



## Yuyan Jiang

Instructor, Radiation Oncology - Radiation Therapy

### Bio

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#### ACADEMIC APPOINTMENTS

- Instructor, Radiation Oncology - Radiation Therapy

#### HONORS AND AWARDS

- K99/R00 Pathway to Independence Award, NIDCR (2025-2030)
- J. Martin Brown Award, Department of Radiation Oncology, Stanford (2024)
- Tobacco Related Disease Research Program Postdoctoral Fellowship, TRDRP (2024)
- MRL SEEDS Grant, Merck (2023)
- Biomedicines Young Investigator Award, Biomedicines (2022)
- Graduate College Interdisciplinary Research Award, Nanyang Technological University, Singapore (2021)
- Chinese Government Award for Outstanding Self-financed Students Abroad, Chinese Scholarship Council (2019)
- SCBE Ph.D. Symposium, Bronze Prize, Nanyang Technological University, Singapore (2019)

#### LINKS

- Google Scholar: <https://scholar.google.com/citations?user=egRePcQAAAAJ&hl=en&oi=ao>

### Publications

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#### PUBLICATIONS

- **Bioorthogonal Fluorogenic Reporters for Noninvasive Imaging and Urinalysis of Immunotherapeutic Response in Renal Cell Carcinoma.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*  
Yang, X., Liang, B., Fu, L., Deng, W., Jiang, Y., Xu, W., Chen, J., Zhou, Y., Wu, K., Huang, J.  
2026: e24298
- **Sonodynamic/Mechano-Induced cGAMP Biosynthesis Enables In Situ STING Activation for Enhanced Cancer Immunotherapy** *ADVANCED FUNCTIONAL MATERIALS*  
Wu, M., Chen, W., Qu, R., Zheng, L., Tan, W., Tang, J., Li, S., Li, H., Chen, L., Zhou, W., Liu, Y., Huo, D., Jiang, et al  
2025
- **Unimolecular near-infrared chemiluminescent reporter for cascaded multiplex imaging of ischemia-reperfusion injury in the liver-kidney axis.** *Nature communications*  
Ruan, B., Deng, W., Che, J., Yi, S., Liu, J., Xu, W., Jiang, Y., Zhou, Y., Xie, P., Zhang, H., Zhao, H., Huang, J.  
2025; 16 (1): 7743
- **Tuning Second Near-Infrared Fluorescence Activation by Regulating the Excited-State Charge Transfer Dynamics Change Ratio.** *Journal of the American Chemical Society*  
Chen, L., Peng, M., Ouyang, Y., Chen, J., Li, H., Wu, M., Qu, R., Zhou, W., Zhang, C., Jiang, Y., Xu, S., Wu, W., Jiang, et al

2025

- **Nitrile-aminothiol bioorthogonal near-infrared fluorogenic probes for ultrasensitive in vivo imaging.** *Nature communications*  
Xu, W., Yi, S., Liu, J., Jiang, Y., Huang, J.  
2025; 16 (1): 8
- **Gold-siRNA supraclusters enhance the anti-tumor immune response of stereotactic ablative radiotherapy at primary and metastatic tumors.** *Nature biotechnology*  
Jiang, Y., Cao, H., Deng, H., Guan, L., Langthasa, J., Colburg, D. R., Melemenidis, S., Cotton, R. M., Aleman, J., Wang, X. J., Graves, E. E., Kalbasi, A., Pu, et al  
2024
- **Molecular Imaging of Renin Activity using Fluorogenic Nanoprobes for Precision Antihypertensive Therapy.** *Angewandte Chemie (International ed. in English)*  
Zhou, Y., Xu, W., Ruan, B., Zhu, L., Jiang, Y., Cai, H., Huang, J.  
2024: e202416002
- **Tert-expressing cells contribute to salivary gland homeostasis and tissue regeneration after radiation therapy.** *Genes & development*  
Guan, L., Viswanathan, V., Jiang, Y., Vijayakumar, S., Cao, H., Zhao, J., Colburg, D. R., Neuhöfer, P., Zhang, Y., Wang, J., Xu, Y., Laseinde, E. E., Hildebrand, et al  
2024
- **Molecular Engineering of Activatable NIR-II Hemicyanine Reporters for Early Diagnosis and Prognostic Assessment of Inflammatory Bowel Disease.** *ACS nano*  
Liu, Y., Diao, S., Ruan, B., Zhou, Y., Yu, M., Dong, G., Xu, W., Ning, L., Zhou, W., Jiang, Y., Xie, C., Fan, Q., Huang, et al  
2024; 18 (11): 8437-8451
- **Size-Transformable Superoxide-Triggered Nanoreporters for Crosstalk-Free Dual Fluorescence/Chemiluminescence Imaging and Urinalysis in Living Mice.** *Angewandte Chemie (International ed. in English)*  
Ruan, B., Yu, M., Zhou, Y., Xu, W., Liu, Y., Liu, B., Zhu, L., Yi, S., Jiang, Y., Huang, J.  
2023: e202305812
- **Light-driven Self-recruitment of Biomimetic Semiconducting Polymer Nanoparticles for Precise Tumor Vascular Disruption.** *Advanced materials (Deerfield Beach, Fla.)*  
Li, H., Zhou, S., Wu, M., Qu, R., Wang, X., Chen, W., Jiang, Y., Jiang, X., Zhen, X.  
2023: e2210920
- **Nanoparticles with ultrasound-induced afterglow luminescence for tumour-specific theranostics.** *Nature biomedical engineering*  
Xu, C., Huang, J., Jiang, Y., He, S., Zhang, C., Pu, K.  
2023; 7 (3): 298-312
- **Renal clearable polyfluorophore nanosensors for early diagnosis of cancer and allograft rejection.** *Nature materials*  
Huang, J., Chen, X., Jiang, Y., Zhang, C., He, S., Wang, H., Pu, K.  
2022; 21 (5): 598-607
- **Tether-free photothermal deep-brain stimulation in freely behaving mice via wide-field illumination in the near-infrared-II window.** *Nature biomedical engineering*  
Wu, X., Jiang, Y., Rommelfanger, N. J., Yang, F., Zhou, Q., Yin, R., Liu, J., Cai, S., Ren, W., Shin, A., Ong, K. S., Pu, K., Hong, et al  
2022
- **Molecular Probes for Autofluorescence-Free Optical Imaging.** *Chemical reviews*  
Jiang, Y., Pu, K.  
2021; 121 (21): 13086-13131
- **Second Near-Infrared Light-Activatable Polymeric Nanoantagonist for Photothermal Immunometabolic Cancer Therapy.** *Advanced materials (Deerfield Beach, Fla.)*  
Xu, C., Jiang, Y., Huang, J., Huang, J., Pu, K.  
2021; 33 (36): e2101410
- **Semiconducting polymer nano-PROTACs for activatable photo-immunometabolic cancer therapy.** *Nature communications*  
Zhang, C., Zeng, Z., Cui, D., He, S., Jiang, Y., Li, J., Huang, J., Pu, K.

2021; 12 (1): 2934

- **A Polymer Multicellular Nanoengager for Synergistic NIR-II Photothermal Immunotherapy.** *Advanced materials (Deerfield Beach, Fla.)*  
Xu, C., Jiang, Y., Han, Y., Pu, K., Zhang, R.  
2021; 33 (14): e2008061
- **Molecular Chemiluminescent Probes with a Very Long Near-Infrared Emission Wavelength for in Vivo Imaging.** *Angewandte Chemie (International ed. in English)*  
Huang, J., Jiang, Y., Li, J., Huang, J., Pu, K.  
2021; 60 (8): 3999-4003
- **Activatable polymer nanoagonist for second near-infrared photothermal immunotherapy of cancer.** *Nature communications*  
Jiang, Y., Huang, J., Xu, C., Pu, K.  
2021; 12 (1): 742
- **Second Near-Infrared Photothermal Semiconducting Polymer Nanoadjuvant for Enhanced Cancer Immunotherapy.** *Advanced materials (Deerfield Beach, Fla.)*  
Li, J., Yu, X., Jiang, Y., He, S., Zhang, Y., Luo, Y., Pu, K.  
2021; 33 (4): e2003458
- **Activatable Polymer Nanoenzymes for Photodynamic Immunometabolic Cancer Therapy.** *Advanced materials (Deerfield Beach, Fla.)*  
Zeng, Z., Zhang, C., Li, J., Cui, D., Jiang, Y., Pu, K.  
2021; 33 (4): e2007247
- **Room-Temperature Phosphorescence Resonance Energy Transfer for Construction of Near-Infrared Afterglow Imaging Agents.** *Advanced materials (Deerfield Beach, Fla.)*  
Dang, Q., Jiang, Y., Wang, J., Wang, J., Zhang, Q., Zhang, M., Luo, S., Xie, Y., Pu, K., Li, Q., Li, Z.  
2020; 32 (52): e2006752
- **Near-Infrared Chemiluminescent Reporters for In Vivo Imaging of Reactive Oxygen and Nitrogen Species in Kidneys** *ADVANCED FUNCTIONAL MATERIALS*  
Huang, J., Huang, J., Cheng, P., Jiang, Y., Pu, K.  
2020; 30 (39)
- **Semiconducting Polycomplex Nanoparticles for Photothermal Ferrotherapy of Cancer.** *Angewandte Chemie (International ed. in English)*  
He, S., Jiang, Y., Li, J., Pu, K.  
2020; 59 (26): 10633-10638
- **Transformable hybrid semiconducting polymer nanozyme for second near-infrared photothermal ferrotherapy.** *Nature communications*  
Jiang, Y., Zhao, X., Huang, J., Li, J., Upputuri, P. K., Sun, H., Han, X., Pramanik, M., Miao, Y., Duan, H., Pu, K., Zhang, R.  
2020; 11 (1): 1857
- **A Renal-Clearable Macromolecular Reporter for Near-Infrared Fluorescence Imaging of Bladder Cancer.** *Angewandte Chemie (International ed. in English)*  
Huang, J., Jiang, Y., Li, J., He, S., Huang, J., Pu, K.  
2020; 59 (11): 4415-4420
- **A Photolabile Semiconducting Polymer Nanotransducer for Near-Infrared Regulation of CRISPR/Cas9 Gene Editing.** *Angewandte Chemie (International ed. in English)*  
Lyu, Y., He, S., Li, J., Jiang, Y., Sun, H., Miao, Y., Pu, K.  
2019; 58 (50): 18197-18201
- **A Renal-Clearable Duplex Optical Reporter for Real-Time Imaging of Contrast-Induced Acute Kidney Injury.** *Angewandte Chemie (International ed. in English)*  
Huang, J., Lyu, Y., Li, J., Cheng, P., Jiang, Y., Pu, K.  
2019; 58 (49): 17796-17804
- **Near-Infrared Photoactivatable Semiconducting Polymer Nanoblockaders for Metastasis-Inhibited Combination Cancer Therapy.** *Advanced materials (Deerfield Beach, Fla.)*  
Li, J., Cui, D., Jiang, Y., Huang, J., Cheng, P., Pu, K.  
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- **Renal-clearable Molecular Semiconductor for Second Near-Infrared Fluorescence Imaging of Kidney Dysfunction.** *Angewandte Chemie (International ed. in English)*  
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2019; 58 (42): 15120-15127
- **An Organic Afterglow Protheranostic Nanoassembly.** *Advanced materials (Deerfield Beach, Fla.)*  
He, S., Xie, C., Jiang, Y., Pu, K.  
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- **Thermoresponsive Semiconducting Polymer Nanoparticles for Contrast-Enhanced Photoacoustic Imaging** *ADVANCED FUNCTIONAL MATERIALS*  
Cui, D., Li, P., Zhen, X., Li, J., Jiang, Y., Yu, A., Hu, X., Pu, K.  
2019; 29 (38)
- **Organic Photodynamic Nanoinhibitor for Synergistic Cancer Therapy.** *Angewandte Chemie (International ed. in English)*  
Jiang, Y., Li, J., Zeng, Z., Xie, C., Lyu, Y., Pu, K.  
2019; 58 (24): 8161-8165
- **Redox-Activatable and Acid-Enhanced Nanotheranostics for Second Near-Infrared Photoacoustic Tomography and Combined Photothermal Tumor Therapy.** *ACS nano*  
Wang, Z., Zhen, X., Upputuri, P. K., Jiang, Y., Lau, J., Pramanik, M., Pu, K., Xing, B.  
2019; 13 (5): 5816-5825
- **A generic approach towards afterglow luminescent nanoparticles for ultrasensitive in vivo imaging.** *Nature communications*  
Jiang, Y., Huang, J., Zhen, X., Zeng, Z., Li, J., Xie, C., Miao, Q., Chen, J., Chen, P., Pu, K.  
2019; 10 (1): 2064
- **A Semiconducting Polymer Nano-prodrug for Hypoxia-Activated Photodynamic Cancer Therapy.** *Angewandte Chemie (International ed. in English)*  
Cui, D., Huang, J., Zhen, X., Li, J., Jiang, Y., Pu, K.  
2019; 58 (18): 5920-5924
- **Photoactivatable Organic Semiconducting Pro-nanoenzymes.** *Journal of the American Chemical Society*  
Li, J., Huang, J., Lyu, Y., Huang, J., Jiang, Y., Xie, C., Pu, K.  
2019; 141 (9): 4073-4079
- **Metabolizable Semiconducting Polymer Nanoparticles for Second Near-Infrared Photoacoustic Imaging.** *Advanced materials (Deerfield Beach, Fla.)*  
Jiang, Y., Upputuri, P. K., Xie, C., Zeng, Z., Sharma, A., Zhen, X., Li, J., Huang, J., Pramanik, M., Pu, K.  
2019; 31 (11): e1808166
- **pH-sensitive and biodegradable charge-transfer nanocomplex for second near-infrared photoacoustic tumor imaging** *NANO RESEARCH*  
Wang, Z., Upputuri, P., Zhen, X., Zhang, R., Jiang, Y., Ai, X., Zhang, Z., Hu, M., Meng, Z., Lu, Y., Zheng, Y., Pu, K., Pramanik, et al  
2019; 12 (1): 49-55
- **Cell Membrane Coated Semiconducting Polymer Nanoparticles for Enhanced Multimodal Cancer Phototheranostics.** *ACS nano*  
Li, J., Zhen, X., Lyu, Y., Jiang, Y., Huang, J., Pu, K.  
2018; 12 (8): 8520-8530
- **Multimodal Biophotonics of Semiconducting Polymer Nanoparticles.** *Accounts of chemical research*  
Jiang, Y., Pu, K.  
2018; 51 (8): 1840-1849
- **Molecular Fluorescence and Photoacoustic Imaging in the Second Near-Infrared Optical Window Using Organic Contrast Agents.** *Advanced biosystems*  
Jiang, Y., Pu, K.  
2018; 2 (5): e1700262
- **Semiconducting Polymer Nanoenzymes with Photothermic Activity for Enhanced Cancer Therapy.** *Angewandte Chemie (International ed. in English)*  
Li, J., Xie, C., Huang, J., Jiang, Y., Miao, Q., Pu, K.

2018; 57 (15): 3995-3998

- **Dual-Peak Absorbing Semiconducting Copolymer Nanoparticles for First and Second Near-Infrared Window Photothermal Therapy: A Comparative Study.** *Advanced materials (Deerfield Beach, Fla.)*  
Jiang, Y., Li, J., Zhen, X., Xie, C., Pu, K.  
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- **Compact Plasmonic Blackbody for Cancer Theranosis in the Near-Infrared II Window.** *ACS nano*  
Zhou, J., Jiang, Y., Hou, S., Upputuri, P. K., Wu, D., Li, J., Wang, P., Zhen, X., Pramanik, M., Pu, K., Duan, H.  
2018; 12 (3): 2643-2651
- **Enhancing Both Biodegradability and Efficacy of Semiconducting Polymer Nanoparticles for Photoacoustic Imaging and Photothermal Therapy.** *ACS nano*  
Lyu, Y., Zeng, J., Jiang, Y., Zhen, X., Wang, T., Qiu, S., Lou, X., Gao, M., Pu, K.  
2018; 12 (2): 1801-1810
- **Semiconducting Photothermal Nanoagonist for Remote-Controlled Specific Cancer Therapy.** *Nano letters*  
Zhen, X., Xie, C., Jiang, Y., Ai, X., Xing, B., Pu, K.  
2018; 18 (2): 1498-1505
- **Photoacoustic imaging at 1064 nm wavelength with exogenous contrast agents**  
Upputuri, P., Jiang, Y., Pu, K., Pramanik, M.  
edited by Oraevsky, A. A., Wang, L. V.  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Amphiphilic semiconducting polymer as multifunctional nanocarrier for fluorescence/photoacoustic imaging guided chemo-photothermal therapy.** *Biomaterials*  
Jiang, Y., Cui, D., Fang, Y., Zhen, X., Upputuri, P. K., Pramanik, M., Ding, D., Pu, K.  
2017; 145: 168-177
- **Broadband Absorbing Semiconducting Polymer Nanoparticles for Photoacoustic Imaging in Second Near-Infrared Window.** *Nano letters*  
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2017; 17 (8): 4964-4969
- **Advanced Photoacoustic Imaging Applications of Near-Infrared Absorbing Organic Nanoparticles.** *Small (Weinheim an der Bergstrasse, Germany)*  
Jiang, Y., Pu, K.  
2017; 13 (30)