## 目 次

环境工程学科基础研究领域亮点成果系列专稿
同济大学王志伟教授团队在聚酰胺膜去除小分子污染物机制及调控策略研究取得进展(2367)
特邀专稿 世界卫生组织《抗生素生产废水和固体废物管控指南》解读 ····································
生成式人工智能在环境工程中的应用前瞻
面向可持续目标的传统农村家庭食物-能源-水耦合研究:框架构建
长江三角洲区域部分省市危险废物跨省转移生态补偿机制的构建和分析 ····································
长江二用洲区域部分有印厄应废物跨有转移生态怀怯机制的构建和分析 霍慧敏,陈小宇,郑洋,何艺,韦洪莲,靳晓勤(2389)
水污染防治
WSCR&IL-PVDF 有机-无机超滤膜的制备及性能 ·······················王紫玥,张少波,沈志阳,张绮,董延茂 (2398)
中压紫外/甲酸盐还原体系对硝酸盐的去除效能及机制 ···············任鹏飞,周建华,张锐,陈贻龙,张欣然 (2409)
不同填料曝气生物滤池对养猪沼液的处理效果及微生物群落响应
铝基吸附剂对页岩气采出水中 Li <sup>+</sup> 的吸附性能 ·············· 陈贵靖,李希凡,李鑫,陈俊,刘昌辉,李波,刘百仓 (2428)
厌氧发酵菌剂对黑水厌氧发酵和无害化效果的影响 ····································
功能性阴极对光催化燃料电池去除卡马西平的影响    唐欢,马新培,黄宇轩,卢耀斌,栾天罡(2451)
1,4-丁炔二醇的厌氧降解性能评估
氨基化陶瓷膜对水中铜离子的吸附去除性能
UV/H,O,氧化降解废水中氨基三亚甲基膦酸性能及机理 ········· 任帅康,黎佳茜,刘丹妮,廖海清,刘雪瑜,张娟娟(2483)
电化学耦合反渗透膜系统中铵氧化行为对氨氮去除效率提升的机制探讨
电化子柄自及参短膜系统下设型化订为外氨氨乙烯双型使用的机闸环的 。 
固体废物处理与资源化
新型生物可渗透反应屏障技术修复简易填埋场壤中流 ····································
白酒废水污泥制包膜缓释肥配方筛选及其缓释效果评价
基于升温阶段蛋白质降解调控对污泥好氧发酵的影响 刘金洋,韩芸,卓杨,周梦雨,刘奕,王赏阁,杨扬(2532)
不同植被恢复措施对锰尾砂库有机碳及其组分影响 韩庆坤, 刘杰, 蒋旭升, 代德敏, 陈诗奇, 王路洋 (2542)
中温氛围下水平球磨法去除生活垃圾焚烧飞灰中二噁英类的影响 吴成强,温慧娟,叶辉,施雅琪,於建明,邵倩(2550)
土壤污染防治
2种生物炭施用对滨海盐渍土土壤及植物影响的对比分析王莹,曹世伟,朱义,于泽群,沈思源,崔心红(2556)
羟基磷灰石类纳米材料磷释放特征及影响因素 张文轩,李青青,杨柳塘,李云桂 (2567)
基于退化剥离草皮的土壤重构技术 ······
王宝鹤,陆建国,文卓,李宇航,李强,金博,李晓巍,张卫彪,雷泞菲,张晓超,李琪,裴向军 (2577)
餐厨沼渣生物炭类型和掺杂比对湿地土壤二氧化碳排放的影响
赵小飞,陈玉,李军明,田芯玮,唐雨欣,纪欣雨,李蕾,祖波(2588)
工程创新与实践
敏感地区城市污水处理厂工艺优化模拟及生产线应用    罗凡, 于翔, 李浩, 徐浩, 李捷 (2596)
环境监测技术
土壤金属元素测量结果的不确定性与其关键影响因素
相关研究
基于全生命周期方法的 5 种典型储能电池环境影响评价 田西, 胡志康, 马清源, 彭菲, 魏国恩,徐明, 彭爱平 (2615)
基于 SRP-ES 方法的淮河流域生态脆弱性评价——以安徽段为例 柏跃波, 邓良, 洪欣, 徐立晨, 项超生(2625)
厌氧膜生物反应器处理酰胺工业废水的碳中和潜力——能源回收与碳减排 ····································
孙驯蚁,氾尬荣,旰忌,孙斫,亦不,于入啊,衙彻,予五久,犯智(203/)

刊名题写: 黄联成

封面设计: 清华大学环境学院"天工 AI"团队及生态环境人工智能研究中心 (本期封面底图由智谱清言生成)

## **CONTENTS**

- 2367 WANG Zhiwei's research group at Tongji University, presents advances in mechanisms and regulation strategies for the removal of small molecule contaminants by polyamide membranes
- 2369 Interpretation of the WHO Guidance on wastewater and solid waste management for manufacturing of antibiotics ZHANG Yu, HAN Ziming, WANG Chen, TIAN Zhe, YANG Min
- 2375 Prospective applications of generative artificial intelligence in Environmental Engineering QI Jianchuan, SHI Wenjie, XU Changqing, LI Nan, XU Ming
- 2381 Food-energy-water nexus in traditional rural households to achieve sustainability goals: Framework construction WU Mengrong, LIU Gengyuan, CHEN Caocao, XIONG Xiaoping, MENG Fanxin, GAO Yuan, ZHANG Lixiao
- 2389 Construction and analysis of ecological compensation mechanisms for cross provincial transfer of hazardous waste in some provinces and cities in the Yangtze River Delta region
  HUO Huimin, CHEN Xiaoyu, ZHENG Yang, He Yi, Wei Honglian, JIN Xiaoqin
- 2398 Preparation and properties of WSCR&IL-PVDF organic-inorganic ultrafiltration membrane WANG Ziyue, ZHANG Shaobo, SHEN Zhiyang, ZHANG Yi, DONG Yanmao
- 2409 Removal efficiency and mechanism of nitrate in the medium pressure ultraviolet/formate system REN Pengfei, ZHOU Jianhua, ZHANG Rui, CHEN Yilong, ZHANG Xinran
- 2418 Treatment effect of digested piggery wastewater by biological aerated filter with different fillers and microbial community response
- ZHANG Meng, ZHANG Longzhen, TAO Ran, LIAO Ruomei, YANG Yang, TAI Yiping, FU Muxing

  2428 Adsorption performance of aluminum-based adsorbent towards Li<sup>+</sup> in shale gas produced water

  CHEN Guijing, LI Xifan, LI Xin, CHEN Jun, LIU Changhui, LI Bo, LIU Baicang
- 2437 Influence of anaerobic fermentation bacterial agents on the effectiveness of anaerobic fermentation and harmlessness of blackwater
  - SUN Yuanbo, YANG Biao, Eid S. Gaballah, Li Shuping, ZHU Guangcan
- 2451 Effect of functional cathodes on carbamazepine removal in the photocatalytic fuel cell TANG Huan, MA Xinpei, HUANG Yuxuan, LU Yaobin, LUAN Tiangang
- 2463 **Evaluation of the anaerobic biodegradability of 1,4-butynediol** ZHANG Honghu, CHI Yongzhi, XIN Yu, Min YANG, TIAN Zhe
- 2473 Adsorption removal of copper ions from water by the amino-functionalized ceramic membrane XIE Yiqiao, LI Jingwen, YU Yang, ZHANG Na
- 2483 Performance and mechanism of UV/H<sub>2</sub>O<sub>2</sub> synergistic system on oxidation and degradation of amino trimethylene phosphonic acid REN Shuaikang, LI Jiaxi, LIU Danni, LIAO Haiqing, LIU Xueyu, ZHANG Juanjuan
- 2491 Mechanism exploration of ammonium oxidation behaviors for improved ammonia nitrogen removal efficiency in electrochemically coupled reverse osmosis membrane systems
  YUAN Kexin, XIE Yujie, LUO Beiyang, WU Qinglian, BAO Xian, MA Jun
- 2500 A novel permeable reactive bio-barrier to remediate interflow from simple landfill LIU Hengyi. LI Lei. HU Yadi. YE Weniie. LIU Guotao. PENG Xuva
- 2512 Mechanisms of solid particle content and particle size distribution affecting the ultrasonic separation process of oil sludge LIU Tangyu, LI Hongrui, HOU Chenglin, ZHANG Jie, FU Lixia, WANG Changxin, GUO Yuanming
- 2522 Formulation screening and slow release effect evaluation of coated slow release fertilizer made from Baijiu wastewater sludge WANG Ziqi, WU Yonggui, LU Hongpei, PENG Xiaoyu, XUE Rongjie, LI Xialin, LIANG Wan, MA Xing
- 2532 Influence of protein degradation regulation on the mesophilic phase of aerobic fermentation of sludge LIU Jinyang, HAN Yun, ZHUO Yang, ZHOU Mengyu, LIU Yi, WANG Shangge, YANG Yang
- 2542 Effects of different vegetation restoration strategy on organic carbon and its fractions in manganese mine tailings pond HAN Qingkun, LIU Jie, JIANG Xusheng, DAI Demin, CHEN Shiqi, WANG Luyang
- 2550 Effect of moderate temperature on PCDD/Fs removal in domestic incineration fly ash by horizontal ball milling WU Chengqiang, WEN Huijuan, YE Hui, SHI Yaqi, YU Jianming, SHAO Qian
- 2556 Comparative analysis of the effects of two types of biochar application on coastal saline soil and plants WANG Ying, CAO Shiwei, ZHU Yi, YU Zequn, SHEN Siyuan, CUI Xinhong
- 2567 Characteristics and influencing factors of phosphorus release from hydroxyapatite nanomaterials ZHANG Wenxuan, LI Qingqing, YANG Liutang, LI Yungui
- 2577 Soil reconstruction technology based on degraded stripped turfs
  WANG Baohe, LU Jianguo, WEN Zhuo, LI Yuhang, LI Qiang, JIN Bo, LI Xiaowei, ZHANG Weibiao, LEI Ningfei,
  ZHANG Xiaochao, LI Qi, PEI Xiangjun
- 2588 Effects of biochar type and doping ratio on wetland soil carbon dioxide emissions from food waste digestate ZHAO Xiaofei, CHEN Yu, LI Junming, TIAN Xinwei, TANG Yuxin, JI Xinyu, LI Lei, ZU Bo
- 2596 Simulation and application of process optimization for urban wastewater treatment plants in environmentally sensitive area LUO Fan, YU Xiang, LI Hao, XU Hao, LI Jie
- 2605 Uncertainty in soil metal element measurements and its key influencing factors LIN Jianhui, LU Jiahui, LIANG Shijie, WU Xinying, YANG Xunan, DAI Wenju, YE Fang, ZENG Guoqu
- 2615 Environmental impact assessment of five typical energy storage batteries based on full life cycle assessment TIAN Xi, HU Zhikang, MA Qingyuan, PENG Fei, WEI Guoen, XU Ming, PENG Aiping
- 2625 Ecological vulnerability evaluation of Huaihe river basin based on SRP-ES approach--A case study of Anhui section BAI Yuebo, DENG Liang, HONG Xin, XU Lichen, XIANG Chaosheng
- Carbon-neutral potential in treatment of amide-containing industrial wastewater by anaerobic membrane bioreactor (AnMBR):
  Energy recovery and carbon emission reduction
  ZHANG Xinzheng, FAN Yuqin, XUE Yi, ZHANG Tao, CHEN Rong, LI Dapeng, PAN Yang, LI Yuyou, KONG Zhe