

Cong Fei

Post-Doctoral Associate

Email: cf2290@nyu.edu

RESEARCH INTERESTS

Microbial Ecology, Marine Biology, Phycology

EDUCATION

Ph.D. in Applied Marine Biology, Nanjing Agricultural University

Nanjing, China

Average Score: A

Sep 2014 – Jan 2020

Courses: Marine Biology, Molecular Biology, Marine Ecology, Cell Biology

Bachelors in Biological Sciences, Nanjing Agricultural University

Nanjing, China

Overall GPA: 3.43/4.5

Sep 2010 – July 2014

Courses: Molecular Biology, Cell Biology, Botany, Microbiology, Plant physiology

PROFESSIONAL EXPERIENCE

Post-doctoral associate, New York University Abu Dhabi

Abu Dhabi, UAE

Advisor: Prof. Shady A. Amin

Jan 2020 – present

PUBLICATIONS

1. **Cong Fei**, Michael A. Ochsenkühn, Ahmed A. Shibl, Ashley Isaac, Changhai Wang, and Shady A. Amin. "Quorum sensing regulates 'swim-or-stick' lifestyle in the phycosphere." *Environ Microbiol* 22, no. 11 (2020): 4761-4778.
2. **Cong Fei**, Shanmei Zou, Tong Wang, Chun Wang, Nyabuto Dorothy Kemuma, Meilin He, Shady A. Amin and Changhai Wang. "A quick method for obtaining high-quality DNA barcodes without DNA extraction in microalgae." *J Appl Phycol* (2020): 1-11.
3. **Cong Fei**, Tong Wang, Abeselom Woldemicael, Meilin He, Shanmei Zou, Changhai Wang. "Nitrogen supplemented by symbiotic Rhizobium stimulates fatty-acid oxidation in *Chlorella variabilis*." *Algal Res* 44 (2019): 101692.
4. Ochsenkühn, Michael A., **Cong Fei**, Odmaa Bayaara, Emarosa Romeo, Patila Amosa, Youssef Idaghdour, Gary Goldstein, Timothy G. Bromage, and Shady A. Amin. "Microbial Contamination Survey of Environmental Fresh and Saltwater Resources of Upolu Island, Samoa." *Environments* 8, no. 11 (2021): 112.
5. Shibl, Ahmed A., Ashley Isaac, Michael A. Ochsenkühn, Anny Cárdenas, **Cong Fei**, Gregory Behringer, Marc Arnoux et al. "Diatom modulation of select bacteria through use of two unique secondary metabolites." *Proceedings of the National Academy of Sciences* 117, no. 44 (2020): 27445-27455.

6. Behringer, Gregory, Michael A. Ochsenkühn, **Cong Fei**, Jhamal Fanning, Julie A. Koester, and Shady A. Amin. "Bacterial communities of diatoms display strong conservation across strains and time." *Front Microbiol* 9 (2018): 659.
7. Zou, Shanmei, **Cong Fei**, Weinan Yang, Zheng Huang, Meilin He, and Changhai Wang. "High-efficiency 18S microalgae barcoding by coalescent, distance and character-based approaches: a test in *Chlorella* and *Scenedesmus*." *Chin J Oceanol Limnol* 36, no. 5 (2018): 1771-1777.
8. Zou, Shanmei, **Cong Fei**, Chun Wang, Zhan Gao, Yachao Bao, Meilin He, and Changhai Wang. "How DNA barcoding can be more effective in microalgae identification: a case of cryptic diversity revelation in *Scenedesmus* (Chlorophyceae)." *Sci Rep* 6 (2016): 36822.
9. Zou, Shanmei, **Cong Fei**, Jiameng Song, Yachao Bao, Meilin He, and Changhai Wang. "Combining and comparing coalescent, distance and character-based approaches for barcoding microalgae: A Test with *Chlorella*-like species (Chlorophyta)." *PloS one* 11, no. 4 (2016): e0153833.
10. Zhang, Yi, Meilin He, Shanmei Zou, **Cong Fei**, Yongquan Yan, Shiyang Zheng, Aftab Ahmed Rajper, and Changhai Wang. "Breeding of high biomass and lipid producing *Desmodesmus* sp. by ethylmethane sulfonate-induced mutation." *Bioresour Technol* 207 (2016): 268-275.
11. Yang Weinan, Shanmei Zou, Meilin He, **Cong Fei**, Wei Luo, Shiyang Zheng, Bo Chen, and Changhai Wang. "Growth and lipid accumulation in three *Chlorella* strains from different regions in response to diurnal temperature fluctuations." *Bioresour Technol* 202 (2016): 15-24.

RESEARCH EXPERIMENTS

The DNA barcodes of <i>Chlorella</i> -like species and <i>Scenedesmus</i> (Chlorophyta)	Sep 2014 – Jan 2016
A New quick method for obtaining Hi-Q DNA barcodes without DNA extraction in microalgae	Nov 2015 – Sep 2019
Nitrogen supplemented by symbiotic <i>Rhizobium</i> stimulates fatty-acid oxidation in <i>Chlorella variabilis</i>	May 2016 – Jan 2020
Quorum Sensing regulates ‘swim-or-stick’ lifestyle in phytoplankton-associated bacteria	Sep 2017 – May 2020
Life and Death of <i>Karenia brevis</i> Blooms in the Eastern Gulf of Mexico) that is conducting research on the chemical, physical and biological factors expanding and terminating Florida red tides.	Jan 2020- present

HONORS & AWARDS

The First Prize Scholarship (1/10)	Nov 2014
The First Prize Scholarship (1/10)	Nov 2015
Acquired China Scholarship Council (CSC) Postgraduate Scholarships for two years.	Sep 2017 – Sep 2019

CONFERENCES & WORKSHOP

Oral presentation:

1. “Quorum Sensing regulates ‘swim-or-stick’ lifestyle in phytoplankton-associated bacteria” Marine Microbiota

Symposium in Oldenburg, Germany (Aug 2019) “Quorum Sensing regulates ‘swim-or-stick’ lifestyle in phytoplankton-associated bacteria”

2. “Quorum Sensing regulates ‘swim-or-stick’ lifestyle in phytoplankton-associated bacteria” The SAME16 meeting in Potsdam, Germany (Sep 2019)

3. “Microbial population dynamics and diversity during a toxic *Karenia* bloom” 19th International Conference on Harmful Algae (ICHA 2021), virtual (Oct, 2021)

4. “Characterizing algicidal bacteria and viruses prevalent during *Karenia brevis* blooms in the Gulf of Mexico” Ocean Sciences Meeting 2022 (OSM 2022), virtual (Mar, 2022)

Poster:

1. “Potential role of quorum sensing in phytoplankton-bacteria interactions” The ISME17 meeting in Leipzig, Germany (Aug 2018)

2. “*Karenia brevis* Associated Bacterial Community Composition and its Influence on Algal Growth and Biodegradation of Brevetoxin” 10.5 U.S. Symposium on Harmful Algae 2021, virtual (May, 2021)

Workshop:

1. Minor training on bacteria, BCCM/ITM, Antwerp, Belgium 2. Preservation of micro-organisms, BCCM/DCG, Ghent, Belgium

SKILLS & INTERESTS

Skills: Cultivation of phytoplankton, diatom cryopreservation, isolation and identification of bacteria, Simple analysis of transcriptome and genome, Basic knowledge of R and python, Proficient in Graphpad prism, origin, Sigmaplot, AI, etc. basic analyzing and figuring software. Good at DNASTAR, Bioedit, Primer Premier, ClustalX etc. for molecular biology research.

Interests: Phytoplankton-bacteria interaction, Quorum Sensing, Algal metabolism.