范伟应聘材料公示

一、主要研究方向或领域

（1）污水再生处理技术与工艺，重点研发以微纳米气泡为核心的水处理技术；
（2）再生水地下回灌储存过程中的水质演变及风险防控；
（3）污染物在地下环境中的迁移归趋及污染水土环境修复等；
（4）微纳米气泡设备产品研发及软件开发、污染物水土环境迁移建模及软件开发

二、主要学术兼职

中国颗粒学会　青年理事
中国微纳气泡专业委员会 委员
中国化工学会 会员
《Applied Water Science》杂志 编委
《Frontiers in Chemistry》及《Water》杂志客座编辑
教育部高等教育教学评估中心工程教育专业认证秘书
国家自然科学基金同行评议专家
Water Research、Environmental Science & Technology 等 TOP 期刊杂志审稿人

三、主要科研和教学成果（近五年）

1.学术论文

论文名称，发表刊物，期号，时间，本人排序

[1] Reclamation of ginseng residues using two-stage fermentation and evaluation of their beneficial effects as dietary feed supplements for piglets. Waste Management. 2022, 154, 293-302. 通讯作者.

[2] Tracking Cryptosporidium in urban wastewater treatment plants in a cold region: Occurrence, species and infectivity. Frontiers of Environmental Science & Engineering. 2022, 16, 112. 通讯作者.

[3] Numerical modeling of COD transportation in Liaodong Bay: impact of COD loads from rivers flowing into the sea. Water. 2022. 通讯作者.

[4] Enhanced Photocatalytic Water Decontamination by Micro–Nano Bubbles: Measurements and Mechanisms. Environmental Science & Technology. 2021, 55, 7025-7033. 第一作者.

[5] Bactericidal efficiency and photochemical mechanisms of micro/nano bubble–enhanced visible light photocatalytic water disinfection. Water Research. 2021, 203, 117513. 第一作者.

[6] An integrated approach using ozone nanobubble and cyclodextrin inclusion

complexation to enhance the removal of micropollutants. Water Research. 2021, 196, 117039. 第一作者.

[7] Cu transport and distribution in different cellular fractions of Klebsiella oxytoca strain CAV 1374. Journal of Hazardous Materials. 2021, 419, 126416. 通讯作者.

[8] Optical density inferences in aqueous solution with embedded micro/nano bubbles: a reminder for the emerging green bubble cleantech. Journal of Cleaner Production. 2021, 294, 126258.

[9] Copper removal from semiconductor CMP wastewater in the presence of nano-SiO2 through biosorption. Water Reuse. 2021, 11, 289-300. 通讯作者.

[10] Transport of Cu2+ in Unsaturated Porous Medium with Humic Acid_Iron Oxide Nanoparticle (Fe3O4) Amendment. Water. 2021, 13, 200. 通讯作者.

[11] Evolution of dissolved organic matter during artificial groundwater recharge with effluent from underutilized WWTP and the resulting facilitated transport effect. Environmental Research. 2021, 193, 110527.

[12] Loopholes in the current reclaimed water quality standards for clogging control during aquifer storage and recovery in China. Water Cycle. 2020, 1: 13-18.

[13] Risk of physical clogging induced by low-density suspended particles during managed aquifer recharge with reclaimed water: evidences from laboratory experiments and numerical modeling. Environmental Research. 2020, 186, 109527. 通讯作者.

[14] Transport of bacterial cell (E.coli) from different recharge water resources in porous media during simulated artificial groundwater. Frontiers of Environmental Science & Engineering. 2020, 14, 4.

[15] Solubilization and stabilization for prolonged reactivity of ozone using micro-nano bubbles and ozone-saturated solvent: A promising enhancement for ozonation. Separation and Purification Technology. 2020, 238, 116484.

[16] Addition of MnO2 in synthesis of nano-rod erdite promoted tetracycline adsorption. Scientific Reports. 2019, 9, 16906. 通讯作者.

[17] Environmentally friendly approach for advanced treatment of municipal secondary effluent by integration of micro-nano bubbles and photocatalysis. Journal of Cleaner Production. 2019, 237, 117828.

[18] Intensifying ozonation treatment of municipal secondary effluent using a combination of microbubbles and ultraviolet irradiation. Environmental Science and Pollution Research. 2019, 26, 21915-21924. 通讯作者.

[19] Influence of proteins on transport of ferrihydrite particles formed during recharge of groundwater containing Fe with reclaimed water. Water. 2018, 10, 1329. 通讯作者.

[20] Comparison of clogging induced by organic and inorganic suspended particles in a porous medium: implications for choosing physical clogging indicators. Journal of Soils and Sediments. 2018, 18, 2980-2994. 通讯作者.

[21] Different transport behaviors of Bacillus subtilis cells and spores in saturated porous media: Implications for contamination risks associated with bacterial sporulation in aquifer. Colloids and Surfaces B: Biointerfaces, 2018, 162: 35-42. 通讯作者.

[22] Water quality variation and hydrogeochemical evolution during artificial groundwater recharge with reclaimed water: laboratory experimental and numerical simulation study. Arabian Journal of Geosciences, 2018, 11: 340. 通讯作者.

[23] Hydroxyl Radical Generation and Contaminant Removal from Water by the Collapse of Microbubbles Under Different Hydrochemical Conditions. Water Air & Soil pollution. 2018, 229, 86. 通讯作者.

[24] Evaluation of changes in hydrogeological properties of porous media induced by air sparging in sand matrix. Water Air & Soil pollution, 2017, 228: 225-233. 通讯作者.

[25] Bioremoval of Cu2+ from CMP wastewater by a novel copper-resistant bacterium Cupriavidus gilardii CR3: characteristics and mechanisms. RSC Advance. 2017, 7, 18793-18802. 通讯作者.

2.科（教）研项目

[1] 再生水地下储存过程中有机絮体颗粒特异性堵塞机制及控制方法，国家自然科学基金面上项目(NO.51978135)，60 万，2020.1-2023.12，主持。

[2] 再生水地下储存系统微纳米曝气过程解析及其对溶解性有机物迁移归趋的影响，国家自然科学基金面上项目(NO.51678121)，64 万，2017.1-2020.12，主持。

[3] 再生水地下储存过程中纳米污染物对重金属铜的易化迁移机制，吉林省科技发展计划项目 (NO. 20200201042JC)，8 万，2020.1-2022.12，主持。

[4] 再生水地下储存过程典型工程纳米颗粒在多孔介质中的迁移沉积机制，吉林省科技发展计划项目(NO. 20160520022JH)，7 万，2016.1-2018.12，主持。

[5] 再生水地下安全储存的水质调控原理，国家自然科学基金重点项目(NO. 51238001)，300 万，2013.1-2017.12，参与。

3.著作教材

[1] 霍旸, 范伟, 崔晓春, 周丹丹. 流体力学实验指导书. 长春: 东北师范大学出版社, 2021. 合著第 2 位。

[2] 章光新, 张蕾, 冯夏清, 范伟, 董李勤. 湿地生态水文与水资源管理. 北京: 科学出版社, 2014. 合著第 4 位。

4.科研教学获奖

[1] 东北师范大学优秀教学改革项目，校级，校教务处，2021，第 1 人。

[2] 吉林省自然科学奖，二等奖，吉林省科学技术奖励委员会，2021，第 1 人。

[3] FESE 杂志年度最佳论文，FESE 杂志，2020 年，第一作者。

[4] 2021 中国城市水环境与水生态发展大会优秀论文奖，通讯作者。

5.专利等实用成果

成果名称，专利号/权利号（登记号），本人排序

[1] 范伟,霍明昕. 一种增效气液传质的方法与实现该方法的装置及应用 (CN 109748410 B). [授权公告日：2020.7.24]

[2] 范伟,霍明昕. 基于流控微泡-臭氧耦合进行水处理的装置及水处理方法(CN 109748353 B). [授权公告日：2020.8.14]

[3] 范伟,霍明昕. 基于流控微泡-光催化耦合进行水处理的装置及方法(CN 109748352 B). [授权公告日：2020.9.1]

四、推动学院（部）学科建设的思路和目标

1. 学科方向名称及简介

城市污水再生与储存

以实现城市再生水地下安全储存与回用为目标，揭示污水再生处理的物质转化与能源转换机制，创新和突破对该过程多组分-多相-多界面-多尺度下水质风险演变机制的研究方法，发展再生水地下储存的基础理论和关键原理，建立适合我国典型地区社会经济和自然环境特点的再生水地下储存技术体系。

2. 学科建设目标

在学校一流学科建设及学院发展政策引领下，立足东北，以先进齐全的仪器设备为技术支撑，以高层次的科研队伍为人力保障，以国家社会经济发展与水安全保障的实践需求为导

向，瞄准“城市污水再生与储存”这一重大研究方向的热点和难点进行攻关，以期在“城市污水再生与储存”理论研究和应用基础研究的一些关键领域居于国内乃至国际领先地位，将学科团队建设成为国内开拓性、国际上具有一定影响的研究队伍。

3. 学科建设思路

（1）搭建满足学科团队发展的研究队伍；

（2）优化团队科研攻关布局，强化学科团队特色；

（3）提高学科团队学术水平，提升团队行业影响；

（4）推进团队成果应用转化，科技创新服务社会。

4. 学科建设措施

（1）引进至少 5 位本研究方向的中青年人才；

（2）强化统筹、科学规划、组织研讨，实现团队成员定位梳理、关键问题凝练；

（3）融通学科边界，强化学术交流，精细绩效管理，激励学术产出；

（4）营造产学研交流氛围，创造成果转化条件。