



CODEN HYZYAZ



# 环境与职业医学

HUANJING YU ZHIYE YIXUE

2018年4月 第35卷 第4期

Apr. 2018 Vol.35 No.4

## JOURNAL OF ENVIRONMENTAL & OCCUPATIONAL MEDICINE

中国科学引文数据库(CSCD-C)源期刊(2017—2018)  
 中文核心期刊 预防医学卫生学类核心期刊  
 中国科技核心期刊 中国科技论文统计源期刊  
 中国科学评价研究中心(RCCSE)中国核心学术期刊  
 中国生物医学类核心期刊  
 中国学术期刊综合评价数据库源期刊  
 美国化学文摘(CA)数据库源期刊  
 英国国际农业与生物科学研究中心(CABI)数据库源期刊  
 美国剑桥科学文摘:自然科学(CSA: NS)数据库源期刊  
 英国《全球健康》(GH)数据库源期刊  
 波兰哥白尼索引(IC)数据库源期刊(2007—2014)



上海市疾病预防控制中心 主办  
中华预防医学会

ISSN 2095-9982



4

2018

# 环境与职业医学

1984年10月创办 月刊 第35卷 第4期(总第219期) 2018年4月25日出版

## 目次

### ■ 专论与述评

283 不要把尘肺病防治引入歧途.....李德鸿

### ■ 原创精选

286 上海市轨道交通地下车站集中空调通风系统的卫生状况  
.....曾雪娇,杜喜浩,张佳,蒋蓉芳,赵金镯,王晓东,杨军,宋伟民

291 氮杂纳米二氧化钛对肺的损伤效应  
.....于彩霞,陈维艳,龙琦,嵇昌龙,曹文斌,刘文秀,卢怡,李蓉,周紫垣,张爱华

297 氟、砷染毒对大鼠破骨细胞骨吸收能力的影响及其机制.....杨德山,洪峰

303 碲化镉量子点对雄性小鼠精子质量和睾丸组织的毒性效应  
.....张凌燕,王素华,高艳荣,侯瑞丽,苗捷,苗宇生,刘冬

309 对氨基水杨酸钠对锰染毒大鼠丘脑原代小胶质细胞氧化损伤及炎症反应的影响  
.....彭东杰,罗旖旎,秦文霞,梁典胤,谢秉言,许放,李少军,姜岳明

### ■ 专栏: 苯并[a]芘的毒性效应

316 苯并[a]芘对人支气管上皮细胞 *H19* 与 *SAHH* 表达的影响.....傅晔,杨瑾,王武斌,张红杰,刘艳丽,牛莹莹

323 苯并[a]芘对人神经母细胞瘤细胞能量代谢的影响.....成丽霞,班红芳,吕懿,王丹,曹彬,穆箭兵,郑金平

330 苯并[a]芘对人支气管上皮细胞 *CYP1A1*、*GSTP1* 和 *GSTM1* DNA 甲基化水平和 mRNA 表达的影响  
.....刘爱香,李新,曹晶晶,李欢,张志红,梁瑞峰,郝忠锁,张红梅

### ■ 调查研究

336 安徽省高校辅导员身体活动、社会支持与职业倦怠的关系.....王红雨,陈刚

341 风险评估法结合文献类比法在垃圾焚烧发电项目职业病危害预评价中的应用  
.....刘磊,李鹏飞,彭洋洋,唐昆,程婷婷,彭晓萍



1984年10月创办 月刊 第35卷 第4期(总第219期) 2018年4月25日出版

- 347 江苏某大学医学生与非医学生健康素养的比较  
 .....邓世佶, 彭煜健, 王艺蓓,  
 叶洋, 王铁英, 王强, 姜方平, 王莹, 柳艳, 邵勇, 陆荣柱
- 352 江苏省某肿瘤专科医院放射工作人员个人剂量  
 .....周瑾, 邹燕兰, 孙彦婷, 朱娟芳

## ■ 实验研究

- 356 镉通过类雌激素样作用促进人乳腺癌 MCF-7 细胞增殖  
 .....凌晓斐, 胥可, 孙亚昕, 邵华, 王翠娟
- 361 CHIP 和 Hsp70 在三氯化铝致 N2a 细胞 tau 蛋白异常磷酸化中的作用  
 .....崔双杰, 巨晓芬, 潘宝龙, 张玲, 路小婷
- 366 银杏叶提取物改善肺内淋巴转运对大鼠矽肺病程的影响  
 .....陈紫莺, 候晓敏,  
 崔洁, 田盈, 马景景, 郝小惠, 郭灵丽, 马凤丹, 刘和亮

## ■ 综述

- 371 全氟辛烷磺酸的表观遗传学作用研究进展 ..... 翁振坤, 顾爱华

## ■ 告知栏

2018年《**环境与职业医学**》重点选题征稿启事(302);《**环境与职业医学**》杂志主页网址变更为 [www.jeom.org](http://www.jeom.org) (302);《**环境与职业医学**》杂志入选中国科学引文数据库(2017—2018, 核心库)来源期刊(308);《**环境与职业医学**》编辑部喜获上海市“巾帼文明岗”荣誉称号(329);《**环境与职业医学**》杂志发表论文可直接使用的英文缩写名单(365)

《**环境与职业医学**》杂志稿约见本卷第1期

责任编辑: 王晓宇; 特邀英文编审: 金克峙; 英文编辑: 汪源; 排版: 王晓宇

[期刊基本参数] CN31-1879/R \* 1984 \* m \* A4 \* 94 \* zh+en \* P \* ¥20.00\*3000 \* 17 \* 2018-04\*n

### 主管单位

上海市卫生和计划生育委员会  
200125, 上海市世博村路300号

### 主办单位

上海市疾病预防控制中心  
200336, 上海市中山西路1380号  
中华预防医学会  
100021, 北京市朝阳区潘家园华威里25号5层

### 支持单位

上海市预防医学研究院  
华东区域劳动卫生与职业病防治中心  
200336, 上海市中山西路1380号

### 编辑单位

《**环境与职业医学**》编辑委员会  
200052, 上海市延安西路1326号  
电话(传真): 86-21-62084529  
联系人: 丁瑾瑜

名誉主编 张胜年

主 编 吴 凡

编辑部主任 丁瑾瑜

### 出版单位

《**环境与职业医学**》编辑部  
200052, 上海市延安西路1326号  
电话(传真): 86-21-62084529  
E-mail: zazhi2@scdc.sh.cn  
<http://www.jeom.org>  
联系人: 丁瑾瑜

### 印刷单位

常熟市教育印刷有限公司

### 发行单位

国内: 上海市报刊发行局  
国外: 中国国际图书贸易总公司  
100044, 北京999信箱

### 发行范围

国内外公开发行

### 订 购

全国各地邮局 邮发代号4-568

### 邮 购

《**环境与职业医学**》编辑部  
200052, 上海市延安西路1326号  
电话: 86-21-52379538; 86-21-61957507  
联系人: 葛宏妍

### 定 价

每期20元, 全年240元

### 中国标准连续出版物号

ISSN 2095-9982  
CN 31-1879/R

本刊版权归上海市疾病预防控制中心所有

# JOURNAL OF ENVIRONMENTAL & OCCUPATIONAL MEDICINE

Monthly, Established in October, 1984    Volume 35, Number 4 (Serial No.219)    Apr. 25, 2018

## JEOM

## CONTENTS

### ■ Commentary

- 283 Don't mislead the prevention and treatment of pneumoconiosis.....*LI De-hong*

### ■ Selected Articles

- 286 Sanitary levels of central air conditioning and ventilation systems in underground stations of Shanghai rail transit  
.....*ZENG Xue-jiao, DU Xi-hao, ZHANG Jia, JIANG Rong-fang, ZHAO Jin-zhuo, WANG Xiao-dong, YANG Jun, SONG Wei-min*
- 291 Pulmonary injury induced by nitrogen-doped nano titanium dioxide  
.....*YU Cai-xia, CHEN Wei-yan, LONG Qi, ZHUO Chang-long, CAO Wen-bin, LIU Wen-xiu, LU Yi, LI Rong, ZHOU Zi-yuan, ZHANG Ai-hua*
- 297 Effects of fluoride and arsenic exposure on bone absorptive capacity of osteoclasts in rats and related mechanism  
.....*YANG De-shan, HONG Feng*
- 303 Toxic effects of CdTe quantum dots on sperm quality and testicular tissues in male mice  
.....*ZHANG Ling-yan, WANG Su-hua, GAO Yan-rong, HOU Rui-li, MIAO Jie, MIAO Yu-sheng, LIU Dong*
- 309 Effects of sodium *p*-aminosalicylic acid on oxidative damage and inflammatory response of thalamic primary microglia in rats  
exposed to manganese.....*PENG Dong-jie, LUO Yi-ni, QIN Wen-xia, LIANG Dian-yin, XIE Bing-yan, XU Fang, LI Shao-jun, JIANG Yue-ming*

### ■ Special Column: toxicological effects of benzo[a]pyrene

- 316 Effects of benzo[a]pyrene on expression of *H19* and SAHH in human bronchial epithelial cells  
.....*FU Ye, YANG Jin, WANG Wu-bin, ZHANG Hong-jie, LIU Yan-li, NIU Ying-ying*
- 323 Effects of benzo[a]pyrene on energy metabolism in human neuroblastoma cells  
.....*CHENG Li-xia, BAN Hong-fang, LÜ Yi, WANG Dan, CAO Bin, MU Jian-bing, ZHENG Jin-ping*
- 330 Effects of benzo[a]pyrene on DNA methylation and mRNA expression of *CYP1A1*, *GSTP1*, and *GSTM1* in human bronchial epithelial cells  
.....*LIU Ai-xiang, LI Xin, CAO Jing-jing, LI Huan, ZHANG Zhi-hong, LIANG Rui-feng, HAO Zhong-suo, ZHANG Hong-mei*

### ■ Investigations

- 336 Relationships among physical activity, social support, and job burnout of university and college counselors in Anhui Province  
.....*WANG Hong-yu, CHEN Gang*

## CONTENTS (Continued)

Monthly, Established in October, 1984 Volume 35, Number 4 (Serial No.219) Apr.25, 2018

- 341 **Application of risk assessment method and literature analogy method to pre-assessment of occupational hazards in waste-to-energy projects**.....*LIU Lei, LI Peng-fei, PENG Yang-yang, TANG Kun, CHENG Ting-ting, PENG Xiao-ping*
- 347 **Comparison of health literacy between medical and non-medical students in a university in Jiangsu**  
.....*DENG Shi-ji, PENG Yu-jian, WANG Yi-bei, YE Yang, WANG Tie-ying, WANG Qiang, JIANG Fang-ping, WANG Ying, LIU Yan, SHAO Yong, LU Rong-zhu*
- 352 **Personal radiation doses of radiological staff in a cancer hospital in Jiangsu Province**  
.....*ZHOU Jin, ZOU Yan-lan, SUN Yan-ting, ZHU Juan-fang*

### ■ Experiments

- 356 **Estrogen-like effect of cadmium on promoting proliferation of human breast cancer MCF-7 cells**  
..... *LING Xiao-fei, XU Ke, SUN Ya-xin, SHAO Hua, WANG Cui-juan*
- 361 **Effects of CHIP and Hsp70 on abnormal phosphorylation of tau protein induced by aluminum trichloride in N2a cells**  
.....*CUI Shuang-jie, JU Xiao-fen, PAN Bao-long, ZHANG Ling, LU Xiao-ting*
- 366 **Effects of promoting pulmonary lymphatic transportation by *Ginkgo biloba* extract on the pathogenesis of silicosis in rats**  
.....*CHEN Zi-ying, HOU Xiao-min, CUI Jie, TIAN Ying, MA Jing-jing, HAO Xiao-hui, GUO Ling-li, MA Feng-dan, LIU He-liang*

### ■ Reviews

- 371 **Research progress on epigenetic effects induced by perfluorooctane sulfonate**.....*WENG Zhen-kun, GU Ai-hua*

Supervised by Shanghai Municipal Health and Family Planning Commission, P.R.China

Sponsored by Shanghai Municipal Center for Disease Control and Prevention/China Preventive Medicine Association

Supported by Shanghai Institutes of Preventive Medicine/East China Center for Occupational Health, Prevention and Therapy of Occupational Diseases

Editorial Office Address: 1326 Yan'an Rd(W), Shanghai 200052, P.R.China

<http://www.jeom.org> E-mail: [zazhi2@scdc.sh.cn](mailto:zazhi2@scdc.sh.cn) Tel(Fax): 86-21-62084529

Editor-in-Chief: WU Fan Editorial Director: DING Jin-yu

Distributed by Shanghai Distributor Bureau for Newspapers and Periodicals/China International Book Trading Corporation

Printed by Changshu Education Printing Co., Ltd., Jiangsu Province

Copyright©2018 by Shanghai Municipal Center for Disease Control and Prevention

- 2011, 17(3): 397-417.
- [32] JELTSCH A. Molecular enzymology of mammalian DNA methyltransferases[J]. *Curr Top Microbiol Immunol*, 2006, 301: 203-225.
- [33] BROOKS J, CAIRNS P, ZELENIUCH-JACQUOTTE A. Promoter methylation and the detection of breast cancer[J]. *Cancer Causes Control*, 2009, 20(9): 1539-1550.
- [34] KINNER A, WU W, STAUDT C, et al.  $\gamma$ -H2AX In recognition and signaling of DNA double-strand breaks in the context of chromatin[J]. *Nucleic Acids Res*, 2008, 36(17): 5678-5694.
- [35] CORDELLI E, PARIS L.  $\gamma$ -H2AX detection in somatic and germ cells of mice[J]. *Methods Mol Biol*, 2013, 1044: 293-310.
- [36] WANG Y, ZHANG X, WANG M, et al. Mutagenic effects of perfluorooctanesulfonic acid in *gpt* delta transgenic system are mediated by hydrogen peroxide[J]. *Environ Sci Technol*, 2015, 49(10): 6294-6303.
- [37] Barneda-Zahonero B, PARRA M. Histone deacetylases and cancer[J]. *Mol Oncol*, 2012, 6(6): 579-589.
- [38] FRAGA MF, BALLESTAR E, VILLAR-GAREA A, et al. Loss of acetylation at Lys16 and trimethylation at Lys20 of histone H4 is a common hallmark of human cancer[J]. *Nat Genet*, 2005, 37(4): 391-400.
- [39] FENG X, WANG X, CAO X, et al. Chronic exposure of female mice to an environmental level of Perfluorooctane Sulfonate suppresses estrogen synthesis through reduced histone H3K14 acetylation of the StAR promoter leading to deficits in follicular development and ovulation[J]. *Toxicol Sci*, 2015, 148(2): 368-379.
- [40] WALTREGNY D, DE LEVAL L, GLÉNISSON W, et al. Expression of histone deacetylase 8, a class I histone deacetylase, is restricted to cells showing smooth muscle differentiation in normal human tissues[J]. *Am J Pathol*, 2004, 165(2): 553-564.
- [41] PERON M, BONVINI P, ROSOLEN A. Effect of inhibition of the ubiquitin-proteasome system and Hsp90 on growth and survival of Rhabdomyosarcoma cells *in vitro* [J]. *BMC Cancer*, 2012, 12: 233.
- [42] 杨生森. PFOS暴露对新生鼠海马的损伤及外源性神经干细胞移植的干预作用[D]. 宁夏: 宁夏医科大学, 2016.
- [43] YAO X, SHA S, WANG Y, et al. Perfluorooctane Sulfonate induces autophagy-dependent apoptosis through spinster 1-mediated lysosomal-mitochondrial axis and impaired mitophagy[J]. *Toxicol Sci*, 2016, 153(1): 198-211.
- [44] LEE H G, LEE Y J, YANG J H. Perfluorooctane sulfonate induces apoptosis of cerebellar granule cells via a ROS-dependent protein kinase C signaling pathway[J]. *Neuro Toxicology*, 2012, 33(3): 314-320.
- [45] 武宇辉, 李成荣, 何颜霞, 等. 微小RNA-223在脓毒症患儿血浆中表达的临床意义[J]. *中华实用儿科临床杂志*, 2013, 28(18): 1390-1392.
- [46] WANG F, LIU W, JIN Y, et al. Prenatal and neonatal exposure to perfluorooctane sulfonic acid results in aberrant changes in miRNA expression profile and levels in developing rat livers[J]. *Environ Toxicol*, 2015, 30(6): 712-723.
- [47] WANG F, LIU W, MA J, et al. Prenatal and neonatal exposure to Perfluorooctane sulfonic acid results in changes in miRNA expression profiles and synapse associated proteins in developing rat brains[J]. *Environ Sci Technol*, 2012, 46(12): 6822-6829.
- [48] LI W, HE Q Z, WU C Q, et al. PFOS disturbs BDNF-ERK-CREB signalling in association with increased MicroRNA-22 in SH-SY5Y cells[J]. *BioMed Res Int*, 2015: 302653.
- [49] UPHAM BL, PARK JS, BABICA P, et al. Structure-activity-dependent regulation of cell communication by perfluorinated fatty acids using *in vivo* and *in vitro* model systems[J]. *Environ Health Perspect*, 2009, 117(4): 545-551.

(收稿日期: 2017-11-19; 录用日期: 2018-01-03)

(英文编辑: 汪源; 编辑: 王晓宇; 校对: 汪源)