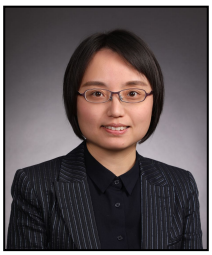
Curriculum Vitae



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Research Interests

- Developing synthetic tools toward protein and peptide with various modifications
- Mechanistic elucidation of multi-modifications on protein's activity in biological events
- Biomedical application of protein and peptide

Education

2002-2007	Tsinghua University, China Ph.D. in Chemistry (supervised by Prof. Yan-Mei Li)
1998-2002	Hunan University, China Bachelor in Chemistry

Research and Working Experience

2016-present	Principal Investigator, Associate Professor (Tenure-Track), Department of Chemistry, Tsinghua University, China
2011-2016	Associate Professor, Department of Chemistry, Tsinghua University, China
2007-2011	Humboldt & Max-Planck Postdoctoral fellow, Max-Planck-Institut für Molekulare Physiologie, Abteilung Chemische Biologie, Germany (with Prof. Herbert Waldmann)

Academic Service

2022-present	Editorial Board Member, *Journal of Peptide Science* (Wiley)
2019-present	Editorial Board Member, *Bioorganic Chemistry* (Elsevier)
2020	Co-Guest Editor, Special Issue "Modern Peptide and Protein Chemistry", *Journal of Organic Chemistry* (ACS)
2019-present	Member of the Professional Committee of Peptide, China Biochemical Pharmaceutical Industry Association
2023-present	Member of Scientific Program Committee, International Chemical Biology Society

Teaching Activities

2014-present	"Organic Chemistry A2"(48 class hours at fall semester) and "Chemical Biology" (48 class hours at spring semester)
2021-present	"Organic Chemistry H1 Seminar" (16 class hours at spring semester)

Honors and Awards

2022	"Design Star" Award, the 4th National Competition of Blended Teaching Innovative Design in Chinese Colleges and Universities
2020	The 1st prize in the 9th Teaching Contest for Young Teachers in Tsinghua University
2019	Honored with the element "phosphorus" on Periodic Table of Chinese Younger Chemists
2019	Honored with "Rising Star" in the 8th Chemical Protein Synthesis Meeting (Berlin)
2018	Peptide Application Special Awards (The 15th Chinese International Peptide Symposium)
2015	Asian Core Program/Advanced Research Network Lectureship Award

Publications (Since 2016-present, as corresponding author *)

1. Liu, D.; Liu, Y.; Duan, H.-Z.; Chen, X.; Wang, Y.; Wang, T.; Yu, Q.; **Chen, Y.-X.***; Lu, Y.*, Customized synthesis of phosphoprotein bearing phosphoserine or its nonhydrolyzable analog. *Synthetic and Systems Biotechnology* **2023,** *8* (1), 69-78.
2. Duan, H.-Z.; Hu, C.; Li, Y.-L.; Wang, S.-H.; Xia, Y.; Liu, X.*; Wang, J.*; **Chen, Y.-X.***, Genetically Encoded Phosphine Ligand for Metalloprotein Design. *Journal of the American Chemical Society* **2022**, *14* (50), 22831-22837.
3. Chang, R.; Chen, J.-L.; Zhang, G.-Y.; Li, Y.; Duan, H.-Z.; Luo, S.-Z.; **Chen, Y.-X.***, Intrinsically Disordered Protein Condensate-Modified Surface for Mitigation of Biofouling and Foreign Body Response. *Journal of the American Chemical Society* **2022**, *144* (27), 12147-12157.
4. Chang, R.; Liu, Y.-J.; Zhang, Y.-L.; Zhang, S.-Y.; Han, B.-B.; Chen, F.*; **Chen, Y.-X.***, Phosphorylated and Phosphonated Low-Complexity Protein Segments for Biomimetic Mineralization and Repair of Tooth Enamel. *Advanced Science* **2022**, *9*(6), 2103829.
5. Wu, J.-J.; Chen, F.-Y.; Han, B.-B.; Zhang, H.-Q.; Zhao, L.; Zhang, Z.-R.; Li, J.-J.; Zhang, B.-D.; Zhang, Y.-N.; Yue, Y.-X.; Hu, H.-G.; Li, W.-H.; Zhang, B.*; **Chen, Y.-X.***; Guo, D.-S.*; Li, Y.-M.*, CASTING: A Potent Supramolecular Strategy to Cytosolically Deliver STING Agonist for Cancer Immunotherapy and SARS-CoV-2 Vaccination. *CCS Chemistry* **2022**, DOI: 10.31635/ccschem.022.202201859.
6. Li, Y.; Chang, R.; **Chen, Y.-X.***, Recent Advances in Post-polymerization Modifications on Polypeptides: Synthesis and Applications. *Chemistry-an Asian Journal* **2022,** *17*(14), e202200318.
7. Hu, J.; Sun, X.-M.; Su, J.-Y.; Zhao, Y.-F.; **Chen, Y.-X.***, Different phosphorylation and farnesylation patterns tune Rnd3-14-3-3 interaction in distinct mechanisms. *Chemical Science* **2021**, *12* (12), 4432-4442.
8. Zhu, P.-C.; **Chen, Y.-X.***, Facile Synthesis of Boc-Protected Selenocystine and its Compatibility with Late-Stage Farnesylation at Cysteine Site. *Protein and Peptide Letters* **2021,** *28* (6), 603-611.
9. Li, F.-Y.; Zhang, Z.-F.; Voss, S.; Wu, Y.-W.; Zhao, Y.-F.; Li, Y.-M.; **Chen, Y.-X.***, Inhibition of K-Ras4B-plasma membrane association with a membrane microdomain-targeting peptide. *Chemical Science* **2020**, *11* (3), 826-832.
10. Duan, H.-Z.; Nie, Z.-K.; Li, Y.; **Chen, Y.-X.***, Unremitting progresses for phosphoprotein synthesis. *Current Opinion in Chemical Biology* **2020,** *58*, 96-111.
11. Hackenberger, C. P. R.*; Dawson, P. E.*; **Chen, Y.-X.***; Hojo, H.*, Modern Peptide and Protein Chemistry: Reaching New Heights. *Journal of Organic Chemistry* **2020,** *85* (3), 1328-1330.
12. Han, B.-B.; Pan, Y.-C.; Li, Y.-M.; Guo, D.-S.*; **Chen, Y.-X.***, A host-guest ATP responsive strategy for intracellular delivery of phosphopeptides. *Chemical Communications* **2020,** *56* (41), 5512-5515.
13. Zhang, Y.-L.; Chang, R.; Duan, H.-Z.; **Chen, Y.-X.***, Metal ion and light sequentially induced sol-gel-sol transition of a responsive peptide-hydrogel. *Soft Matter* **2020,** *16* (33), 7652-7658.
14. Duan, H.-Z.; Chen, H.-X.; Yu, Q.; Hu, J.; Li, Y.-M.; **Chen, Y.-X.***, Stereoselective synthesis of a phosphonate pThr mimetic via palladium-catalyzed gamma-C(sp(3))-H activation for peptide preparation. *Organic & Biomolecular Chemistry* **2019,** *17* (8), 2099-2102.
15. Gao, N.; Huang, Y.-P.; Chu, T.-T.; Li, Q.-Q.; Zhou, B.; **Chen, Y.-X.***; Zhao, Y.-F.; Li, Y.-M.*, TDP-43 specific reduction induced by Di-hydrophobic tags conjugated peptides. *Bioorganic Chemistry* **2019,** *84*, 254-259.
16. Chen, H.-X.; Kang, J.; Chang, R.; Zhang, Y.-L.; Duan, H.-Z.; Li, Y.-M.; **Chen, Y.-X.***, Synthesis of alpha,alpha-Difluorinated Phosphonate pSer/pThr Mimetics via Rhodium-Catalyzed Asymmetric Hydrogenation of beta-Difluorophosphonomethyl alpha-(Acylamino)acrylates. *Organic Letters* **2018,** *20* (11), 3278-3281.
17. Huang, S.-Q.; Han, B.-B.; Li, Y.-M.; **Chen, Y.-X.***, A site-specific branching poly-glutamate tag mediates intracellular protein delivery by cationic lipids. *Biochemical and Biophysical Research*

Communications **2018,** *503* (2), 671-676.

18. Hu, J.; Zhu, P.; Li, Y.; **Chen, Y.-X.***, Synthesis of Ras proteins and their application in biofunctional studies. *Chinese Chemical Letters* **2018,** *29* (7), 1043-1050.
19. Yu, Q.; Sun, J.; Huang, S.; Chang, H.; Bai, Q.; **Chen, Y.-X.***; Liang, D.*, Inward Budding and Endocytosis of Membranes Regulated by de Novo Designed Peptides. *Langmuir* **2018,** *34* (21), 6183-6193.
20. Zhang, S.-Y.; Sperlich, B.; Li, F.-Y.; Al-Ayoubi, S.; Chen, H.-X.; Zhao, Y.-F.; Li, Y.-M.; Weise, K.; Winter, R.*; **Chen, Y.-X.***, Phosphorylation Weakens but Does Not Inhibit Membrane Binding and Clustering of K-Ras4B. *ACS Chemical Biology* **2017,** *12* (6), 1703-1710.
21. Kang, J.; Chen, H.-X.; Huang, S.-Q.; Zhang, Y.-L.; Li, F.-Y.; Li, Y.-M.; **Chen, Y.-X.***, Facile synthesis of Fmoc-protected phosphonate pSer mimetic and its application in assembling a substrate peptide of 14-3-3 zeta. *Tetrahedron Letters* **2017,** *58* (26), 2551-2553.
22. Gao, N.; Chu, T. T.; Li, Q. Q.; Lim, Y. J.; Qiu, T.; Ma, M. R.; Hu, Z. W.; Yang, X. F.; **Chen, Y.-X.***; Zhao, Y. F.; Li, Y. M.*, Hydrophobic tagging-mediated degradation of Alzheimer's disease related Tau. *RSC Advances* **2017,** *7* (64), 40362-40366.
23. Shi, L.; Chen, H.; Zhang, S. Y.; Chu, T. T.; Zhao, Y. F.; **Chen, Y.-X.***; Li, Y. M.*, Semi-synthesis of murine prion protein by native chemical ligation and chemical activation for preparation of polypeptide--thioester. *Journal of Peptide Science* **2017,** *23* (6), 438-444.
24. Chu, T.-T.; Gao, N.; Li, Q.-Q.; Chen, P.-G.; Yang, X.-F.; **Chen, Y.-X.***; Zhao, Y.-F.; Li, Y.-M.*, Specific Knockdown of Endogenous Tau Protein by Peptide-Directed Ubiquitin-Proteasome Degradation. *Cell Chemical Biology* **2016,** *23* (4), 453-461.
25. Li, L.; Zhang, S.-Y.; Li, Y.-M.; **Chen, Y.-X.***, Dual-labeling of ubiquitin proteins by chemoselective reactions for sensing UCH-L3. *Molecular Biosystems* **2016,** *12* (6), 1764-1767.
26. He, Y.-H.; Li, Y.-M.; **Chen, Y.-X.***, Phosphorylation regulates proteolytic efficiency of TEV protease detected by a 5(6)-carboxyfluorescein-pyrene based fluorescent sensor. *Talanta* **2016,** *150*, 340-345.

Invited Talks

- The 12th Chinese National Conference on Chemical Biology, Dalian, China (2023)
- Young Scholar Forum on Chemical Biology, organized by Professional Committee of Chemical Biology, Chinese Chemical Society, Virtual (2023)
- The 27th American Peptide Symposium, Whistler, Canada (not be able to attend due to pandemic, 2022)
- The 14th Australian Peptide Conference, Surfers Paradise, Australia (online talk, 2022)
- The 2nd Postdoctoral Annual Academic Conference on Molecular Sciences, Beijing, China (2022)
- Pacifichem 2021— "Advancing Frontiers in Peptide and Protein Science with Nano-to-Macro Molecular Solutions, New Technologies in Polyamide Synthesis and Applications" symposium, "Chemical Biology of Protein-Lipid" Symposium (co-organizer), Virtual (2021)
- The 16th Chinese International Peptide Symposium, Hefei, China (2020)
- The 11th Chinese National Conference on Chemical Biology, Guangzhou, China (2019)
- HKU Chemical Biology Symposium 2018, Hongkong, China (2018)
- The 7th Sino-German Frontiers of Chemistry Symposium, Munich, Germany (2018)
- The 15th Chinese International Peptide Symposium, Shenzhen, China (2018)
- The 11th National Conference on Phosphorus Chemistry and Chemical Engineering, Wuhan, China (2017)
- Asian Chemical Biology Initiative 2017 Ulaanbaatar Meeting, Ulaanbaatar, Mongolia (2017)
- CCS 11th National Symposium on Natural Organic Chemistry, Shanghai, China (2016)