

Changhai Wang

Professor of Marine Biochemical Engineering

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Education:

- Ph D. July 1998. State Key Lab of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences (CAS), China. Majoring in Biochemical Engineering. Supervisor: Professor Ouyang Fan
- M Sc. July 1988, Department of Biochemistry, Peking University, China. Majoring in Microbial Biochemistry. Supervisor: Professor Qian Chunrou and Professor Zhang Weijie
- B Sc. July 1985. Department of Animal Medicine, Agricultural University of Inner Mongolia, China. Majoring in Animal Medicine. Supervisor: Professor Chuei Zhiguo

Research interests and expertise:

- Our lab focused on Microalgal biotechnology and Marine bioactive compounds. The major issues we are now investigating into include: (1) Obtaining high value products from microalgae and microalgae high-density culture technology; (2) Integration of wastewater treatment by microalgae and its biofuel production process; (3) Bioreactor design and development; (4) Separation & purification of bioactive compounds from microalgae and other marine organisms; (5) The adaptive mechanisms of polar microalgae to extreme condition and exploitation of related stress-resistant gene resources; (6) The application of microalgae as diets for aquatic culture and the effect of microalgae diets on the aquatic culture animal development process.

Current projects:

- The adaptive mechanisms of microalgae to extreme environment and the relationships between stress resistance capability and ecological adaptive evolution
- Studies on the ecophysiological characteristics and molecular mechanisms of eurythermal adaption of an Arctic psychrotrophic *Chlorella* sp.

- Shoubing Qi, Xiaowei Zhao, Weijie Zhang, Changhai Wang, Meilin He, Yaqing Chang, Jun Ding, The effects of 3 different microalgae species on the growth, metamorphosis and *MYP* gene expression of two sea urchins, *Strongylocentrotus intermedius* and *S. nudus*, *Aquaculture*, 2018.2.3
- Shiyan Zheng, Meilin He, Yangsui Sui, Temesgen Gebreluel, Shanmei Zou, Nyabuto Dorothy Kemuma, Changhai Wang*. Kelp waste extracts coupled with acetate enhances the biofuel characteristics of *Chlorella sorokiniana*. *Bioresource Technology*, 2017, 225:142-150
- Kewei Cao, Meilin He, Weinan Yang, Shanmei Zou, Chwanghai Wang*. The eurythermal adaptivity and temperature tolerance of a newly isolated psychrotolerant Arctic *Chlorella* sp. *Journal of Applied Phycology*, 2016, 28 : 877-888
- Shanmei Zou, Cong Fei, Chun wang, Zhan gao, Yashao Bao, Meilin He, Changhai Wang*. How DNA barcoding can be more effective in microalgae identification: a case of cryptic diversity revelation in *Scenedesmus* (Chlorophyceae). *Scientific Reports*, 2016. 6, 36822