Ying Xia

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EDUCATION

Ph.D. **Zhejiang University (ZJU)** *Sep 2017 - Present*
Chemical and Biological Engineering *Hangzhou, China*

M.S. **Zhejiang University (ZJU)** *Sep 2013 - Mar 2016*
Chemical and Biological Engineering *Hangzhou, China*

B.S. **Jiangnan University (JNU)** *Sep 2009 - Jun 2013*
Bioengineering *Wuxi, China*

RESEARCH EXPERIENCE

1. Transcription factor manipulation for cellulase overexpression *May 2017 - Present*

- Overexpressed *A. niger bgl* gene and disrupted *ace1* simultaneously in *T. reesei*
- Implemented submerged fermentation of recombinant *T. reesei* in a 50 m^3 fermenter
- Improved *T. reesei* cellulase towards increased hydrolysis yield (90.6%) during the saccharification of corn stover
- Published on ***Journal of Industrial Microbiology & Biotechnology*** as first author

2. Novel soluble inducer enabling higher cellulase production *Jun 2017 - Present*

- Constructed a sustained β-glucosidase-release microcapsules embedding *A. niger* spores
- Prepared a potent and economical glucose-sophorose inducer mixture from glucose via β-glucosidase-catalyzed transglycosylation.
- Applied the novel inducer to cellulase production which presented higher yield induced by lactose.
- Published on ***Journal of Biotechnology*** as first author

3. β-glucosidase overproduction in recombinant *P. pastoris* *Jun 2017 - May 2018*

- Modified and cloned *A.niger* β-glucosidase gene for secreted expression in *P. pastoris*.
- Employed an optimized mixed-feed strategy and boosted the β-glucosidase activity to 129 IU/mL in a 1 m^3 fermenter
- Published the results on ***Process Biochemistry*** as first author

4. Organic pollutants degradation by laccase - mediator system *May 2017 - Present*

- Introduced a thermotolerant laccase gene from *Pycnoporus sanguineus* into *T. reesei* via optimized *Agrobacterium*-mediated transformation
- Explored the effects of 6 mediators on laccase-catalyzed degradation of bisphenol A, nonylphenol and Brilliant Blue KN-R
- Investigated the reaction mechanism of laccase-catalyzed nonylphenol degradation using mass spectrometry analysis

5. Engineering *S. cerevisiae* for improved toxicity tolerance *Nov 2014 – Oct 2015*

- Over-expression *lsm6* gene in recombinant *S. cerevisiae* improved its resistance against acetic acid, furfural, and SO_4^{2-} and enabled better xylose utilization
- Responsible for yeast transformation and fermentation performance study

PUBLICATIONS

1. **Ying Xia**, Lirong Yang, Liming Xia. Preparation of a novel soluble inducer by cellobiase-release microcapsules and its application in cellulase production. ***Journal of Biotechnology***, 2018, 279: 22-26.
2. **Ying Xia**, Lirong Yang, Liming Xia. High-level production of a fungal beta-glucosidase with application potentials in the cost-effective production of *Trichoderma reesei* cellulase. ***Process Biochemistry***, 2018, 70: 55-60.
3. **Ying Xia**, Lirong Yang, Liming Xia. Combined strategy of transcription factor manipulation and beta-glucosidase gene overexpression in *Trichoderma reesei* and its application in lignocellulose bioconversion. ***Journal of Industrial Microbiology & Biotechnology***, 2018, 45:803–811.
4. Jie Zhao, Shengquan Zeng, **Ying Xia**, Liming Xia. Expression of a thermotolerant laccase from *Pycnoporus sanguineus* in *Trichoderma reesei* and its application in the degradation of bisphenol A. ***Journal of Bioscience and Bioengineering***, 2018, 125: 371-376.
5. Jie Zhao, **Ying Xia**, Liming Xia. Laccase Production by recombinant *Trichoderma reesei* and its application in the decolorization of dye wastewater containing reactive Brilliant Blue KN-R (in Chinese). ***Journal of Chemical Engineering of Chinese Universities***, 2018, 30: 586-592.
6. **Ying Xia**, Jie Zhao, Liming Xia. Recombination and expression of a novel endo-beta-glucanase gene from *Penicillium echinulatum* in *Trichoderma reesei* (in Chinese). ***Journal of Chemical Engineering of Chinese Universities***, 2016, 30: 626-632.

SELECTED HONORS & AWARDS

- Academic Scholarship of ZJU (**Top 3%**) *2014/2015/2018*
- Outstanding Graduate of ZJU **(Top 4%)** *2016*
- Outstanding Student Leader of ZJU **(Top 3%)** *2014/2015*
- Honor of Merit Student in JNU (**Top 1%**) *2012*

WORK EXPERIENCE

Amore Pacific (Shanghai) R&D center *Apr 2016 - Apr 2017*

Researcher *Shanghai, China*

- Established detection protocols of 12 prohibited and limited ingredients in cosmetics, including antiseptics, functional additives, heavy metals, etc.
- Responsible for training workers in terms of SOP, safety and maintenance for HPLC
- Collaborated with Korea colleagues on 6 crisis management projects regarding product safety; responsible for evaluation and modification of internal analysis methods, investigation of FDA guidelines and generation of reports

PERSONAL SKILLS

- **Languages:** English (TOEFL iBT: 96/120), Chinese (Native)
- **Professional skills:** Skilled in molecular biology experiments and related analytical methods, such as gene cloning and characterization, gene transformation and expression, PCR, SDS-PAGE, fermentation (SSF and SmF), HPLC, GC-MC, GPC, etc.
- **Microsoft Office:** Daily use of Microsoft Word (thesis and publications), PowerPoint (conference presentations), Excel (data analysis)