

ISSN 2095-1906  
CN 11-6000/R

# 环境卫生学杂志

HUANJING WEISHENGXUE ZAZHI

原《国外医学·卫生学分册》

2022年5月 第12卷 第5期

中华人民共和国国家卫生健康委员会 主管

中国疾病预防控制中心 主办

JOURNAL  
OF  
ENVIRONMENTAL  
HYGIENE

2022.5



Volume 12 Number 5  
May 2022

中国科技核心期刊

中国医药卫生核心期刊

《中国学术期刊网络出版总库》收录期刊

《中文科技期刊数据库》收录期刊

《中国生物医学文献数据库》收录期刊

ISSN 2095-1906



# 环境卫生学杂志

JOURNAL OF ENVIRONMENTAL HYGIENE

月刊 1974年2月创刊 第12卷 第5期 2022年5月25日出版



本刊网站

本刊微信

## 主管

中华人民共和国国家卫生健康委员会

## 主办

中国疾病预防控制中心

102206,北京市昌平区昌百路155号

## 编辑与出版

环境卫生学杂志

编辑委员会

100050,北京市西城区南纬路29号

电话:010-83132331

Email:hjwsxzz@nieh.chinacdc.cn

http://www.hjwsxzz.com/

## 主编

施小明

## 编辑部副主任

赵康峰

## 广告发布登记证

京西市监广登字20170189号

## 印刷

北京科信印刷有限公司

## 邮购

环境卫生学杂志编辑部

100050,北京市西城区南纬路29号

电话:010-83132331

Email:hjwsxzz@nieh.chinacdc.cn

## 定价

每期15.00元,全年180.00元

## 中国标准连续出版物号

ISSN 2095-1906

CN11-6000/R

## 版权归中国疾病预防控制中心所有

本刊刊出的所有文章,除特别声明外不代表中国疾病预防控制中心和本刊编委会的观点

本刊如有印装质量问题,可向环境卫生学杂志编辑部调换

## 目次

### 热点述评

中国城市生活垃圾分类处理问题及对策 ..... 321

李旭,杨玉燕,张宇晶,齐静,龚淑涵,樊琳,王先良

### 科研论著

PM<sub>2.5</sub>暴露对子代小鼠糖脂代谢的影响 ..... 326

邵寒冰,胡文轩,褚修余,李思琦,赵新元,王晓珂

山西省某煤矿区土壤重金属/类金属污染与健康风险评估 ... 332

成碧君,杨秀娟,高林英,刘良坡,张红梅

### 调查研究

河北省PM<sub>2.5</sub>长期暴露的肺癌死亡负担及经济损失 ..... 345

任萌,刘言玉,李道娟,郝雅慧,师苗苗,王莹莹,贺宇彤

场地周边人群环境暴露参数调查研究

——以山西某焦化厂为例 ..... 351

鲍梦莹,段链,王琼,彭星宇,唐颖,

张蕾,陈文菲,谭海萍,谷红梅,郭庶

### 监测分析

2017—2020年南通市大气中臭氧暴露对人群死亡影响的

时间序列分析 ..... 358

何智敏,侯沙沙

### 检验技术与方法

直接稀释电感耦合等离子体质谱测定尿中汞 ..... 363

葛成相,李四生,宋晓琼,李建伟,李昌安,单晓梅

## 案例分析

- 一起疑似二次供水污染引起的聚集性腹泻事件调查案例分析..... 367  
周少磊,刘波,张国峰,杨艳娜,赵春艳

## 经验交流

- 中国5省农村地区饮用水消毒前后菌落总数对比分析..... 372  
熊传龙,陈志健,王志强,何祖安,何英华,杨鸿宾,徐夷,李洪兴,王丽,候蓉蓉,张荣
- 2019—2021年淀山湖水源富营养化及磺胺类抗生素污染现状 ..... 378  
郝晞,沈燕,邵未艾,李禹昕,刁永卿,王霞
- 2019—2020年菏泽市大气污染物对人群死亡影响的时间序列分析 ..... 383  
李相鑫,田欢,李大磊,张丹丹,高衍新

## 综述

- 大气污染人群健康流行病学研究中统计学分析方法应用进展..... 388  
张梦楠,倪洋,曾强

## 环境卫生教育

- “课程思政”融入环境卫生学教学的探索与实践 ..... 396  
李婕,牛丕业

## 读者·作者·编者

- 稿约 ..... IV
- 《环境卫生学杂志》刊期变更公告 ..... 357
- 《环境卫生学杂志》投稿要求 ..... 377
- 《环境卫生学杂志》文后参考文献著录格式 ..... 395

执行编委 史黎薇 英文审校 史黎薇

责任编辑 陈曦

---

---

# JOURNAL OF ENVIRONMENTAL HYGIENE

Monthly      Established in February 1974      Volume 12, Number 5      May 25, 2022

---

## Responsible Institution

National Health Commission of the  
People's Republic of China

## Sponsor

Chinese Center for Disease  
Control and Prevention  
155 Changbai Road, Changping  
District, Beijing 102206, China

## Editing and Publishing

Editorial Board of Journal of  
Environmental Hygiene  
29 Nanwei Road, Xicheng District,  
Beijing 100050, China  
Tel (Fax) 86-10-83132331  
Email: hjwsxzz@nieh.chinaacdc.cn  
http://www.hjwsxzz.com/

## Editor-in-Chief

SHI Xiao-ming (施小明)

## Managing Director

ZHAO Kang-feng (赵康峰)

## Printing

Beijing Kexin Printing Co. Ltd.

## Mail-Order

Editorial Office of Journal of  
Environmental Hygiene  
29 Nanwei Road, Xicheng District,  
Beijing 100050, China  
Tel (Fax) 86-10-83132331  
Email: hjwsxzz@nieh.chinaacdc.cn

## CSSN

ISSN 2095-1906  
CN11-6000/R

## Copyright © 2022 by the Chinese Center for Disease Control and Prevention

All articles published represent the  
opinions of the authors, and do not  
reflect the official policy of the  
Chinese Center for Disease Control  
and Prevention or the Editorial  
Board, unless this is clearly specified

## CONTENTS IN BRIEF

### Hotspots Commentary

- Problems and countermeasures in urban household waste classification  
and treatment in China ..... 321  
*LI Xu, YANG Yu-yan, ZHANG Yu-jing, QI Jing,  
GONG Shu-han, FAN Lin, WANG Xian-liang*

### Scientific Research

- Effects of PM<sub>2.5</sub> exposure on glucose and lipid metabolism in offspring mice ..... 326  
*SHAO Han-bing, HU Wen-xuan, CHU Xiu-yu,  
LI Si-qi, ZHAO Xin-yuan, WANG Xiao-ke*
- Metal and metalloid pollution and health risk assessment in a coal mine  
area of Shanxi Province, China ..... 332  
*CHENG Bi-jun, YANG Xiu-juan, GAO Lin-ying, LIU Liang-po, ZHANG Hong-mei*

### Survey Research

- Lung cancer mortality burden and economic losses caused by long-term  
exposure to PM<sub>2.5</sub> in Hebei Province, China ..... 345  
*REN Meng, LIU Yan-yu, LI Dao-juan, HAO Ya-hui,  
SHI Miao-miao, WANG Ying-ying, HE Yu-tong*
- Human exposure factors surrounding an environmental site: An example of a  
coking plant in Shanxi Province, China ..... 351  
*BAO Meng-ying, DUAN Lian, WANG Qiong, PENG Xing-yu, TANG Ying,  
ZHANG Lei, CHEN Wen-fei, TAN Hai-ping, GU Hong-mei, GUO Shu*

### Monitoring and Analyzing

- Time series analysis of effects of ozone exposure on human mortality in  
Nantong, China, 2017 to 2020 ..... 358  
*HE Zhi-min, HOU Sha-sha*

### Technology and Methodology

- Determination of mercury in urine by ICP-MS with direct dilution ..... 363  
*GE Cheng-xiang, LI Si-sheng, SONG Xiao-qiong,  
LI Jian-wei, LI Chang-an, SHAN Xiao-mei*

### Case Analysis

- Case analysis of a diarrhea cluster event possibly caused by secondary water  
supply pollution ..... 367  
*ZHOU Shao-lei, LIU Bo, ZHANG Guo-feng, YANG Yan-na, ZHAO Chun-yan*

### Experience Exchange

- Comparative analysis of total bacterial count in drinking water before and  
after disinfection in rural areas of five provinces in China ..... 372  
*XIONG Chuan-long, CHEN Zhi-jian, WANG Zhi-qiang, HE Zu-an, HE Ying-hua,  
YANG Hong-bin, XU Yi, LI Hong-xing, WANG Li, HOU Rong-rong, ZHANG Rong*
- Survey on water eutrophication and sulfa antibiotics pollution of Dianshan Lake in  
Qingpu District of Shanghai between 2019 and 2021 ..... 378  
*YU Xi, SHEN Yan, SHAO Wei-ai, LI Yu-xin, DIAO Yong-qing, WANG Xia*
- Time series analysis of the effect of ambient pollutants on population mortality  
in Heze, China, 2019—2020 ..... 383  
*LI Xiang-xin, TIAN Huan, LI Da-lei, ZHANG Dan-dan, GAO Yan-xin*

### Review

- Advances in the application of statistical analysis methods in epidemiological  
research of air pollution and population health ..... 388  
*ZHANG Meng-nan, NI Yang, ZENG Qiang*

### Environmental Health Education

- Exploration and practice of integrating "Curriculum Ideology and Politics"  
into the teaching of environmental hygiene ..... 396  
*LI Jie, NIU Pi-ye*