Yi Xiao

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Research Summary

Yi Xiao's research interests focus on developing biotechnology tools for basic research and applied research. We design and construct genetically-encoded biosensors and CRISPR-associated tools. Using these tools, we modify cell genomes and reprogram cell behaviors to explore metabolism and enhance biosynthesis.

2019- A member of the editorial board of Applied and Environmental Microbiology

Education

Ph.D. (Microbiology) Wuhan Institute of Virology, Chinese Academy of Sciences, China, 2008

B.S. (Biotechnology) Huazhong University of Science and Technology, China, 2003

Employment

Jan. 2017-Current, Associate Professor
Shanghai Jiao Tong University

Aug. 2010-Nov. 2016, Research Scientist and Postdoc.
Washington University in St. Louis, USA

Sep. 2008-Jul. 2010, Postdoc.
South China Sea Institute of Oceanology, Chinese Academy of Sciences, China

Publications

25, Chen-Guang Liu, **Yi Xiao**, Xiao-Xia Xia, Xin-Qing Zhao, Liangcai Peng, Penjit Srinophakun, Feng-Wu Bai. (2019) Cellulosic ethanol production: Progress, challenges and strategies for solutions. **Biotechnology Advances** 37(3):491-504.

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23, Juan Xia, ChenGuang Liu, XinQing Zhao, **Yi Xiao**, XiaoXia Xia, FengWu Bai. Contribution of cellulose synthesis, formation of fibrils and their entanglement to the self-flocculation of Zymomonas mobilis. ***Biotechnology and Bioengineering*** 115(11):2714-2725

22, **Yi Xiao**, Shaojie Wang, Sarah Rommelfanger, Andrea Balassy, Carlos Barba-Ostria, Pengfei Gu, Jonathan M. Galazka, Fuzhong Zhang[*]. (2018) Developing a Cas9-based tool to engineer native plasmids in Synechocystis sp. PCC 6803. ***Biotechnology and Bioengineering*** 115(9):2305-2314.

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19, **Yi Xiao**, Christopher H. Bowen, Di Liu, Fuzhong Zhang. (2016) Exploiting nongenetic cell-to-cell variation for enhanced biosynthesis. ***Nature Chemical Biology*** 12, 339–344

18, Di Liu, **Yi Xiao**, Bradley S. Evans, and Fuzhong Zhang. (2015) Negative Feedback Regulation of Fatty Acid Production Based on a Malonyl-CoA Sensor–Actuator. ***ACS Synthetic Biology*** 4(2):132-140.

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14, Zhiguo Liu, Zhenhua Ruan, **Yi Xiao**, Yi Yu, Yinjie J. Tang, Wei Liao, Yan Liu. (2013) Integration of sewage sludge digestion with advanced biofuel synthesis. ***Bioresource Technology*** 132:166-170.

13, Arul Varman, **Yi Xiao**, Himadri Pakrasi, Yinjie J. Tang. (2013) Metabolic engineering of *Synechocystis* 6803 for isobutanol production. ***Applied and Environmental Microbiology*** 79:908-914.

12, **Yi Xiao**[#], Xueyang Feng[#], Arul M. Varman[#], Lian He, Huifeng Yu, Yinjie J. Tang. (2012) Kinetic modeling and isotopic investigation of isobutanol fermentation by two engineered *Escherichia coli* strains. ***Industrial & Engineering Chemistry Research (ACS Publications)*** 51:15855–15863.

11, **Yi Xiao**, Ting-Ting Liu, Hui Dai, Jun-Jie Zhang, Hong Liu, Huiru Tang, David J. Leak, and Ning-Yi Zhou. (2012) OnpA, an unusual flavin-dependent monooxygenase containing a cytochrome b5 Domain. ***Journal of Bacteriology***. 194: 1342–1349

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4, Qing Wei, Hong Liu, Jun-Jie Zhang, Song-He Wang, **Yi Xiao**, Ning-Yi Zhou. (2010) Characterization of a *para*-nitrophenol catabolic cluster in *Pseudomonas* sp. strain NyZ402 and construction of an engineered strain capable of simultaneously mineralizing both *para*- and *ortho*-nitrophenols. ***Biodegradation***. 21: 575-584

3, Jun-Jie Zhang, Hong Liu, **Yi Xiao**, Xian-En Zhang, and Ning-Yi Zhou. (2009) Identification and characterization of catabolic *para*-nitrophenol 4-monooxygenase and *para*-benzoquinone reductase from *Pseudomonas* sp. strain WBC-3. ***Journal of Bacteriology***. 191：2703-2710

2, **Yi Xiao,** Jun-Jie Zhang, Hong Liu, Ning-Yi Zhou. (2007) Molecular characterization of a novel *ortho*-nitrophenol catabolic gene cluster in *Alcaligenes* sp. strain NyZ215. ***Journal of Bacteriology***. 189:6587-6593

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