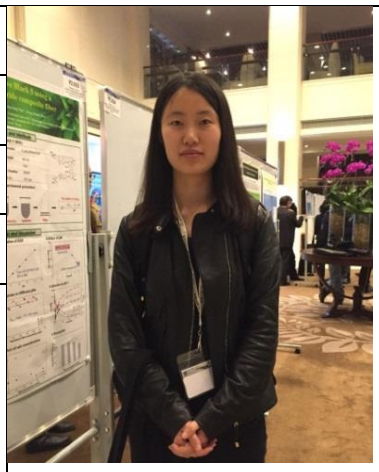
基本信息

姓　　名	刘婷
职　　务	系党支书
职　　称	副教授
电子邮件	liuting@bit.edu.cn
系/研究所	化学工程系 /化学电源与绿色催化研究所



教育背景

2007.09-2011.07	哈尔滨工业大学，工学博士
2005.09-2007.07	哈尔滨工业大学，工学硕士
2001.09-2005.07	哈尔滨工业大学，工学学士

工作履历

2013.01-至今	北京理工大学化学与化工学院，讲师/副教授
2016.06-2016.12	英国帝国理工学院，访问学者
2011.09-2012.10	加拿大滑铁卢大学，环境工程系，博士后

研究方向

1.	二维膜制备与分离特性
2.	膜污染控制
3.	电催化膜

承担项目

1.	超滤膜对纳米级絮凝初始颗粒调控的响应机制，国家自然科学基金青年项目（51308043），2014.1-2016.12，25 万，主持
2.	基于层间距微尺度调控的氧化石墨烯膜分离净化效能及其抗污染机制研究，北京市自然科学基金面上项目（8192042），2019.1-2021.12，20 万，主持

3.	功能性预过滤层纳米材料提高超滤膜过滤性能的研究，北京理工大学基础研究基金（20151042002），2016.1-2017.12，10 万，主持
4.	超滤膜对絮凝协同预处理体系中滤饼层结构变化的响应机制，北京理工大学基础研究基金（20131042003），2014.1-2015.12，9 万，主持
5.	表面去合金化三维石墨烯基双功能纳米材料及催化氧化乙醇动力学研究，国家自然科学基金面上项目（21576028），2016.1-2019.12，15/67 万，参与

研究成果

主持国家自然科学基金项目 1 项，参与国家自然科学基金项目 1 项，主持北京市自然科学基金 1 项。迄今在国内外学术刊物及会议上发表学术论文 30 余篇，其中以第一/通讯作者在化工、环境类国际知名期刊发表 SCI 收录近 20 篇，ESI 高被引论文 2 篇，获授权专利 3 项。

1.	研究制备了在水中稳定交联、层间距可调控的二维碳基纳米材料（GO、MXene）复合膜，对水中小分子有机物和盐离子具有优良的截留能力，并具有较低的膜污染程度
2.	系统研究了混凝、臭氧氧化等超滤膜前预处理工艺对膜污染的控制机理与控制策略，优化了超滤组合工艺运行条件，发现了混凝过程中结晶絮体的形成、动态演变及其与膜表面的作用机制
3.	在 PVDF 超滤膜表面负载纳米材料功能层，通过功能层的预过滤作用减少污染物与膜表面的直接接触和滤饼层结构特性，有效减缓了膜污染进程，并改善膜的滤后水质

代表性论文（按时间顺序）

1.	Xun Liu, Nigel Graham, **Ting Liu***, Shuangwu Cheng, Wenzheng Yu*, A comparison of the coagulation performance of PAFC and FeSO4 for the treatment of leach liquor from Stevia processing, ***Separation and Purification Technology***, 2021, 255, 117680. (SCI, IF= 5.774)
2.	Xian Li, Nigel Graham, Wensheng Deng, Mengjie Liu, **Ting Liu***, Wenzheng Yu*, The formation of planar crystalline flocs of γ-FeOOH in Fe(II) coagulation and the influence of humic acid, ***Water Research***, 2020, 185, 116250. (SCI, IF= 9.13)
3.	Zhaoyang Su, **Ting Liu**, Xing Li, Nigel J. D. Graham, Wenzheng Yu, Tracking metal ion-induced organic membrane fouling in nanofiltration by adopting spectroscopic methods: Observations and predictions, ***Science of The Total Environment***, 2020, 708, 135051. (SCI, IF= 6.551)

4.	**Ting Liu**, XiaoYan Liu, Nigel Graham, WenZheng Yu*, Kening Sun*, Two-dimensional MXene incorporated graphene oxide composite membrane with enhanced water purification performance, ***Journal of Membrane Science***, 2020, 593, 117431. (SCI, IF=7.015, **ESI 高被引论文**)
5.	**Ting Liu**, Long Tian, Nigel Graham, Bing Yang, WenZheng Yu*, Kening Sun*, Regulating the Interlayer Spacing of Graphene Oxide Membranes and Enhancing their Stability by Use of PACl, ***Environmental Science & Technology***, 2019, 53, 11949-11959. (SCI, IF=7.149)
6.	**Ting Liu**, Huimin Zhou, Nigel Graham, Wenzheng Yu*, Kening Sun*, 2D kaolin ultrafiltration membrane with ultrahigh flux for water purification, ***Water Research***, 2019, 156, 425-433. (SCI, IF=7.051)
7.	**Ting Liu**, Huimin Zhou, Nigel Graham, Yuanlong Lian, Wenzheng Yu*,Kening Sun*, The antifouling performance of an ultrafiltration membrane with pre-deposited carbon nanofiber layers for water treatment, ***Journal of Membrane Science***, 2018, 557, 87-95. (SCI, IF=6.035)
8.	Zhaoyang Su, **Ting Liu**, Wenzheng Yu*, Xing Li and Nigel Graham**, Coagulation of surface water: observations on the significance of biopolymers, ***Water Research***, 2017, 126, 144-152. (SCI, IF=6.941)
9.	**Ting Liu**, Bing Yang, Nigel Graham, Yuanlong Lian, Wenzheng Yu*, Kening Sun*, Mitigation of NOM fouling of ultrafiltration membranes by pre-deposited heated aluminum oxide particles with different crystallinity, ***Journal of Membrane Science***, 544 (2017) 359-367. (SCI, IF=6.035)
10.	**Ting Liu**, Bing Yang, Nigel Graham, Wenzheng Yu*, Kening Sun*, Trivalent metal cation cross-linked graphene oxide membranes for NOM removal in water treatment, ***Journal of Membrane Science***, 542 (2017) 31-40. (SCI, IF=6.035)
11.	Wenzheng Yu*, Nigel Graham*, **Ting Liu**, Effect of intermittent ultrasound on controlling membrane fouling with coagulation pre-treatment: Significance of the nature of adsorbed organic matter, ***Journal of Membrane Science***, 535 (2017) 168-177. (SCI, IF=6.035)
12.	Fang Wang, **Ting Liu***, Yaofang Guo, Wenzhen Li, Ji Qi, David Rooney, Kening Sun*, Co_9S_8 activated N/S co-doped carbon tubes in situ grown on carbon nanofibers for efficient oxygen reduction, ***RSC Advances***, 55 (2017) 34763-34769. (SCI, IF= 3.108)
13.	**Ting Liu**, Yuanlong Lian, Nigel Graham, Wenzheng Yu*, David Rooney, Kening Sun*, Application of polyacrylamide flocculation with and without alum coagulation for mitigating ultrafiltration membrane fouling: Role of floc structure and bacterial activity, ***Chemical Engineering Journal,*** 307 (2017) 41-48. (SCI, IF= 6.216, **ESI 高被引论文**)
14.	**Ting Liu***, Yao-Fang Guo, Yi-Ming Yan, Fang Wang, Chen Deng, David Rooney, Ke-Ning Sun*, CoO nanoparticles embedded in three-dimensional nitrogen/sulfur co-doped carbon nanofiber networks as a bifunctional catalyst for oxygen reduction/evolution reactions, ***Carbon,*** 106 (2016) 84-92. (SCI, IF=6.198)

15.	Xin Guo, Guo-lin Cao, Fei Ding, Xinyuan Li, Shuyu Zhen, Yi-fei Xue, Yi-ming Yan*, **Ting Liu***, Ke-ning Sun*, A bulky and flexible electrocatalyst for efficient hydrogen evolution based on the growth of MoS2 nanoparticles on carbon nanofiber foam, ***Journal of Materials Chemistry A,*** 3 (2015) 5041-5046. (SCI, IF=8.262)
16.	Guo-Lin Cao, Yi-Ming Yan, **Ting Liu***, David Rooney, Ke-Ning Sun*, Three-dimensional porous carbon nanofiber networks decorated with cobalt-based nanoparticles: A robust electrocatalyst for efficient water oxidation, ***Carbon,*** 94 (2015) 680-686. (SCI, IF=6.198)
17.	**Ting Liu**, Zhong-lin Chen*, Wen-zheng Yu, Shi-jie You, Characterization of organic membrane foulants in a submerged membrane bioreactor with pre-ozonation using three-dimensional excitation-emission matrix fluorescence spectroscopy, ***Water Research,*** 45 (2011) 2111-2121. (SCI, IF=5.991)
18.	**Ting Liu**, Zhong-lin Chen*, Wen-zheng Yu, Ji-min Shen, John Gregory, Effect of two-stage coagulant addition on coagulation-ultrafiltration process for treatment of humic-rich water, ***Water Research,*** 45 (2011) 4260-4268. (SCI, IF=5.991)
19.	田隆，刘婷，孙克宁，用于水质净化的氧化石墨烯膜研究进展，**化工学报**，2020 年第 9 期，4112（EI）