PENG ZOU, Ph.D.

Vice Dean and Associate Professor with Tenure

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EDUCATION

2007-2012	Ph.D. in Biological Chemistry Department of Chemistry Massachusetts Institute of Technology, Cambridge, MA 02139, USA
2003-2007	B.S. in Chemistry and in Physics College of Chemistry and Molecular Engineering Peking University, Beijing, 100871, China

PROFESSIONAL APPOINTMENTS

2024-now	Vice Dean College of Chemistry and Molecular Engineering, Peking University, China
2021-now	Associate Professor (with tenure) College of Chemistry and Molecular Engineering, Peking University, China
2020-now	Junior Investigator Chinese Institute of Brain Research, Beijing, China
2015-now	Principal Investigator Synthetic and Functional Biomolecules Center, Peking University, China PKU-Tsinghua Center for Life Sciences, Peking University, China PKU-IDG/McGovern Institute for Brain Research, Peking University, China
2015-2021	Assistant Professor (tenure-track) College of Chemistry and Molecular Engineering, Peking University, China
2013-2015	Postdoctoral Fellow Department of Chemistry and Chemical Biology Harvard University, Cambridge, MA 02138, USA
2007-2012	Graduate Research Assistant Department of Chemistry Massachusetts Institute of Technology, Cambridge, MA 02139, USA

HONORS AND AWARDS

2023	Life Chemistry Young Investigator Award, Chinese Chemistry Society
2020	Bayer Investigator Award, Peking University
2020	Teaching Excellence Award, Peking University
2020	OKeanos-CAPA Young Investigator Award at the Chemical and Biology interface, CAPA
2019	Luye Eminent Young Scholar Fellowship, Peking University
2019	C&EN's Talented 12 Award, American Chemical Society
2019	Oral Presentation Award, Chinese Society of Biochemistry and Molecular Biology
2016	CNHUPO Young Investigator Presentation Award, China Human Proteome Organization
2011	CSHA Fellowship, Cold Spring Harbor Laboratory Asia
2008	Lewis Paul Chapin Fellowship, MIT
2008	Department of Chemistry Outstanding Teaching Award, MIT
2005	President's Undergraduate Research Fellowship, Peking University
2005	Wu Si Scholarship, Peking University
2004	Xiang Lu Scholarship, Peking University
2003	Freshman Scholarship, Peking University
2003	Gold medalist, Chinese Chemistry Olympiad
2003	Silver medalist, Chinese Mathematics Olympiad

RESEARCH GRANTS

On-going:

2024-2029	Development of fluorescent indicators for *in vivo* imaging of neural activities, Beijing National Laboratory for Molecular Sciences (BNLMS-CXXM-202403), RMB 4,500,000, PI.
2022-2027	Proteomic discovery and functional studies of novel protein post-translational modifications, Ministry of Science and Technology of China (2022YFA1304700), RMB 2,825,900, co-PI.
2021-2025	System-oriented research on multidimensions of the proteome, National Natural Science Foundation of China (32088101), RMB 6,000,000, co-PI.

Completed:

2018-2023	Chemical labeling and functional manipulations of protein glycosylation, Ministry of Science and Technology of China (2018YFA0507600), RMB 2,400,000, co-PI.
2018-2022	An optical-electrical integrated bioimaging system with ultrahigh spatial and temporal resolutions, National Natural Science Foundation of China (21727806), RMB 900,000, co-PI.
2017-2022	Study of centromere protein machinery and the molecular mechanism of cell fate determination, Ministry of Science and Technology of China (2017YFA0503600), RMB 2,400,000, co-PI.
2018-2020	Protein labeling technique for profiling nascent synaptic proteome, Beijing Municipal Natural Science Foundation (5182011), RMB 200,000, PI.

2018-2020   Spatiotemporally-resolved detection of protein lipidation, National Natural Science Foundation of China (91753131), RMB 700,000, PI.

2017-2020   Development of fluorescent voltage sensors and their application in the mechanistic study of neuronal signaling, National Natural Science Foundation of China (21673009), RMB 680,000, PI.

PROFESSIONAL SOCIETY AFFILIATIONS

Membership

2023-now   Member, Chinese Neuroscience Society

2020-now   Member, Chinese-American Chemistry and Chemical Biology Professors Association

2017-now   Member, Biophysical Society of China

2014-now   Member, Chinese Chemical Society

2007-now   Member, American Chemical Society

Editorial activities

2024-now   Editor-in-Chief, University Chemistry

2024-now   Associate Editor, Bioconjugate Chemistry

2023-now   Early Career Board Member, Chemical & Biomedical Imaging

2023-now   Editorial Advisory Board Member, ACS Bio & Med Chem Au

2022-now   Editorial Advisory Board Member, Biochemistry

2023-2024   Topic Editor, Bioconjugate Chemistry

2019-2024   Associate Editor, University Chemistry

2017-2022   Editorial Board Member, Chinese Chemical Letters

NATIONAL AND INTERNATIONAL MEETING ORGANIZERS AND SESSION CHAIRS

2024/09   HKU-PKU Joint Symposium on Chemical Biology, Hong Kong, China, Session Chair

2024/09   European Molecular Biology Organization Meeting, Heidelberg, Germany, Session Chair

2024/05   Cold Spring Harbor Asia Conference, Suzhou, China, Session Chair

2023/04   The 2023 Annual Meeting of Chinese Society for Cell Biology, Suzhou, Session Chair

2022/12   Symposium for Structural Biology and Proteomics, Online, Session Chair

2020/01   PKU-UCSD Bilateral Symposium, La Jolla, CA, USA, Session Chair

2019/10   2019 PKU-SFBC Symposium, Beijing, China, Session Chair

2018/12   HKU Chemical Biology Symposium, Hong Kong, China, Session Chair

2018/08   The 5th Asian Chemical Biology Conference, Xi'an, China, Session Chair

2014/09   Symposium on Fluorescent Proteins and Biological Sensors, HHMI Janelia Farm Research Campus, Virginia, USA, Session Chair

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TEACHING ACTIVITIES

2019-now   Chemical Biology Labs, undergraduate level, 60 hrs/yr

2019-now   Integrated Science Laboratory III, undergraduate level, 24 hrs/yr

2017-now   Fundamentals of Life Chemistry, undergraduate level, 48 hrs/yr
2016-now   PTN Chemical Biology Module, graduate level, 2 hrs/yr
2015-now   PTN Neurobiology Module, graduate level, 2 hrs/yr
2017-2020   Chemistry Today, undergraduate level, 16 hrs/yr

Current trainees: 10 undergraduate students, 20 graduate students, and 6 postdocs
Past trainees: 33 undergraduate students, 17 graduate students, and 2 postdocs

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RESEARCH SUMMARY

Research in my group focuses on developing novel chemical tools to explore cellular functions with high spatiotemporal resolution and throughput, particularly in neurons. Neural activity arises from intricate interactions among biological macromolecules, physical forces, and chemical signals, each with distinct spatiotemporal dynamics. To investigate these processes, we design chemical labeling methods, fluorescent indicators, and engineered proteins, integrating them with advanced sequencing, proteomics, and imaging techniques. Our goal is to create technologies that visualize cellular activities and subcellular structures, uncover molecular mechanisms, and accelerate therapeutic target discovery.

- **Chemigenetic Indicators for Optical Recording of Neural Activity**

  Membrane potential is a fundamental signal underlying neural activity. Traditional electrode-based recordings suffer from low throughput, invasiveness, and an inability to resolve voltage distributions at the subcellular level. To address these issues, we develop fluorescent indicators for optical voltage recording, offering high spatial resolution, minimal invasiveness, and the ability to conduct high-throughput measurements.

- **Genetically Encoded Photocatalysis for Mapping Subcellular Biomolecules**

  Neurons possess a highly compartmentalized architecture where the precise localization of proteins and nucleic acids is essential for processes such as signal transduction and gene expression. However, analyzing the spatial organization of the transcriptome and proteome has been challenging due to a lack of suitable tools. We have addressed this by developing visible light-triggered labeling technologies that target nucleic acids and proteins. By combining genetic targeting precision with the high throughput of sequencing and mass spectrometry, our methods enable comprehensive molecular profiling of subcellular structures in live cells.

- **Enzyme-Mediated Proximity Labeling Methods**

  Traditional proteomic and transcriptomic approaches typically rely on biochemical fractionation to isolate subcellular structures, a process that can disrupt physiological conditions and alter sample composition. To mitigate these issues, we have developed enzyme-mediated proximity labeling techniques using engineered peroxidases and biotin ligases. These methods produce highly reactive intermediates, such as phenoxyl radicals or adenylated carboxyl groups, that covalently capture nearby proteins and nucleic acids at the nanoscale. This approach has allowed us to map post-translational modifications and interaction networks within cellular structures with high precision.

PUBLICATIONS

PKU publications (# co-first author; * corresponding author)

1. Ren, Z.[#], Zhao, S.[#] and **Zou, P.*** (2025). Deciphering the RNA landscape of RNA granules. *Biochemistry* **64**, 3156-3164.

2. Liu, S.[#], Ling, J.[#], Xie, B.[#], Zhang, Y., Peng, L., Yang, L., Yu, L., Lin, J., Tang, C.*, Chen, Z.* and **Zou, P.*** (2025). Positive-going hybrid indicators for voltage imaging in excitable cells and tissues. *Sci. Adv.* **11**, eads1807.

3. Fang, Y. and **Zou, P.*** (2025). Genetically encoded photocatalysis for spatiotemporally resolved mapping of biomolecules in living cells and animals. *Acc. Chem. Res.* **58**, 2526-2534.

4. Ren, T.[#], Gong, J.[#], Zheng, F., Long, J., Wang, H., He, J.*, Jiang, J.-H.* and **Zou, P.*** (2025). Genetically encoded near-infrared photocatalysis for proximity labeling of subcellular proteome. *Anal. Chem.* **97**, 14492-14502.

5. Ling, J.[#], Zhang, Y.[#], Hei, Y.[#], Kompa, J., Yang, C., Wang, B., Zhang, J., Du, J., Rudi, T., Zhang, K., Sun, J., Wang, W., Fabritz, S., Li, Y., Deng, W., **Zou, P.**, Chen, C.* and Chen, Z.* (2025). Thioether editing generally increases the photostability of rhodamine dyes on self-labeling tags. *Proc. Natl. Acad. Sci. U. S. A.* **122**, e2426354122.

6. Ren, Z., Zhao, S., Tang, W. and **Zou, P.*** (2025). Spatially resolved multi-bait mapping of stress granule and processing body transcriptome. *Anal. Chem.* **97**, 12767-12775.

7. Wang, R.[#], Fang, Y.[#], Hu, Y., Liu, Y.*, Chen, P. R.* and **Zou, P.*** (2025). Bioluminescence-activated proximity labeling for spatial multi-omics. *Chem* **11**, 102595.

8. Xiong, S.[#], Peng, L.[#], Gu, L.*, **Zou, P.*** and Ji, W.* (2025). High pixel throughput voltage imaging based on repetitive optical selective exposure (ROSE). *Optica* **12**, 860-871.

9. Zhang, J., Zhang, K., Wang, K., Wang, B., Zhu, S., Qian, H., Ma, Y., Zhang, M., Liu, T., Chen, P., Shen, Y., Fu, Y., Fang, S., Zhang, X., **Zou, P.**, Deng, W., Mu, Y. and Chen, Z.* (2025). A palette of bridged bicycle-strengthened fluorophores. *Nat. Methods* **22**, 1276-1287.

10. Wang, G., Li, M.* and **Zou, P.*** (2025). Enzyme-mediated proximity labeling reveals the co-translational targeting of DLGAP5 mRNA to the centrosome during mitosis. *RSC Chem. Biol.* **6**, 919-932.

11. Qu, D., Li, Y., Liu, Q., Cao, B., Cao, M., Lin, X., Shen, C., **Zou, P.**, Zhou, H.*, Zhang, W.* and Pan, W.* (2025). Photoactivated SOPP3 enables APEX2-mediated proximity labeling with high spatio-temporal resolution in live cells. *Cell Res.* **35**, 149-152.

12. Liu, S. and **Zou, P.*** (2024). Recent development of chemigenetic hybrid voltage indicators enabled by bioconjugation chemistry. *Bioconjug. Chem.* **35**, 1711-1715.

13. Liu, T., Kompa, J., Ling, J., Lardon, N., Zhang, Y., Chen, J., Reymond, L., Chen, P., Tran, M., Yang, Z., Zhang, H., Liu, Y., Pitsch, S., **Zou, P.**, Wang, L., Johnsson, K. and Chen, Z.* (2024). Gentle rhodamines for live-cell fluorescence microscopy. *ACS Cent. Sci.* **10**, 1933-1944.

14. Chai, F., Fujii, H., Le, G. N. T., Lin, C., Ota, K., Lin, K. M., Pham, L. M. T., **Zou, P.**, Drobizhev, M., Nasu, Y., Terai, T., Bito, H. and Campbell, R. E.* (2024). Development of an miRFP680-based fluorescent Calcium ion biosensor using end-optimized transposons. *ACS Sens.* **9,** 3394-3402.

15. Hsu, K.-L., Schumann, B., Sletten, E., Vinogradova, E. and **Zou, P.** (2024). Voices: challenges and opportunities for bioorthogonal chemistry. *Cell Chem. Biol.* **31**, 380-382.

16. Zhang, W., Fu, Y., Peng, L., Ogawa, Y., Ding, X., Rasband, A., Zhou, X., Shelly, M., Rasband M. N.* and **Zou, P.*** (2023). Immunoproximity biotinylation reveals the axon initial segment proteome. *Nat. Commun.* **14**, 8201.

17. Han, Y.[#], Yang, J.[#,*], Li, Y.[#], Chen, Y.[#], Ren, H., Ding, R., Qian, W., Ren, K., Xie, B., Deng, M., Xiao, Y., Chu, J. and **Zou, P.*** (2023). Bright and sensitive red voltage indicators for imaging action potentials in brain slices and pancreatic islets. *Sci. Adv.* **9**, eadi4208.

18. Ren, Z.[#], Tang, W.[#], Peng, L. and **Zou, P.*** (2023). Profiling stress-triggered RNA condensation with photocatalytic proximity labeling. *Nat. Commun.* **14**, 7390.

19. Yuan, F.[#], Li, Y.[#], Zhou, X. and **Zou, P.*** (2023). Spatially resolved mapping of proteome turnover dynamics with subcellular precision. *Nat. Commun.* **14**, 7217.

20. Peng, L. and **Zou, P.*** (2023). Supertemporal resolution imaging of membrane potential via stroboscopic microscopy. *Chem. Biomed. Imaging* **1**, 448-460. (Selected as ACS Editor's Choice)

21. Liu, S.[#], Ling, J.[#], Chen, P., Cao, C., Peng, L., Zhang, Y., Ji, G., Guo, Y., Chen, P. R., **Zou, P.*** and Chen, Z.* (2023). Orange/far-red hybrid voltage indicators with reduced phototoxicity enable reliable long-term imaging in neurons and cardiomyocytes. *Proc. Natl. Acad. Sci. U. S. A.* **120**, e2306950120.

22. Lin, C., Liu, L. and **Zou, P.*** (2023). Functional imaging-guided cell selection for evolving genetically encoded fluorescent indicators. *Cell Rep. Methods* **3**, 100544.

23. Ren, Z.[#], Li, R.[#], Zhou, X.[#], Chen, Y., Fang, Y. and **Zou, P.*** (2023). Enzyme-mediated proximity labeling identifies small RNAs in the endoplasmic reticulum lumen. *Biochemistry* **62**, 1844-1848.

24. Zheng, F., Yu, C., Zhou, X. and **Zou, P.*** (2023). Genetically encoded photocatalytic protein labeling enables spatially-resolved profiling of intracellular proteome. *Nat. Commun.* **14**, 2978.

25. Fang, Y. and **Zou, P.*** (2023). Photocatalytic proximity labeling for profiling the subcellular organization of biomolecules. *Chembiochem.* **24**, e202200745.

26. Li, R. and **Zou, P.*** (2023). MERR APEX-seq protocol for profiling subcellular nascent transcriptome in mammalian cells. *STAR Protoc.* **4**, 102057.

27. Wang, R. and **Zou, P.*** (2023). Bioorthogonal chemical ligation creates synthetic antibodies with improved therapeutic potency. *ACS Cent. Sci.* **9**, 349-351.

28. Bernardes, G. J. L., **Zou, P.**, Dai, Z., Lavik, E., van Hest, J., Zheng, G., Quinn, N., MacLaughlin, C. M., Reineke, T. M.* (2023). Introducing the 2023 Bioconjugate Chemistry editorial team. *Bioconjugate Chem.* **34**, 279–282.

29. Yang, X., Chen, D., Sun, Q., Wang, Y., Xia, Y., Yang, J., Lin, C., Dang, X., Cen, Z., Liang, D., Wei, R., Xu, Z., Xi, G., Xue, G., Ye, C., Wang, L.-P., **Zou, P.**, Wang, S., Rivera-Fuentes, P., Püntener, S., Chen, Z., Liu, Y.*, Zhang, J.* and Zhao, Y.* (2023). A live-cell image-based machine learning strategy for reducing variability in PSC differentiation systems. *Cell Discov.* **9**, 53.

30. Sun, M., Yuan, F., Tang, Y., **Zou, P.*** and Lei, X.* (2022). Subcellular interactomes revealed by merging APEX with cross-linking mass spectrometry. *Anal. Chem.* **94**, 14878-14888.

31. Sedzro, D.M., Yuan, X., Mullen, M., Ejaz, U., Yang, T., Liu, X., Song, X., Tang, Y.-C., Pan, W., **Zou, P.**, Gao, X., Wang, D., Wang, Z., Dou, Z.*, Liu, X.* and Yao, X.* (2022). Phosphorylation of CENP-R by Aurora B regulates kinetochore-microtubule attachment for accurate chromosome segregation. *J. Mol. Cell Biol.* **14**, mjac051.

32. An, Y., Zhao, Q.*, Gong, Z., Zhao, L., Li, Y., Liang, Z., **Zou, P.**, Zhang, Y. and Zhang, L.* (2022). Suborganelle-specific protein complex analysis enabled by in vivo cross-linking coupled with proximal labeling. *Anal. Chem.* **94**, 12051-12059.

33. Tian, W.[#], Peng, L.[#], Zhao, M.[#], Tao, L.*, **Zou, P.*** and Zhang, Y.* (2022). Dendritic morphology affects the velocity and amplitude of backpropagating action potentials. *Neurosci. Bull.* **38**, 1330-1346.

34. Chen, Z., Peng, L., Zhao, M., Tao, L.*, **Zou, P.*** and Zhang, Y.* (2022). Differences in action potential propagation velocity and axon initial segment plasticity in neurons from Sprague Dawley rats and C57BL/6 mice. *Zool. Res.* **43**, 615-633.

35. Xie, B.[#], Pu, Y.[#], Yang, F., Chen, W., Yue, W., Ma, J., Zhang, N., Jiang, Y., Wu, J., Lin, Y., Liang, X., Wang, W., **Zou, P.*** and Li, M.* (2022). Proteomic mapping and targeting of mitotic pericentriolar material in tumors bearing centrosome amplification. *Cancer Res.* **82**, 2576-2592.

36. Luo, H.[#], Tang, W.[#], Liu, H., Zeng, X., Ngai, W. S. C., Gao, R., Li, H., Li, R., Zheng, H., Guo, J., Qin, F., Wang, G., Li, K., Fan, X.*, **Zou, P.*** and Chen, P. R.* (2022). Photocatalytic chemical crosslinking for profiling RNA-protein interactions in living cells. *Angew. Chem. Int. Ed. Engl.* **61**, e202202008.

37. Lv, P.[#], Du, Y.[#], He, C.[#], Peng, L., Zhou, X., Wan, Y., Zeng, M., Zhou, W., **Zou, P.**, Li, C., Zhang, M., Dong, S.* and Chen, X.* (2022). O-GlcNAcylation modulates liquid-liquid phase separation of SynGAP/PSD-95. *Nat. Chem.* **14**, 831-840.

38. Li, R., Zou, Z., Wang, W. and **Zou, P.*** (2022). Metabolic incorporation of electron-rich ribonucleosides enhanced APEX-seq for profiling spatially restricted nascent transcriptome. *Cell Chem. Biol.* **29**, 1218-1231.e8.

39. Liu, S.[#], Yang, J.[#] and **Zou, P.*** (2021). Bringing together the best of chemistry and biology: hybrid indicators for imaging neuronal membrane potential. *J. Neurosci. Methods* **363**, 109348.

40. Chen, L., Li, N., Zhang, M., Sun, M., Bian, J., Yang, B., Li, Z., Wang, J., Li, F., Shi, X., Wang, Y., Yuan, F., **Zou, P.**, Shan, C. and Wang, J.* (2021) APEX2-based proximity labeling of Atox1 identifies CRIP2 as a nuclear copper-binding protein that regulates autophagy activation. *Angew. Chem. Int. Ed. Engl.* **60**, 25346-25355.

41. Xie, B., Liang, X., Yue, W., Ma, J., Li, X., Zhang, N., Wang, P., Liu, C., Shi, X., Qiao, J., **Zou, P.** and Li, M.* (2021). Targeting cytokinesis bridge proteins to kill high-CIN type tumors. *Fundamental Research* **1**, 752-766.

42. Liu, Y.[#], Zeng, R.[#], Wang, R., Weng, Y., Wang, R., **Zou, P.*** and Chen, P. R.* (2021). Spatiotemporally resolved subcellular phosphoproteomics. *Proc. Natl. Acad. Sci. U. S. A.* **118**, e2025299118.

43. Li, Y., Yuan, Y., Li, Y., Han, D., Liu, T., Yang, N., Mi, X., Hong, J., Liu, K., Song, Y., He, J., Zhou, Y., Han, Y., Shi, C., Yu, S., **Zou, P.**, Guo, X.* and Li, Z.* (2021). Inhibition of α-synuclein accumulation improves neuronal apoptosis and delayed postoperative cognitive recovery in aged mice. *Oxid. Med. Cell Longev.* **2021**, 5572899.

44. Liu, S.[#], Lin, C.[#], Xu, Y.[#], Luo, H., Peng, L., Zeng, X., Zheng, H., Chen, P. R.* and **Zou, P.*** (2021). A far-red hybrid voltage indicator enabled by bioorthogonal engineering of rhodopsin on live neurons. *Nat. Chem.* **13**, 472-479.

45. Wang, S., Lin, C.-W., Carleton, A. E., Cortez, C. L., Johnson, C., Taniguchi, L. E., Sekulovski, N., Townshend, R. F., Basrur, V., Nesvizhskii, A. I., **Zou, P.**, Fu, J.*, Gumucio, D. L.*, Duncan, M. C.*

and Taniguchi, K.* (2021). Spatially resolved cell polarity proteomics of a human epiblast model. *Sci. Adv*. **7,** eabd8407.

46. Ke, M., Yuan, X., He, A., Yu, P., Chen, W., Shi, Y., Hunter, T., **Zou, P.** and Tian, R.* (2021). Spatiotemporal profiling of cytosolic signaling complexes in living cells by selective proximity proteomics. *Nat. Commun*. **12**, 71.

47. Zhou, Y. and **Zou, P.*** (2021). The evolving capabilities of enzyme-mediated proximity labeling. *Curr. Opin. Chem. Biol.* **60**, 30-38.

48. Xu, F., Du, W., Zou, Q., Wang, Y., Zhang, X., Xing, X., Li, Y., Zhang, D., Wang, H., Zhang, W., Hu, X., Liu, X., Liu, X., Zhang, S., Yu, J., Fang, J., Li, F., Zhou, Y., Yue, T., Mi, N., Deng, H., **Zou, P.**, Chen, X., Yang, X.* and Yu, L.* (2021). COPII mitigates ER stress by promoting formation of ER whorls. *Cell Res.* **31**, 141-156.

49. Ding, T.[#], Zhu, L.[#], Fang, Y., Liu, Y., Tang, W. and **Zou, P.*** (2020). Chromophore-assisted proximity labeling of DNA reveals chromosomal organization in living cells. *Angew. Chem. Int. Ed. Engl.* **59**, 22933-22937. (Selected as Hot Paper)

50. Li, Y., Liu, K., Zhou, Y., Yang, J.* and **Zou, P.*** (2020). Protocol for proximity-dependent proteomic profiling in yeast cells by APEX and Alk-Ph probe. *STAR Protoc.* **1**, 100137.

51. Li, Y., Tian, C., Liu, K., Zhou, Y., Yang, J.* and **Zou, P.*** (2020). A clickable APEX probe for proximity-dependent proteomic profiling in yeast. *Cell Chem. Biol.* **27**, 858-865.

52. Yuan, Y.[#], Li, Z.[#], Yang, N.[#], Han, Y., Ji, X., Han, D., Wang, X., Li, Y., Liu, T., Yuan, F., He, J., Liu, Y., Ni, C., **Zou, P.**, Wang, G.*, Guo, X.* and Zhou, Y.* (2020). Exosome alpha-synuclein release in plasma may be associated with postoperative delirium in hip fracture patients. *Front Aging Neurosci.* **12**, 67.

53. Fang, Y. and **Zou, P.*** (2020). Genome-wide mapping of oxidative DNA damage via engineering of 8-oxoguanine DNA glycosylase. *Biochemistry* **59**, 85-89.

54. Xu, Y.[#], Deng, M.[#], Zhang, S.[#], Yang, J.[#], Peng, L., Chu, J.* and **Zou, P.*** (2019). Imaging neuronal activity with fast and sensitive red-shifted electrochromic FRET indicators. *ACS Chem. Neurosci.* **10**, 4768-4775.

55. Wang, C., **Zou, P.**, Yang, C., Liu, L., Cheng, L., He, X., Zhang, L., Zhang, Y., Jiang, H.* and Chen, P. R.* (2019). Dynamic modifications of biomacromolecules: mechanism and chemical interventions. *Sci. China Life Sci.* **62**, 1459-1471.

56. Wang, P.[#], Tang, W.[#], Li, Z.[#], Zou, Z., Zhou, Y., Li, R., Xiong, T., Wang, J.* and **Zou, P.*** (2019). Mapping spatial transcriptome with light-activated proximity-dependent RNA labeling. *Nat. Chem. Biol.* **15**, 1110-1119.

57. Yu, H., Zhao, T., Liu, S., Wu, Q., Johnson, O., Wu, Z., Zhuang, Z., Shi, Y., Peng, L., He, R., Yang, Y., Sun, J., Wang, X., Xu, H., Zeng, Z., **Zou, P.**, Lei, X., Luo, W.* and Li, Y.* (2019). MRGPRX4 is a bile acid receptor for human cholestatic itch. *Elife* **8**, e48431.

58. Zhou, Y.[#], Wang, G.[#], Wang, P., Li, Z., Yue, T., Wang, J. and **Zou, P.*** (2019). Expanding APEX2 substrates for proximity-dependent labeling of nucleic acids and proteins in living cells. *Angew. Chem. Int. Ed. Engl.* **58**, 11763-11767.

59. Zhou, Y.[#], Zhu, L.[#] and **Zou P.*** (2019). A brief introduction to Nobel Prize in Chemistry 2018: harnessing the power of evolution. *Univ. Chem.* **34**, 1-6.

60. Kiskinis, E.[#], Kralj, J. M.[#], **Zou, P.**[#], Weinstein, E. N.[#], Zhang, H., Tsioras, K., Wiskow, O., Ortega, J. A., Eggan, K.* and Cohen, A. E.* (2018). All-optical electrophysiology for high-throughput functional characterization of a human iPSC-derived motor neuron model of ALS. *Stem Cell Reports* **10**, 1991-2004.

61. Wang, A.[#], Feng, J.[#], Li, Y.* and **Zou, P.*** (2018). Beyond fluorescent proteins: hybrid and bioluminescent indicators for imaging neural activities. *ACS Chem. Neurosci.* **9**, 639-650.

62. Xu, Y.[#], Peng, L.[#], Wang, S.[#], Wang, A.[#], Ma, R., Zhou, Y., Yang, J., Sun, D. E., Lin, W., Chen, X. and **Zou, P.*** (2018). Hybrid indicators for fast and sensitive voltage imaging. *Angew. Chem. Int. Ed. Engl.* **57**, 3949-3953.

63. Park, K., Kuo, Y., Shvadchak, V., Ingargiola, A., Dai, X., Hsiung, L., Kim, W., Zhou, H., **Zou, P.**, Levine, A. J., Li, J. and Weiss, S.* (2018). Membrane insertion of-and membrane potential sensing by-semiconductor voltage nanosensors: Feasibility demonstration. *Sci. Adv.* **4**, e1601453.

64. Peng, L.[#], Xu, Y.[#] and **Zou, P.*** (2017). Genetically-encoded voltage indicators. *Chin. Chem. Lett.* **28**, 1925-1928.

65. Xu, Y., **Zou, P.*** and Cohen, A. E.* (2017). Voltage imaging with genetically encoded indicators. *Curr. Opin. Chem. Biol.* **39**, 1-10.

66. Abdelfattah, A. S., Farhi, S. L., Zhao, Y. X., Brinks, D., **Zou, P.**, Ruangkittisakul, A., Platisa, J., Pieribone, V. A., Ballanyi, K., Cohen, A. E. and Campbell, R. E.* (2016). A bright and fast red fluorescent protein voltage indicator that reports neuronal activity in organotypic brain slices. *J. Neurosci.* **36**, 2458-2472.

Prior to PKU (# co-first author; * corresponding author)

67. Hochbaum, D. R.[#], Zhao, Y.[#], Farhi, S. L., Klapoetke, N., Werley, C. A., Kapoor, V., **Zou, P.**, Kralj, J. M., Maclaurin, D., Smedemark-Margulies, N., Saulnier, J. L., Boulting, G. L., Straub, C., Cho, Y. K., Melkonian, M., Wong, G. K. S., Harrison, D. J., Murthy, V. N., Sabatini, B. L., Boyden, E. S., Campbell, R. E.* and Cohen, A. E.* (2014). All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. *Nat. Methods* **11**, 825-833.

68. **Zou, P.**[#], Zhao, Y.[#], Douglass, A. D., Hochbaum, D. R., Brinks, D., Werley, C. A., Harrison, D. J., Campbell, R. E.* and Cohen, A. E.* (2014). Bright and fast multicoloured voltage reporters via electrochromic FRET. *Nat. Commun.* **5**, 4625.

69. Hung, V., **Zou, P.**, Rhee, H. W., Udeshi, N. D., Cracan, V., Svinkina, T., Carr, S. A., Mootha, V. K. and Ting, A. Y.* (2014). Proteomic mapping of the human mitochondrial intermembrane space in live cells via ratiometric APEX tagging. *Mol. Cell* **55**, 332-341.

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71. Rhee, H. W.[#], **Zou, P.**[#], Udeshi, N. D., Martell, J. D., Mootha, V. K., Carr, S. A. and Ting, A. Y.* (2013). Proteomic mapping of mitochondria in living cells via spatially restricted enzymatic tagging. *Science* **339**, 1328-1331.

72. Cohen, J. D., **Zou, P.** and Ting, A. Y.* (2012). Site-specific protein modification using lipoic acid ligase and bis-aryl hydrazone formation. *Chembiochem* **13**, 888-894.

73. Kang, X., Zhong, N., **Zou, P.**, Zhang, S. N., Jin, C. W. and Xia, B.* (2012). Foldon unfolding mediates the interconversion between M-pro-C monomer and 3D domain-swapped dimer. *Proc. Natl. Acad. Sci. U. S. A.* **109**, 14900-14905.

74. **Zou, P.** and Ting, A. Y.* (2011). Imaging LDL receptor oligomerization during endocytosis using a co-internalization assay. *ACS Chem. Biol.* **6**, 308-313.

75. Prince, R. N., Schreiter, E. R., **Zou, P.**, Wiley, H. S., Ting, A. Y., Lee, R. T. and Lauffenburger, D. A.* (2010). The heparin-binding domain of HB-EGF mediates localization to sites of cell-cell contact and prevents HB-EGF proteolytic release. *J. Cell Sci.* **123**, 2308-2318.

76. Zhong, N.[#], Zhang, S. N.[#], Xue, F.[#], Kang, X., **Zou, P.**, Chen, J. X., Liang, C., Rao, Z. H., Jin, C. W., Lou, Z. Y.* and Xia, B.* (2009). C-terminal domain of SARS-CoV main protease can form a 3D domain-swapped dimer. *Protein Sci.* **18**, 839-844.

77. Zhong, N., Zhang, S. N., **Zou, P.**, Chen, J. X., Kang, X., Li, Z., Liang, C., Jin, C. W. and Xia, B.* (2008). Without its N-finger, the main protease of severe acute respiratory syndrome coronavirus can form a novel dimer through its C-terminal domain. *J. Virol.* **82**, 4227-4234.

Books and Book Chapters

1. Zhou, X. and **Zou, P.*** (2025). Detection of protein-protein interactions in situ via proximity ligation assay. In *Targeting protein-protein interactions for drug discovery* (ed. Jian Zhang), pp. 105-114. Wiley. ISBN: 978-3-527-35360-6.

Patents

1. US9624524B2, "In vivo proteomics," Alice Y. Ting, Jeffrey Daniel Martell, Hyun-Woo Rhee, **Peng Zou**, Apr. 18, 2017.

2. US9518103B2, "Optogenetic probes for measuring membrane potential," Adam E. Cohen, Daniel Hochbaum, **Peng Zou**, Samouil Leon Farhi, Robert Earl Campbell, Yongxin Zhao, Daniel Jed Harrison, Dec. 13, 2016.

INVITED TALKS AND CONFERENCE PRESENTATIONS

1. Fluorescent indictors for membrane voltage. ACS Publication Symposium (2025/08, Invited Speaker), Beijing

2. Imaging voltage in pancreatic islets. Trans-scale Imaging and Integrated Islet Biology Symposium (2025/08, Invited Speaker), Beijing

3. Voltage imaging with genetically encoded indicators. Chemical & Biomedical Imaging Symposium (2025/07, Invited Speaker), Nanjing

4. Genetically encoded and immuno-proximity labeling for mapping subcellular biomolecules. Yale University (2025/06, Invited Speaker), New Haven, CT, USA

5. Bright and photostable voltage indicators for imaging neural activity. Massachusetts Institute of Technology (2025/05, Invited Speaker), Cambridge, MA, USA

6. Genetically encoded photocatalysis for spatially resolved profiling of stress granules. The University of Chicago (2025/05, Invited Speaker), Chicago, USA

7. Spatiotemporally resolved proteomic and transcriptomic mapping of stress granule assembly. The 3rd National Symposium of Biological Phase Separation and Phase Transition (2025/05, Invited Speaker), Hangzhou

8. Bright and photostable voltage indicators for imaging neural activity. Cold Spring Harbor Asia Conference (2025/04, Oral Presentation), Awaji, Japan

9. Genetically encoded photocatalytic proximity labeling. The 13th Chinese National Conference on Chemical Biology (2025/04, Invited Speaker, Session Chair), Changsha

10. Chemical probes for neuroscience. Hunan University (2025/04, Invited Speaker), Changsha

11. Genetically encoded and immuno-proximity labeling for mapping subcellular biomolecules. Agency for Science, Technology and Research (A*STAR) (2025/01, Invited Speaker), Singapore

12. Mapping neural activities, subcellular biomolecules, and beyond. HKU-PKU Joint Symposium on Chemical Biology (2025/01, Invited Speaker, Session Chair), Hong Kong

13. Spatially resolved mapping of subcellular proteome via immuno-proximity labeling. Asian Chemical Biology Conference 7 (2025/01, Oral Presentation), Hong Kong

14. Genetically encoded photocatalysis for mapping stress granule assembly. ChemoRevolution (2024/12, Oral Presentation), Sanya

15. Chemical probes for neuroscience. Beijing National Laboratory of Molecular Sciences Symposium (2024/11, Invited Speaker), Beijing

16. Genetically encoded photocatalysis for spatially restricted profiling of biomolecules. European Molecular Biology Organization Meeting (2024/09, Oral Presentation, Session Chair), Heidelberg, Germany

17. Genetically encoded voltage indicators for imaging neural activities. Chinese Neuroscience Society Meeting (2024/08, Invited Speaker), Shanghai

18. Spatiotemporally revolved profiling of multi-omics. Center for Excellence in Molecular Cell Science, CAS (2024/07, Invited Speaker), Shanghai

19. Spatiotemporally revolved mapping of subcellular biomolecules. The 2nd Symposium of Interdisciplinary Studies (2024/06, Invited Speaker), Shengzhou

20. Hybrid voltage indicators for imaging membrane potential. The 34th Chinese Chemical Society Conference (2024/06, Invited Speaker), Guangzhou

21. Spatially resolved mapping of subcellular biomolecules via photocatalytic and immuno-proximity labeling. Cold Spring Harbor Asia Conference (2024/05, Invited Speaker, Session Chair), Suzhou

22. Spatially resolved profiling of biomolecules via genetically encoded and immuno-proximity labeling. Westlake University (2024/05, Invited Speaker), Hangzhou

23. Imaging membrane voltage with genetically encoded indicators. The International Symposium on Multiscale Simulations of Thermophysics (2024/05, Invited Speaker), Beijing

24. Spatially resolved profiling of biomolecules via genetically encoded and immuno-proximity labeling. The 3rd International Symposium on Biofunctional Chemistry (ISBC2024) (2024/04, Invited Speaker), Nagoya, Japan

25. Genetically encoded photocatalysis for mapping subcellular biomolecules. Pre-ISBC2024 Workshop on Synthetic Cell Biology (2024/04, Invited Speaker), Kyoto, Japan

26. Spatially resolved mapping of N-glycoproteome with subcellular precision. Kyoto University (2024/04, Invited Speaker), Kyoto, Japan

27. Photocatalytic and immuno-proximity labeling methods for mapping subcellular biomolecules. University of Tokyo (2024/04, Invited Speaker), Tokyo, Japan

28. Chemical probes for neuroscience. Institute of Materia Medica, CAMS (2024/03, Invited Speaker), Beijing

29. Genetically encoded indicators for imaging neuronal electrophysiology. Frontiers in Optical Microscopy (2024/03, Invited Speaker), Beijing

30. Genetically encoded voltage indicators for imaging neural activities. Fudan University (2024/01, Invited Speaker), Shanghai

31. Spatiotemporally resolved cellular electrophysiology recording with fluorescent voltage indicators. Jizhitongxing Symposium (2024/01, Invited Speaker), Harbin

32. Genetically encoded photocatalysis for spatially restricted profiling of biomolecules. The 13th International Symposium on Bioorganic Chemistry (2023/12, Invited Speaker), Singapore

33. Genetically encoded voltage indicators for mapping neuronal activities. The 12th Neuronal Cell Biology Frontier Symposium (2023/11, Invited Speaker), Zhuhai

34. Protein target ID enabled by immuno-proximity labeling. ChinaNanomedicine 2023 (2023/11, Invited Speaker), Guangzhou

35. Profiling stress-triggered RNA condensation with photocatalytic proximity labeling. Huairou Forum 2023 (2023/11, Invited Speaker), Beijing

36. Image-guided labeling for spatiotemporally-resolved omics. NSFC Young Investigator Forum (2023/10, Invited Speaker), Shanghai

37. Spatially resolved profiling of biomolecules via genetically encoded and immuno-proximity labeling reactions. Southern University of Science and Technology (2023/10, Invited Speaker), Shenzhen

38. Spatially resolved proteomic profiling via immuno- and photocatalytic proximity labeling. The 12th CNHUPO Annual Congress (2023/09, Invited Speaker), Chengdu

39. Genetically encoded photocatalysis for spatially restricted profiling of biomolecules. The 1st SZBL Chemical Biology Symposium (2023/09, Invited Speaker), Shenzhen

40. Genetically encoded photocatalysis for spatially restricted profiling of biomolecules. The 6th Asian Chemical Biology Conference (2023/08, Invited Speaker), Jeju, Korea

41. Voltage imaging with hybrid indicators enabled by the bioorthogonal engineering of rhodopsin. American Chemical Society Fall Meeting 2023 (2023/08, Invited Speaker), San Francisco, CA, USA

42. Spatiotemporally resolved multi-omics. The 33rd Chinese Chemical Society Conference (2023/06, Invited Speaker), Qingdao

43. Genetically Encoded Photocatalytic Protein Labeling Enables Spatially-Resolved Profiling of Intracellular Proteome. Bioorganic Chemistry Gordon Research Conference (2023/06, Oral Presentation), Andover, NH, USA

44. Photocatalytic proximity labeling resolves the mechanism of membraneless organelle assembly. The 3rd National Symposium of Biological Phase Separation and Phase Transition (2023/06, Oral Presentation), Shanghai

45. Spatiotemporally resolved multi-omics. Southern University of Science and Technology (2023/05, Invited Speaker), Shenzhen

46. Photocatalytic proximity labeling resolves the mechanism of membraneless organelle assembly. Shenzhen Bay Laboratory (2023/05, Invited Speaker), Shenzhen

47. Imaging membrane potential with genetically encoded indicators. Hong Kong University of Science and Technology (2023/04, Invited Speaker), Hong Kong

48. Spatiotemporally resolved omics. The 12th Chinese National Conference on Chemical Biology (2023/04, Invited Speaker), Dalian

49. Spatiotemporally resolved subcellular transcriptomic labeling. Chinese Society for Cell Biology 2023 Annual Meeting (2023/04, Invited Speaker, Session Chair), Suzhou

50. Bright and sensitive red voltage indicators for imaging neuronal action potentials. The 6th International Symposium of Synaptic Transmission and Neural Plasticity (2023/04, Oral Presentation), Shenzhen

51. Molecular probes for neural activities. Young Investigator Symposium for Chemical Biology (2023/02, Invited Speaker), Online

52. Photocatalytic proximity labeling of subcellular proteomes. Symposium for Structural Biology and Proteomics (2022/12, Invited Speaker, Session Chair), Online

53. Chemical probes for neuroscience. School of Pharmaceutical Sciences, Chongqing University (2022/11, Invited Speaker), Online

54. Bioorthogonal chemistry. Institute of Pathogen Biology, CAMS (2022/10, Invited Speaker), Online

55. Hybrid voltage indicators for mapping neuronal action potentials. Neuro Zoom Research Talks (2022/09, Invited Speaker), Online

56. Mapping stress granule transcriptome with photocatalytic RNA proximity labeling. Interdisciplinary Research Center on Biology and Chemistry, CAS (2022/08, Invited Speaker), Online

57. Imaging neuronal electrophysiology with hybrid voltage indicators. The 19th Chinese-American Kavli Frontiers of Science - Hybrid Virtual Symposium (2022/07, Invited Speaker), Online

58. Spatiotemporally resolved subcellular omics. Shanghai Jiaotong University (2022/05, Invited Speaker), Online

59. Hybrid voltage indicators for imaging neuronal activities. NSFC-RGC Young Scholar Forum (2021/12, Invited Speaker), Online

60. Chemical probes for neuroscience. Nanjing Normal University (2021/12, Invited Speaker), Online
61. Hybrid neuronal fluorescent sensors enabled by bioorthogonal protein engineering. Pacifichem 2021 (2021/12, Invited Speaker), Online
62. Spatiotemporally resolved subcellular protein post-translational modifications profiling. The 10th Annual Conference of the International Chemical Biology Society (2021/11, Invited Speaker), Online
63. Spatiotemporally resolved proteomics and transcriptomics. Jizhitongxing V Symposium (2021/05, Invited Speaker), Chongqing
64. Hybrid indicators for all-optical mapping of neuronal electrophysiology. Beihang University (2021/05, Invited Speaker), Beijing
65. Chemical probes for neuroscience. The 32nd Chinese Chemical Society Conference (2021/04, Oral Presentation), Zhuhai
66. Hybrid voltage indicators for imaging neuronal activities. ACS 2021 Spring Meeting (2021/04, Oral Presentation), Online
67. Chemical probes for neuroscience. China Brain Science and Technology Conference (2020/12, Invited Speaker), Tianjin (online)
68. Chemical probes for neuroscience. Institute of Automation, CAS (2020/11, Invited Speaker), Beijing
69. Chemical probes for neuroscience. SFBC-ChemBIC Bilateral Symposium (2020/11, Invited Speaker), Beijing
70. Spatiotemporally resolved subcellular transcriptomic profiling CAP-seq. Beijing National Laboratory of Molecular Sciences Symposium (2020/10, Invited Speaker), Beijing
71. Profiling subcellular transcriptome with chromophore-assisted proximity-labeling and sequencing (CAP-seq). Bayer 2020 Online Symposium (2020/08, Invited Speaker), Beijing (online)
72. Mapping spatial transcriptome with chromophore-assisted proximity-dependent RNA labeling. PKU-UChicago Joint Series Symposium on the Intersection of Chemistry and Biology (2020/07, Invited Speaker), Beijing (online)
73. Recent developments in neuronal voltage imaging. ION Seminar Series (2020/06, Invited Speaker), Shanghai (online)
74. Profiling subcellular transcriptome with proximity-dependent RNA labeling. PKU-UCSD Bilateral Symposium (2020/01, Invited Speaker, Session Chair), La Jolla, CA, USA
75. Profiling subcellular transcriptome with proximity-dependent RNA labeling. The Scripps Research Institute (2020/01, Invited Speaker), La Jolla, CA, USA
76. Mapping spatial transcriptome with proximity RNA labeling. IUPAC International Symposium on Bioorganic Chemistry (ISBOC-12) (2019/12, Invited Speaker), Shenzhen
77. Chromophore-assisted proximity labeling for profiling subcellular transcriptome. The 11th Chinese National Conference on Chemical Biology (2019/11, Invited Speaker), Guangzhou
78. Light-activated proximity labeling of RNA and DNA. The 4th A3 Roundtable Meeting on Chemical Probe Research Hub (2019/11, Invited Speaker), Sendai, Japan
79. Spatially resolved transcriptomic profiling. School of Pharmacy, PKU Medical School (2019/11, Invited Speaker), Beijing
80. Light-activated spatial-specific RNA labeling (CAP-seq) reveals organization of subcellular transcriptome. 2019 PKU-SFBC Symposium (2019/10, Invited Speaker, Session Chair), Beijing

81. Spatially restricted RNA labeling for subcellular transcriptomic analysis. Chinese Society of Biochemistry and Molecular Biology Annual Meeting (2019/10, Oral Presentation), Taiyuan

82. Hybrid voltage indicators for imaging neuronal activities. Korea Institute of Science and Technology (2019/08, Invited Speaker), Seoul, Korea

83. Mapping spatial transcriptome with light-activated proximity-dependent RNA labeling. Seoul National University (2019/08, Invited Speaker), Seoul, Korea

84. Spatial-specific transcriptome profiling with light-activated proximity labeling. Ajou University (2019/08, Invited Speaker), Suwon, Korea

85. Photosensitized RNA proximity labeling technique. The 1st National RNA Research Conference (Junior) (2019/05, Oral Presentation), Beijing

86. Chemical tools for profiling spatially resolve omics. Dalian Institute of Chemical Physics, CAS (2019/05, Invited Speaker), Dalian

87. Spatial transcriptomic profiling with light-activated proximity labeling. POSTECH-IBS-PKU Conference for Chemical Biology and Biomaterial (2019/04, Invited Speaker), Pohang, Korea

88. Next-generation fluorescent voltage indicators. The 3rd Fluorescent Probe and Imaging Symposium (2019/04, Invited Speaker), Xi'an

89. Mapping spatial transcriptome with light-activated proximity-dependent RNA labeling (CAP-seq). Hokkaido University & Peking University Joint Symposium (2019/01, Invited Speaker), Sapporo, Japan

90. Mapping spatial transcriptome via chromophore-assisted proximity tagging (CAPtag). HKU Chemical Biology Symposium 2018 (2018/12, Invited Speaker, Session Chair), Hong Kong

91. Beyond fluorescent proteins: hybrid voltage indicators for voltage imaging. National Institute of Biological Sciences (2018/12, Invited Speaker), Beijing

92. Beyond fluorescent proteins: hybrid voltage indicators for imaging bioelectricity. ACS Publication Symposium (2018/12, Oral Presentation), Beijing

93. Profiling subcellular transcriptome via proximity tagging techniques. The 3rd A3 Roundtable Meeting on Chemical Probe Research Hub (2018/11, Invited Speaker), Jeju, Korea

94. Profiling subcellular transcriptome via Chromophore-assisted proximity tagging (CAP-tag). The 5th Asian Chemical Biology Conference (2018/08, Oral Presentation, Session Chair), Xi'an

95. Hybrid voltage indicators. The 5th National Conference of Biophysical Chemistry (2018/07, Oral Presentation), Taiyuan

96. Spatially specific RNA profiling via chromophore-assisted proximity tagging (CAP-tag). The 31st Chinese Chemical Society Conference (2018/05, Oral Presentation), Hangzhou

97. Hybrid Voltage Indicators for Mapping Neural Activity. PKU-UC Davis Bilateral Symposium (2018/05, Invited Speaker, Session Chair), Beijing

98. Chemical probes for neuroscience. Academy of Military Medical Sciences (2018/01, Invited Speaker), Beijing

99. Chemical Probes for Neural Activities. The 15th Chinese Biophysics Congress (2017/11, Invited Speaker), Shanghai

100. Chromophore-assisted Proximity Tagging of RNA. The 2nd A3 Roundtable Meeting on Chemical Probe Research Hub (2017/11, Invited Speaker), Hangzhou

101. Chemical probes for neuroscience. The 10th Chinese National Conference on Chemical Biology (2017/09, Invited Speaker), Wuhan

102. Voltage imaging with genetically-encoded indicators. The 2nd Biomedical Imaging Method Symposium (2017/08, Invited Speaker), Xi'an

103. Lighting up the brain with a flare. Institute of Microbiology, CAS (2017/05, Invited Speaker), Beijing

104. Lighting up the brain with a flare: a hybrid voltage indicator for optical mapping of neural activity. The 1st Peking University-Boehringer Ingelheim Joint Symposium on Biomedical Research (2017/05, Invited Speaker), Beijing

105. Imaging neuronal action potentials at high spatial and temporal resolutions. The 1st Fluorescent Probe and Imaging Symposium (2017/04, Invited Speaker), Dalian

106. Imaging neuronal signaling with genetically-encoded voltage indicators. HOPE meeting (2017/02, Oral Presentation), Tokyo, Japan

107. Enzyme-mediated proximity tagging for spatially mapping biomolecules. Institute of Biological Chemistry, Academia Sinica (2016/11, Invited Speaker), Taiwan

108. Spatially resolved proteomic labeling technique. Chinese Society of Biochemistry and Molecular Biology Conference (2016/10, Oral Presentation), Hangzhou

109. APEX: spatially specific proteomic profiling. The 30th Chinese Chemical Society Conference (2016/07, Oral Presentation), Dalian

110. Genetically encoded voltage indicators based on electrochromic FRET. National Conference of Biophysical Chemistry (2016/06, Invited Speaker), Hefei

111. Mapping the subcellular proteome via APEX labeling. The 9th CNHUPO Annual Congress (2016/05, Oral Presentation), Xiamen

112. Mapping the subcellular proteome via APEX labeling. Frontiers in Proteomics, National Center for Protein Sciences (2016/04, Invited Speaker), Beijing

113. Mapping the subcellular proteome via APEX labeling. PKU-HKU Joint Symposium on Chemical Biology (2016/04, Invited Speaker), Hongkong

114. Subcellular proteomic profiling techniques. Health Science Forum, Shanghai Institutes for Biological Sciences, CAS (2016/03, Invited Speaker), Shanghai

115. Fluorescent voltage indicators. Annual Symposium for the Undergraduate Students of Bio-Liyun (ASUSBioLY) (2016/02, Invited Speaker), Beijing

116. Proteomic profiling of mitochondria. National Institute of Biological Sciences (2015/12, Invited Speaker), Beijing

117. Genetically-encoded voltage indicators based on electrochromic FRET. Cold Spring Harbor Asia Conference (2015/12, Oral Presentation), Suzhou

118. Spatially specific proteomic profiling techniques. The 5th Symposium of Chinese Protein Society (2015/10, Invited Speaker), Jining

119. Chemical probes for neuroscience. PKU-Sun Yat-sen University Joint Symposium on Chemical Biology (2015/10, Invited Speaker), Guangzhou

120. Fluorescent voltage indicators. The 9th Chinese National Conference on Chemical Biology (2015/08, Invited Speaker), Tianjin

121. Bright and fast multi-colored voltage reporters via electrochromic FRET. Symposium on Fluorescent Proteins and Biological Sensors (2014/09, Oral Presentation, Session Chair), HHMI Janelia Farm Research Campus, VA, USA
122. Imaging neural activities with fluorescent voltage-indicating proteins. BIOPIC, Peking University (2014/02, Invited Speaker), Beijing
123. Enzyme-mediated promiscuous protein labeling method for mapping proteomes in living cells. Bioimaging Club, University of Michigan (2013/07, Invited Speaker), Ann Arbor, MI, USA