Chaoyu Yang

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EMPLOYMENT

The Chinese University of Hong Kong (CUHK) **08/2024 – Present**
Research Assistant Professor, Mechanical and Automation Engineering *Mentor: Prof. Li Zhang*

University of Chinese Academy of Sciences (UCAS) **11/2020 – 04/2023**
Postdoctoral Fellow, Wenzhou Institute *Mentor: Prof. Yuanjin Zhao*

EDUCATION

University of Science and Technology of China (USTC) **09/2015 – 06/2020**
Doctor of Philosophy, Mechanical Engineering *Adviser: Prof. Ting Si and Prof. Xiaorong Xu*

University of Science and Technology of China (USTC) **09/2011 – 06/2015**
Bachelor of Mechanical Engineering *Adviser: Prof. Xiaorong Xu*

RESEARCH INTERESTS

- Microfluidics
- Nature-inspired engineering
- Surface/interface
- Droplet
- Wettablity
- Microrobots

AWARDS AND HONORS

2024 Microfluidics Award for the New PhD Researcher, Fluigent
2022 Outstanding individual, UCAS
2021 Outstanding individual, UCAS
2019 Guanghua Education Scholarship, USTC
2019 Tang Lixin Scholarship (60/15000), Tang Lixin Education Development Fundation
2019 Best Oral Presentation Award, The 11th Experimental Fluid Mechanics Conference
2019 First-class Academic Scholarship, USTC
2017 First-class Academic Scholarship, USTC
2017 National Scholarship for Graduate Students, Ministry of Education of the People's Republic of China
2016 First-class Academic Scholarship, USTC
2015 First-class Academic Scholarship, USTC
2014 "859" Scholarship, USTC
2013 Outstanding Student Scholarship, USTC
2012 Di Ao Scholarship, USTC
2012 Won III Prize of Electromagnetics Competition, USTC
2011 Outstanding Student Scholarship, USTC

FUNDINGS

2024 IdeaBooster Fund, 2024-2025
2022 Youth Foundation of National Natural Science Foundation of China, 2023-2025
2022 China Postdoctoral Science Foundation, 2022-2024

EDITOR FOR JOURNAL PUBLICATIONS

Guest editor in *Micromachines* –Advances in Micro/Nano Systems for Blood Analysis and Intravascular Applications

Promotion Editor Member in *Exploration*

PUBLICATIONS AND PATENTS

I. Publications (H-index 20)

1. **Yang CY**, Li WZ, Zhao YJ*, Shang LR*. Flexible liquid-diode microtubes from multimodal microfluidics[J]. ***Proceedings of the National Academy of Sciences***, 2024, 121 (28), e2402331121.
2. **Yang CY**, Yu YR, Shang LR*, Zhao YJ*. Flexible hemline-shaped microfibers for liquid transport[J]. ***Nature Chemical Engineering***, 2024, 1 (1), 87-96.
3. **Yang CY***, Hou XY, Zhang L. Microfluidic-derived Microfibers in Flexible Bioelectronics[J]. ***Materials Futures***, 2024, 2309485.
4. **Yang CY**, Liu XR, Song X, Zhang L*. Design and batch fabrication of anisotropic microparticles toward small-scale robots using microfluidics: recent advances [J]. ***Lab on a Chip***, 2024, 24, 4514-4535.
5. Zhou MY, Lin X, Wang L, **Yang CY***, Yu YR*, Zhang QF*. Preparation and Application of Hemostatic Hydrogels[J]. ***Small***, 2023, 2309485.
6. **Yang CY**, Yu YR, Zhao YJ*, Shang LR*. Bioinspired Jellyfish Microparticles from Microfluidics[J]. ***Research***, 2023, 6: 0034.
7. **Yang CY**, Yu YR, Wang XC, Zu Y*, Zhao YJ*, Shang LR*. Bioinspired stimuli-responsive spindle-knotted fibers for droplet manipulation[J]. ***Chemical Engineering Journa***l, 2023, 451: 138669.
8. **Yang CY**, Yu YR, Wang XC, Shang LR*, Zhao YJ*. Programmable knot microfibers from piezoelectric microfluidics[J]. ***Small***, 2022, 18(5): 2104309.
9. Lin XR[1], **Yang CY**[1], Han TL, Li JJ, Chen ZH, Zhang HK, Mu Kai, Si T*, Liu JY*. A graphene oxide scaffold-encapsulated microcapsule for polysulfide-immobilized long life lithium–sulfur batteries[J]. ***Lab on a Chip***, 2022, 22(11): 2185-2191.
10. **Yang CY**, Yu YR, Wang XC, Wang Q, Shang LR*. Cellular fluidic-based vascular networks for tissue engineering[J]. ***Engineered Regeneration***, 2021, 2: 171-174.
11. Zhu MF[1], **Yang CY**[1], Han TL, Hu CQ, Wu Y, Si T*, Liu JY*. An encapsulation–reduction–catalysis confined all-in-one microcapsule for lithium–sulfur batteries displaying a high capacity and stable temperature tolerance[J]. ***Materials Chemistry Frontiers***, 2021, 5(12): 4565-4570.
12. **Yang CY**, Qiao R, Mu K, Zhu ZQ, Xu Ronald X., Si T*. Manipulation of jet breakup length and droplet size in axisymmetric flow focusing upon actuation[J]. ***Physics of Fluids***, 2019, 31(9).
13. Zhong FJ[1], **Yang CY**[1], Wu Q, Wang SY, Lei C, Dwivedi Pankaj , Zhu ZQ*, Si T, Xu Ronald X. Preparation of pesticide-loaded microcapsules by liquid-driven coaxial flow focusing for controlled release[J]. ***International Journal of Polymeric Materials and Polymeric Biomaterials***, 2019.
14. Wu Q[1], **Yang CY**[1], Yang JX, Huang FS, Liu GL, Zhu ZQ, Si T*, Xu Ronald X*. Photopolymerization of complex emulsions with irregular shapes fabricated by multiplex coaxial flow focusing[J]. ***Applied Physics Letters***, 2018, 112(7).
15. Wu Q[1], **Yang CY**[1], Liu GL, Xu WH, Zhu ZQ, Si T*, Xu Ronald X*. Multiplex coaxial flow focusing for producing multicompartment Janus microcapsules with tunable material compositions and structural characteristics[J]. ***Lab on a Chip***, 2017, 17(18): 3168-3175.

II. Patents

1. Zhao Y, **Yang CY**, Shang LR, Yu YR, Wang L, "Bioinspired Jellyfish-Like Particle Adsorbent and Method for Preparation and Application", Chinese Invention Patent, SN: CN202211353755, 2023.06.
2. Zhao Y, **Yang CY**, Shang LR, Wang YT, Yu YR, "Programmable Spider Silk Fiber and Method for its Preparation", Chinese Invention Patent, SN: CN113403697A, 2022.05.
3. Si T, **Yang CY**, "Device for High-Throughput Production of Uniform Double Emulsion Droplets", Chinese Invention Patent, SN: CN212663477U, 2021.03.
4. Si T, **Yang CY**, Qiao R, "Device for High-Throughput Production of Uniform Single Emulsion Droplets", Chinese Invention Patent, SN: CN111821913A, 2020.10.
5. Si T, **Yang CY**, Wu , Zhu ZQ, "Device and method for producing drug-loaded microcapsules", Chinese Invention Patent, SN: CN106924046A, 2017.07.

6. **Yang CY**, "Structure of coaxial needle for micro-encapsulation instrument", Chinese Invention Patent, SN: CN108852848A, 2018.11.
7. Si T, **Yang CY**, "Spraying device for fine atomization", Chinese Invention Patent, SN: CN108031579A, 2018.01.
8. Si T, Huang FS, Wu Q, Zhu ZQ, **Yang CY**, "Device and method for active droplet fabrication with embedding piezoelectricstack disturbance", Chinese Invention Patent, SN: CN107013440A, 2017.08.
9. Si T, Huang FS, Wu Q, Zhu ZQ, **Yang CY**, "Device and method for active droplet fabrication based on liquid driven flow-focusing jet disturbance", Chinese Invention Patent, SN: CN107029640A, 2017.08.

REVIEWERS FOR JOURNAL PUBLICATIONS

Lab on a Chip, Physics of Fluids, Small, Advanced Science, Micromachines, Chemical Engineering Journal, Exploration, Research

CONFERENCE TALKS

2024 "**Microscale Interfacial Flow Control and Applications**." the 4th Youth Academic Forum at the Suzhou Institute of the University of Science and Technology of China, Jiangsu, China.

2024 "**Microfluidic-derived bioinspired microfibers for liquid manipulation**." Academic Seminar on Smart Medical Devices and New Engineering Long Triangle Science Forum, University of Science and Technology of China, Jiangsu, China.

2019 "**Research on High-throughput On-demand monodispersed droplet generation**." The 1st Annual Conference of Graduate School of Engineering Science, University of Science and Technology of China, Anhui, China.

2019 "**Investigation on High-throughput Droplet Preparation Technology upon Actuation**." Microfluidic Technology Application Innovation Forum -2019, Xiamen University, Xiamen, China.

2019 "**Multiplex coaxial flow-focusing for producing multicompartment Janus microcapsules**." Chinese Conference of theoretical and Applied Mechanics (CCTAM)-2019, Hangzhou International Conference Center, Hangzhou, China.

2019 "**Experiment on Response of Axisymmetric Flow-focusing upon Actuation**." Experimental Fluid Mechanics-2019, Tianjin Shehuishan International Conference Center, Tianjin, China.

2017 "**Multiplex coaxial flow-focusing for producing multicompartment Janus microcapsules**." International Symposium of Biomedical Micro/Nanotechnology (ISBM)-2017, University of Science and Technology of China, Hefei, China.

TEACHING EXPERIENCE

2024	Instructor	MAEG 5120 Nanomaterials and Nanotechnology: Fundamentals and Applications
2023	Instructor	MAEG 5120 Nanomaterials and Nanotechnology: Fundamentals and Applications
2017	Teaching Assistant	Welding Lab
2016	Teaching Assistant	Welding Lab