CURRICULUM VITAE

Name: Chunlei Jiao
Date of Birth: 4th Feb. 1989
E-mail: Jiao.Chunlei@helmholtz-hiri.de
Address: Josef-Schneider-Strasse 2 / Bau D15, 97080 Würzburg

Education Experience

- PhD, Helmholtz Institute for RNA-based Infection Research, Würzburg, from May 2018
- M.S. Microbiology, Shandong University(SDU), Jinan, China, 2012-2015
- B.S. Biotechnology, Henan Polytechnic University(HPU), Jiaozuo, China, 2008-2012

Academic Experience

- 2016.9-2018.4, R&D Project Engineer, Ngee Ann Polytechnic, Singapore

Identifying determinants responsible for acetic acid resistance in xylose medium in *Saccharomyces cerevisiae*

- 2012.9-2016.9, Master student and Research Assistant, SDU, China

Master's Project Functional genomics analysis of *Saccharomyces cerevisiae* harboring an efficient cofactor-independent xylose fermentation pathway
Participated Project Isolation and engineering a xylose isomerase from the bovine rumen metagenome enables efficient xylose fermentation in *Saccharomyces cerevisiae*
Participated Project The screening and functional study of heterologous pentose transpoters in *Saccharomyces cerevisiae*
Participated Project Engineering a wild-type diploid Saccharomyces cerevisiae strain for second-generation bioethanol production

Master Project Introduction

My Master project focused on revealing the relationship between genotype and phenotype in an efficient xylose metabolism *Saccharomyces cerevisiae* obtained by adaptive laboratory evolution. Comparative genome and transcriptome analysis shown the mutation allele $ASK10^{M475R}$ or deletion of *ASK10*, a stress response regulator-encoding gene, were able to improve growth on xylose and enhanced xylose isomerase activity through up-regulating the transcription of some molecular chaperone-encoding genes which can facilitate the protein folding of xylose isomerase. This study revealed the important mechanism of chaperones in xylose isomerase activity regulation, and it provides valuable insights for efficient xylose metabolic strain development.

Honors & Awards

- Outstanding Graduate, awarded by HPU (6%), May 2012
- Outstanding Undergraduate Thesis, awarded by HPU (15%), June 2012
- National Scholarship for Encouragement, awarded by the Ministry of Education of China (MOE, 3%), Sep.2011
- The First Prize Scholarship, awarded by HPU (3%), Sep. 2010
- The Third Prize Scholarship, awarded by HPU (20%), Sep. 2009
- Spiritual Advanced Individual, awarded by HPU, Nov. 2011
- Merit Student, awarded by HPU, Dec. 2011
- Merit Student, awarded by HPU, Dec. 2010
- Merit Student, awarded by HPU, Dec. 2009

Published Papers

- Hou, J. ‡, **Jiao, C. ‡,** Peng, B., Shen, Y., & Bao, X. (2016). Mutation of a regulator Ask10p improves xylose isomerase activity through up-regulation of molecular chaperones in *Saccharomyces cerevisiae*. *Metabolic engineering*, *38*, 241-250. ‡ **regarded as co-first author**, **IF 8.142**
- Hou, J., Shen, Y., **Jiao, C.,** Ge, R., Zhang, X., & Bao, X. (2016). Characterization and evolution of xylose isomerase screened from the bovine rumen metagenome in *Saccharomyces cerevisiae*. *Journal of bioscience and bioengineering*, *121*(2), 160-165. **IF 2.24**
- Wang, C., Bao, X., Li, Y., **Jiao, C.,** Hou, J., Zhang, Q., ... & Shen, Y. (2015). Cloning and characterization of heterologous transporters in *Saccharomyces cerevisiae* and identification of important amino acids for xylose utilization. *Metabolic engineering*, *30*, 79-88. **IF 8.142**

Experimental Skills

CRISPR-based genome editing, Comparative genome analysis, Yeast two-hybrid essay, ChIP, Quantitative real-time PCR, Gibson assembly, Site-directed mutagenesis, Error-prone PCR, Batch fermentation, ELISA, HPLC