **Zhang, Y.**; Zhang, J.; Chen, M.; Gong, H.; Thamphiwatana, S.; Eckmann, L.; Gao, W.; Zhang, L. *, "A bioadhesive nanoparticle-hydrogel hybrid system for localized antimicrobial drug delivery", **ACS Applied Materials & Interfaces** 2016, 8, 18367-18374.
24. Zhang, X.; Angsantikul, P.; Ying, M.; Zhuang, J.; Zhang, Q.; Wei, X.; Jiang, Y.; **Zhang, Y.**; Dehaini, D.; Chen, M.; Chen, Y.; Gao, W.; Fang, R.; Zhang, L. *, "Remote loading of small molecule therapeutics into cholesterol-enriched cell membrane-derived vesicles", **Angewandte Chemie International Edition** 2017, 56, 14075-14079.
25. Chen, M.; **Zhang, Y.**; Zhang, L. *, "Fabrication and characterization of a 3D bioprinted nanoparticle-hydrogel hybrid device for biomimetic detoxification", **Nanoscale** 2017, 9, 14506-14511.
26. Dehaini, D.; Wei, X.; Fang, R.; Masson, S.; Angsantikul, P.; Luk, B.; **Zhang, Y.**; Ying, M.; Jiang, Y.; Kroll, A.; Gao, W.; Zhang, L. *, "Erythrocyte-platelet hybrid membrane coating for enhanced nanoparticle functionalization", **Advanced Materials** 2017, 29, 1606209.
27. Gao, W.; **Zhang, Y.**; Zhang, Q.; Zhang, L. *, "Nanoparticle-hydrogel: A hybrid biomaterial system for localized drug delivery", **Annals of Biomedical Engineering** 2016, 44, 2049-2061.

PATENT

1. 张越, 王宏宇, 付涵, 一种基于自组装原理的多表位肽复合疫苗及其制备方法与应用 (202411293194.9) ,in application.
2. 张越, 陈虹宇, 黄洁, 付涵, 翟立言, 王树鹏, 范文德, 一种基于溶剂平衡与巯基锚定的通用型细胞膜纳米颗粒包覆方法及其应用 (202511548174.6) ,in application.

TEACHING EXPERIENCE

Graduate advising

Han Fu, Ph.D. candidate in Material Science and Engineering, 06/2027 (expected)
 Liyan Zhai, Ph.D. candidate in Biology, 06/2027 (expected)
 Bohan Guo, Ph.D. student in Material Science and Engineering, 06/2028 (expected)
 Shiyuan Wang, Ph.D. student in Biology, 06/2028 (expected)
 Siqing He, Ph.D. student in Material Science and Engineering, 06/2028 (expected)
 Di Wang, Ph.D. student in Material Science and Engineering, 06/2028 (expected)
 Wende Fan, Ph.D. student in Chemistry, 06/2030 (expected)
 Minyue Xue, Ph.D. student in Material Science and Engineering, 06/2029 (expected)

Undergraduate advising

Joshua Braiden Cevey, 06/2028 (expected)
 Yanhao Xiang, 06/2028 (expected)
 Yijun Liu, 06/2029 (expected)

Course

Fall 2025 MSE5019 Biomaterials and Biopharmaceutics
 Spring 2025, MSE5024 Cell membrane materials
 Fall 2024 MSE5019 Biomaterials and Biopharmaceutics

SERVICE

Professional Memberships

Chinese Association of Biomaterials (CAB)
Biophysical Society of China (BSC)
Chinese Pharmaceutical Association (CPA)
American Association for the Advancement of Science (AAAS)

Journal review

Biomaterials, Cell Host & Microbe, ACS Nano, Acta Biomaterialia, Biomaterials, Current Opinion in Solid State & Materials Science.

Editorial

Junior editor, Bioactive Materials (2023 till now)
Junior editor, Asian Journal of Pharmaceutical Sciences (2023-2024)

Community service

Co-chair, Women Association at Westlake University. (2025 till now)
Co-chair, Communication Committee, Chinese Society of Biomaterials. (2024 till now)
Chair, We women Club, Westlake University (2024 till now)
Vice chair of Career Development, Postdoc association, UCLA (2021-2022)
Vice President of U.S. Southwestern Chinese Students and Scholars Association. (2017-2018)
President of UCSD Chinese Students and Scholars Association, San Diego. (2016-2018)