



人才队伍

师资队伍

资环名师

导师名录

- 博士导师
- 硕士生导师
- 讲师

博士生导师

当前位置: 人才队伍 > 导师名录 > 博士生导师

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个人信息

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教育背景

2006.08—2010.07 香港大学 生物技术 博士
2003.09—2005.07 中山大学 生化与分子生物 硕士
1999.09—2003.07 中山大学 生物 本科

工作经历

2023.08—至今 南昌大学资源与环境学院
2015.08—2023.07 北京大学工学院
2012.11—2015.07 美国马里兰大学环境科学中心
2011.05—2012.10 美国亚利桑那州立大学
2010.08—2011.04 香港大学生物学院

学术与社会兼职

研究领域

微藻光合固碳与代谢
合成生物学
微藻资源化利用

研究概况

长期致力于开发利用交叉学科前沿科学技术进行藻类及微生物资源与环境的基础及应用研究。在领域内TOP期刊New Phytologist, Plant Physiology, Molecular Plant, Plant Journal, Metabolic Engineering, Biotechnology for Biofuels, Bioresource Technology等发表文章60多篇, H-index 40。先后主持国家重点研发计划课题和自然科学基金面上项目等多个项目, 总经费超过1000万。现担任藻类学期刊Algal Research副主编, Frontiers in Marine Science栏目副编辑, 以及The Innovation Life, Advanced Biotechnology和Frontiers in Plant Science多个期刊编委。

讲授课程

生物能源与生物资源; 微生物技术

奖励与荣誉

国家海外高层次人才(青年)、北京大学博雅青年学者、江西省“双千”计划领军人才(短期)、科学中国人(2018)年度人物、全球前2%顶尖科学家“年度科学影响力排行榜”(2020-2022)等

代表性成果

- Ding W, Ye Y, Yu L, Liu M, **Liu J***. Physicochemical and molecular responses of the diatom *Phaeodactylum tricornutum* to illumination transitions. *Biotechnology for Biofuels and Bioproducts*. 2023 16: 103
- Liu M, Ding W, Pan Y, Hu H, **Liu J***. Zeaxanthin epoxidase is involved in the carotenoid biosynthesis and light-dependent growth of the marine alga *Nannochloropsis oceanica*. *Biotechnology for Biofuels and Bioproducts*. 2023 16: 74
- Shi M, Yu L, Shi J, **Liu J***. A conserved MYB transcription factor is involved in regulating lipid metabolic pathways for oil biosynthesis in green algae. *New Phytologist*. 2022; 235: 576-594.
- Bai F, Yu L, Shi J, Li-Beisson Y, **Liu J***. Long-chain acyl-CoA synthetases activate fatty acids for lipid synthesis, remodeling and energy production in *Chlamydomonas*. *New Phytologist*. 2022; 233: 823-837.
- Liu J***, Liu M, Shi Y, Pan Y, Hu H. Metabolic engineering of the oleaginous alga *Nannochloropsis* for enriching eicosapentaenoic acid in triacylglycerol by combined pulling and pushing strategies. *Metabolic Engineering*. 2022; 69: 163-174.
- Ding W, **Liu J***. Rutin Stimulates the green alga *Chromochloris zofingiensis* for improved biomass and astaxanthin production. *Journal of Agricultural and Food Chemistry*. 2022; 70: 13626-13636.
- Yang J#, **Liu J***, Pan Y, Maréchal E, Amato A, Liu M, Gong Y, Li Y, Hu H*. PDAT regulates PE as transient carbon sink alternative to triacylglycerol in *Nannochloropsis*. *Plant Physiology*. 2022; 189: 1345-1362.
- Wu T, Yu L, Zhang Y, **Liu J***. Characterization of fatty acid desaturases reveals stress-induced synthesis of C18 unsaturated fatty acids enriched in triacylglycerol in the oleaginous alga *Chromochloris zofingiensis*. *Biotechnology for Biofuels*. 2021;14: 184.
- Zhang Y, Ye Y, Bai F, **Liu J***. The oleaginous astaxanthin-producing alga *Chromochloris zofingiensis*: potential from production to an emerging model for studying lipid metabolism and carotenogenesis. *Biotechnology for Biofuels*. 2021; 14: 119.
- Zhang Y#, Pan Y#, Ding W, Hu H, **Liu J***. Lipid production is more than doubled by manipulating a diacylglycerol acyltransferase in algae. *GCB Bioenergy*. 2021; 13: 185-200.
- Shi Y, Liu M, Pan Y, Hu H, **Liu J***. Δ6 fatty acid elongase is involved in eicosapentaenoic acid biosynthesis via the ω6 pathway in the marine alga *Nannochloropsis oceanica*. *Journal of Agricultural and Food Chemistry*. 2021; 69: 9837-9848.
- Zhang Y, Ye Y, Ding W, Mao X, Li Y, Gerken H, **Liu J***. Astaxanthin is ketolated from zeaxanthin independent of fatty acid synthesis in *Chromochloris zofingiensis*. *Plant Physiology*. 2020; 183: 883-897.
- Wu T, Fu Y, Shi Y, Li Y, Kou Y, Mao X, **Liu J***. Functional characterization of long-chain acyl-CoA synthetase gene family from the oleaginous alga *Chromochloris zofingiensis*. *Journal of Agricultural and Food Chemistry*. 2020; 68: 4473-4484.
- Shi Y, Liu M, Ding W, **Liu J***. Novel insights into phosphorus deprivation-boosted lipid synthesis in the marine alga *Nannochloropsis oceanica* without compromising biomass production. *Journal of Agricultural and Food Chemistry*. 2020; 68: 11488-11502.
- Mao X#, Zhang Y#, Wang X#, **Liu J***. Novel insights into salinity-induced lipogenesis and carotenogenesis in the oleaginous astaxanthin-producing alga *Chromochloris zofingiensis*: a multi-omics study. *Biotechnology for Biofuels*. 2020; 13: 73.
- Zhang Y, Shi M, Mao X, Kou Y, **Liu J***. Time-resolved carotenoid profiling and transcriptomic analysis reveal mechanism of carotenogenesis for astaxanthin synthesis in the oleaginous green alga *Chromochloris zofingiensis*. *Biotechnology for Biofuels*. 2019; 12: 287.
- Wang X, Wei H, Mao X, **Liu J***. Proteomics analysis of lipid droplets from the oleaginous alga *Chromochloris zofingiensis* reveals novel proteins for lipid metabolism. *Genomics, Proteomics & Bioinformatics*. 2019; 17: 260-272.
- Sun Z, Zhang Y, Sun L-p, **Liu J***. Light elicits astaxanthin biosynthesis and accumulation in the fermented ultrahigh-density *Chlorella zofingiensis*. *Journal of Agricultural and Food Chemistry*. 2019; 67: 5579-5586.
- Mao X, Wu T, Kou Y, Shi Y, Zhang Y, **Liu J***. Characterization of type I and type II diacylglycerol acyltransferases from the emerging model alga *Chlorella zofingiensis* reveals their functional complementarity and engineering potential. *Biotechnology for Biofuels*. 2019; 12: 28.
- Liu J***, Sun Z, Mao X, Gerken H, Wang X, Yang W. Multiomics analysis reveals distinct mechanism of oleaginousness in the emerging model alga *Chromochloris zofingiensis*. *The Plant Journal*. 2019; 98: 1060-1077.



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