1) brief biography

Xian-Zheng Yuan is a professor in School of Environmental Science & Engineering, Shandong University. Prof. Yuan's research mainly focuses on environmental nanotechnology and environmental biotechnology, including fate and behavior of nanomaterials in aquatic and terrestrial environments, environmental impact of emerging contaminants on organisms, etc.

2) photo (no less than 300 dpi)

3) abstract of speech (lasts 30 minutes, 200-250 words).

Interaction between nanoplastics and primary producers

Abstract: Recently, in microplastics research, there has been considerable focus towards nanoplastics, especially their fates and ecological impacts in freshwater environments. However, the potential threats of nanoplastics to primary producers in freshwater systems remain unclear. Here, we explore the metabolite profiles and signaling pathways of *Synechococcus elongatus* in response to a short-term amino-modified polystyrene nanoparticle (PS-NH_2) exposure via nontargeted metabolomics and genetic engineering. In addition, we also show that PS-NH_2 promote microcystin synthesis and release from *Microcystis aeruginosa*, a dominant species causing cyanobacterial blooms, even without the change of coloration.