

## **RUANBAO ZHOU**

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### **EDUCATION**

1994-1997      Ph.D., Plant Physiology and Biochemistry  
Peking University, Beijing, People's Republic of China  
Thesis title: Mechanism of *hetR* gene regulating heterocyst  
differentiation of nitrogen-fixing cyanobacteria

1985-1988      M.S., Plant Physiology and Biochemistry  
Anhui Normal University, People's Republic of China

1981-1985      B.S., General Biology  
Anhui Normal University, Anhui, People's Republic of China

### **RESEARCH AND PROFESSIONAL EXPERIENCE**

2005- Present      Assistant Professor of Research  
Department of Biochemistry and Molecular Biology  
Michigan State University, East Lansing, MI, USA

2001.7-2005      Research Associate (Dr. Lee Kroos' lab)  
Department of Biochemistry and Molecular Biology  
Michigan State University, East Lansing, MI, USA

1998.1-2001.7      Research Associate (Dr. Peter Wolk's lab)  
DOE- Plant Research Laboratory  
Michigan State University, East Lansing, MI, USA

1995-1997.12      Associate Professor, Department of Biology  
Anhui Normal University, People's Republic of China

1988-1995      Assistant Professor, Department of Biology  
Anhui Normal University, People's Republic of China

1985-1986      Visiting Scholar, Shanghai Institute of Plant Physiology  
National Academy of Sciences, People's Republic of China

### **TEACHING EXPERIENCE**

Lab instruction of Plant Physiology & Biochemistry: conducted laboratory lectures and demonstrations of laboratory techniques for classes of 60-100 undergraduate students (1988-1994)

Teaching Plant Physiology for classes of 60-100 undergraduate students (1989-1994)

Mentor for 20 undergraduate students' theses (1989-2007)

### **AWARDS AND FELLOWSHIPS**

2003      Wang Kuancheng Fellowship, Chinese Academy of Science

1998      Outstanding Ph.D. dissertation award, Peking University  
Research focus: Mechanism of *hetR* gene regulating heterocyst differentiation

1996      Guanhua Scholarship for first class honors, Peking University

- 1995 Certificate for National Science and Technology Achievement awarded by Science and Technology Commission of People's Republic of China  
Research focus: Mechanism of antagonization between rice and weeds
- 1993 Second class prize for science and technology progress  
Awarded by Anhui Province Committee for Science and Technology  
Research focus: Methods for high-yield rice production
- 1993 First class prize for science and technology progress of Wuhu City  
Awarded by Wuhu City Committee for Science and Technology  
Research focus: Methods for high-yield rice production
- 1985 Distinguished Student Award, Anhui Normal University

### **PUBLICATIONS**

1. Wolk CP, Q Fan, **R Zhou**, G. Huang, S. Lechno-Yossef, T Kuritz and E Wojciuch (2007) Paired cloning vectors for complementation of mutations in the cyanobacterium sp. strain PCC 7120. *Arch. Microbiol.* 188:551–563
2. **Zhou R**, L Kroos (2005) Serine proteases from two cell types target different components of a complex that governs regulated intramembrane proteolysis of pro- $\sigma$ K during *Bacillus subtilis* development. *Mol. Microbiol.* 58: 835-846
3. Prince H, **R Zhou**, L Kroos (2005) Substrate requirements for regulated intramembrane proteolysis of *Bacillus subtilis* Pro- $\sigma$ K. *J. Bacteriol.* 187: 961-971
4. Ramirez ME, P Hebbar, **R Zhou**, CP Wolk, SE Curtis (2004) *Anabaena* sp. strain PCC 7120 gene devH is required for synthesis of a heterocyst glycolipid layer. *J. Bacteriol.* 187: 2326-2331
5. **Zhou R**, L Kroos (2004) BofA protein inhibits intramembrane proteolysis of Pro- $\sigma$ K in an intercompartmental signaling pathway during *Bacillus subtilis* sporulation. *Proc. Natl. Acad. Sci. USA.* 101:6385-6390 (This paper was featured in the Editor's Choice section of Science. 2004, Science 304: 651)
6. **Zhou R**, CP Wolk (2003) A two-component system mediates developmental regulation of biosynthesis a heterocyst polysaccharide. *J. Biol. Chem.* 278: 19939-19946
7. **Zhou R**, CP Wolk (2002) Identification of an akinete marker gene in *Anabaena variabilis*. *J. Bacteriol.* 184:2529-2532
8. Tao Li, Huang X., **R. Zhou**, Liu Y., Li B., Nomura C., and Zhao J (2002) Differential expression and localization of Mn and Fe superoxide dismutases in the heterocystous cyanobacterium *Anabaena* sp. Strain PCC 7120. *J. Bacteriol.* 184:5096-5013
9. Liu Y, **R Zhou**, J Zhao (2000) Molecular cloning and sequencing of *sodB* gene from heterocystous cyanobacterium *Anabaena* sp. PCC 7120. *Biochem. Biophys. Acta.* 1491 (1-3): 248-252
10. **Zhou R**, X Wei, N Jiang, Y Dong, J Zhao (1999) Biochemical characterization of HetR protein of *Anabaena* sp. PCC7120. In *Phototrophic Prokaryotes*, (Peschek G. A., W. Löffelhardt, G. Schmetterer eds.), Kluwer Academic/Plenum Publishers, New York, pp. 523-528
11. **Zhou R**, X Wei, N Jiang, H Li, Y Dong, J Zhao (1998) Evidence that HetR is an unusual serine-type protease. *Proc. Natl. Acad. Sci. USA* 95:4959-4963 (This paper has been cited more than 50 times)
12. **Zhou R**, Z Cao, J Zhao (1998) Characterization of HetR turnover in *Anabaena* sp. PCC 7120. *Arch. Microbiol.* 169: 417-42

\* **More than 20 papers published in Chinese are not listed here**