

Dr. Zihan Yang, Eileen

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Education

City University of Hong Kong (CityU) Hong Kong, China
Ph.D. in Biomedical Science June 2019 – June 2023
Supervisor: Prof. Mengsu Yang (Chair Professor and Senior Vice-President)
Thesis Title: Microfluidic Techniques for Studying Cancer Cell Migration and Drug Screening

Hong Kong University of Science and Technology (HKUST) Hong Kong, China
Msc in Analytical Chemistry Sep 2018 – May 2019
Supervisor: Prof. Hongkai Wu (Professor)
Thesis Title: Advanced 3D Printing Technology with Composite Material in Self-healing Hydrogel

Iowa State University (ISU) Ames, IA, USA
BSc in Chemistry Jan 2014 – May 2017
Supervisor: Prof. Anand K Robbyn (Associate Professor)
Thesis Title: Dielectrophoresis (DEP) at a Bipolar Electrode (BPE) Array

Work Experience

Hong Kong Jockey Club STEM Postdoc Fellowship, City University of Hong Kong, Hong Kong
09/2024 to current

Postdoc, City University of Hong Kong, Hong Kong
07/2023 to 08/2024

Process Engineer, Wuhan Youzhiyou Medical Technology Co Ltd, Wuhan, Hubei, China
08/2017 to 04/2018

Research Interest

Microfluidic technique based cancer biology studies including cell migration and drug screening

Research Publications

Research Articles

(1). **Zihan Yang**, Li Zhou, Tongxu Si, Siyuan Chen, Chengxi Liu, Kelvin Kaki Ng, ... Mengsu Yang* and Zhihang Zhou*. "Lysyl hydroxylase LH1 promotes confined migration and metastasis of cancer cells by stabilizing Septin2 to enhance actin network." *Molecular Cancer* 22, no. 1 (2023): 1-18. **(JCR Q1, IF: 41.44)** doi: 10.1186/s12943-023-01727-9

(2). **Zihan Yang#**, Zhihang Zhou#, Tongxu Si, Zhendong Zhou, ... and Mengsu Yang*. "High throughput confine migration microfluidic device for drug screening." *Small*, Jan 12 (2023): 2207194. **(JCR Q1, IF: 15.153)** doi: 10.1002/sml.202207194

(3). Heng Zou#, **Zihan Yang#**, Yuen-San Chan#, Sung-king Au Yeung, ... and Mengsu Yang*. "Single cell analysis of mechanical properties and EMT-related gene expression profiles in cancer fingers." *Isience* 25, no. 3 (2022): 103917. **(co-first author, JCR Q1, IF: 6.107)** doi: 10.1016/j.isci.2022.103917

- (4). Zhihang Zhou*, **Zihan Yang**, Li Zhou, Mengsu Yang and He, Song*. "The versatile roles of Testrapanins in cancer from intracellular signaling to cell-cell communication: cell membrane proteins without ligands." *Cell & Bioscience* 13, (2023): 59. **(JCR Q1, IF: 9.584)** doi: 10.1186/s13578-023-00995-8
- (5). Yuan Wang, Xiaoyu Zhou, **Zihan Yang**, Tao Xu, ... and Mengsu Yang*. "An integrated and multi-functional droplet-based microfluidic platform for digital DNA amplification" *Biosensors and Bioelectronics*, 246, Feb 15 (2024): 115831 **(JCR Q1, IF: 12.60)** doi: 10.1016/j.bios.2023.115831
- (6). Siyuan Chen#, Bo Ning#, Jinwen Song, **Zihan Yang**, Li Zhou, Zhiji Chen, ...and Zhihang Zhou* "Enhanced pentose phosphate pathway activity promotes pancreatic ductal adenocarcinoma progression via activating YAP/MMP1 axis under chronic acidosis." *International journal of biological sciences* 18, no. 6 (2022): 2304. **(JCR Q1, IF: 10.75)** doi: 10.7150/ijbs.69526
- (7). Li Zhou#, Qingliang Wang#, Lin-Hong Mao, Siyuan Chen, **Zihan Yang**, Xue Liu, Yuhua Gao, Xiao Qin Li, and Zhi-hang Zhou and He, Song*. "Hepatocyte-specific knock-out of Nfib aggravates hepatocellular tumorigenesis via enhancing urea cycle." *Frontiers in Molecular Biosciences* (2022): 383. **(JCR Q1, IF: 6.113)** doi: 10.3389/fmolb.2022.875324
- (8). Siyuan Chen, Qin Tang, Manqiu Hu, Sijie Song, Xiaohong Wu, You Zhou, **Zihan Yang**, Siqi Liao, Li Zhou, Qingliang Wang, Hongtao Liu, Mengsu Yang, ZheSheng Chen, and Zhihang Zhou*. "Loss of carbamoyl-phosphate-synthetase 1 potentiates hepatocellular carcinoma metastasis by reducing m6A modification of SLC1A3" *Advanced Science* 11, no. 45 (2024): 2402703. **(JCR Q1, IF:14.3)** doi: 10.1002/advs.202402703
- (9). Zhengdong Zhou, Songhua Cai, Xiaoyu Zhou, Wei Zhao, Jiayu Sun, Zhihang Zhou, **Zihan Yang**, Wenxiu Li, Bee Luan Khoo, Mengsu Yang*. "in vitro culture of circulating tumor cells: methods and applications". *Small Methods* (2024): 2401026. **(JCR Q1, IF:10.7)** doi: 10.1002/smt.202401026
- (10) Zhihang Zhou, **Zihan Yang**, Tao Xu, ... Song He* and Mengsu Yang*. "Large-scale whole-genome sequencing of circulating tumor cells reveals genetic alterations that are associated with prognosis of hepatocellular carcinoma" (*Advanced Science*, IF: 17.521, Under Review)
- (11). Kelvin Ka Ki Ng, Jia Qiu, **Zihan Yang**, Xiaoyu Zhou, Hui Xie, Zhihang Zhou* and Mengsu Yang*. "Establishment of a plasma miRNA panel for the screening of hepatocellular carcinoma from a multicenter study". (To be submitted)

Conference Articles

- (1). **Zihan Yang**, Zhi-hang Zhou, Mengsu Yang*. "Lysyl hydroxylase PLOD1 enhances actin network to promote confined migration of hepatocellular carcinoma cells via binding with Septin2." *J Clin Oncol* 40 (2022): suppl 16; abstre16111. *2022 ASCO Annual Meeting* and *2021 HKIOS Annual Meeting*. doi: 10.1200/JCO.2022.40.16_suppl.e16111
- (2). Zhihang Zhou, Tao Xu, Heng Zou, **Zihan Yang**, Mengsu Yang*. "Large-scale whole-genome sequencing identifies genetic alterations in circulating hepatocellular carcinoma cells." *J Clin Oncol* 40 (2022): suppl 16; abstre15019. *2022 ASCO Annual Meeting*. doi: 10.1200/JCO.2022.40.16_suppl.e15019

Patents

- (1). YANG, M., **YANG, Z.**, ZHOU, Z., SI, T., & ZHOU, Z., inventors, Confined migration microfluidic device for cell culture and drug screening. 25 Aug 2022, Priority No. 17/822,209, (US Patent)
- (2) YANG, M., SI, T., & **YANG.Z.**, inventors, Enrichment Method, Analysis Method, And A Reagent Kit For A Circulating Tumor Cell. 13 Dec 2023, Priority No. 63/609,391, (US Patent)

- (3). YANG, M., CUI, M., **YANG, Z.**, ZHOU, Z., ZHOU, X., HOU, X., inventors, A novel integrated microfluidic chip for highly efficient and high throughput in vitro culture of circulating tumor cells (CTCs) for drug screening, April 2022, Priority No. 202210414895.8, (China Patent)
- (4). YANG, M., **YANG, Z.**, ZHOU, Z., SI, T., & ZHOU, Z., inventors, Confined migration microfluidic device for cell culture and drug screening. May 2022, Priority No. 202210557883.0, (China Patent)
- (5). YANG, M., **YANG, Z.**, ZHOU, Z., inventors, A novel anti-cancer treatment related drug. Sep 2022, Priority No. 202211209611.8, (China Patent)
- (6). YANG, M., **YANG, Z.**, ZHOU, Z., inventors, Mitochornic acid 5 apply to anti-cancer treatment drug. Sep 2022, Priority No. 202211209606.7, (China Patent)

Grants

- (1). Hubei Province Science Natural Fund (2024-2027), Key Project, RMB 200,000
- (2). Hong Kong Jockey Club, Early Career Start up Funding, (2024-2027), HKD 300,000

Award and Activities

- Outstanding Doctoral Research Award (10000HKD), City University of Hong Kong, Hong Kong (2024)
- Outstanding Research Thesis Award (3000HKD), City University of Hong Kong, Hong Kong (2024)
- Best Oral Presenter Award (2nd Prize, 2000HKD), *2023 BMS Research Gala*, Hong Kong (2023)
- HKIOS Best Paper Award, *8th Hong Kong International Oncology Symposium*, Hong Kong (2021)
- Asian Future Leadership Scholarship Program, 260,000 HKD award (~34,000 USD), Hong Kong (2018)
- Undergraduate Research Award, Iowa State University, Ames, IA, USA (2017)