

重庆大学城市建设与环境工程学院

# 科研简报

(2018 年第 4 期)

行政办公室编

二〇一八年九月

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## 一、科研活动

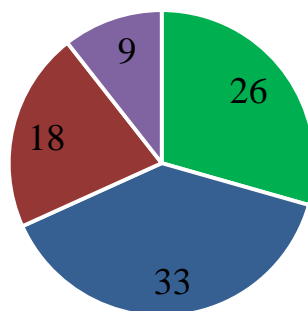
2018 年度，我院申报国家自然科学基金数量达 57 项，最终获批 12 项（面上项目 9 项，青年基金 3 项），面上项目比去年增加，青年项目比去年减少，青年项目成功率只有 23%，大大低于双一流高校水平，需要高度重视，值得肯定的是李宏老师入职几年来国家自然科学基金青年项目、面上项目申报相继获得成功。

序号	姓名	项目类型	项目名称
1	翟俊	面上	三峡消落带湿地甲烷厌氧氧化机制及意义
2	张静	面上	水热催化地沟油非临氢生产绿色柴油的关键影响因素探究与 LCA 分析
3	李宏	面上	水动力介导下微塑料影响藻毒素环境行为的复合机制
4	皇甫小留	面上	锰氧化物强化过滤处理低浓度含铊工业废水机制及氧化调控
5	陈猷鹏	面上	厌氧氨氧化细菌体内铁纳米颗粒的形成及作用机理
6	赵志伟	面上	有机小分子/UV185 体系中 H <sub>2</sub> O <sub>2</sub> 原位生成机制及耦合 Fe <sub>3</sub> O <sub>4</sub> 复合金属氧化物降解氟诺酮类药物研究
7	高亚锋	面上	夏热冬暖地区住宅高反射涂料平屋顶房间热环境调控机理研究
8	方芳	面上	废水生物处理胞外多糖特性及其对生物聚集体性能的影响机制研究
9	柴宏祥	面上	生物滞留设施硫协同处理城市降雨径流的脱氮代谢途径
10	陈忠礼	青基	植物功能性状对三峡水库水位变动的响应机制
11	梁志杰	青基	负载金属氧化物介孔炭对水中抗生素的选择性吸附规律与作用机制
12	杜涛	青基	倾斜隧道火灾烟气非对称蔓延行为及诱导、卷吸空气机理研究

## 二、科研论文

2018 年 1-9 月份，我院共发表 SCI 高水平论文 86 篇，以一区、二区论文为主，占比分别达 29%和 39%，三、四区论文合计占比为 32%。一二区论文增长明显，但是距离学校对我院的 SCI 论文总要求（2018 年 139 篇）还有很大差距。希望大家再接再厉，继续努力！可喜的是，我院杨永川老师联合校外单位，以共同通讯作者的身份在 Nature Communications (IF = 12.353) 上发表文章，实现我院在国际顶级刊物上发表文章零突破！

## SCI文章数量



■ 一区 ■ 二区 ■ 三区 ■ 四区

序号	论文名称	认领人	期刊名称	期刊年	SCI分区
1	Relict Plant Species in East Asia: Identifying Long-Term Stable Refugia	杨永川	Nature Communications	2018	1
2	High peroxidase-like activity of metallic cobalt nanoparticles encapsulated in metal-organic frameworks derived carbon for biosensing	柴宏祥	SENSORS AND ACTUATORS B-CHEMICAL	2018	1
3	One-pot synthesis of the CuNCs/ZIF-8 nanocomposites for sensitively detecting H <sub>2</sub> O <sub>2</sub> and screening of oxidase activity	柴宏祥	Biosensors and Bioelectronics	2018	1
4	FeNPs@Co <sub>3</sub> O <sub>4</sub> hollow nanocages hybrids as effective peroxidase mimics for glucose biosensing	柴宏祥	SENSORS AND ACTUATORS B-CHEMICAL	2018	1
5	A Co,N co-doped hierarchically porous carbon hybrid as a highly efficient oxidase mimetic for glutathione detection	柴宏祥	SENSORS AND ACTUATORS B-CHEMICAL	2018	1
6	ZIF-67 derived hollow cobalt sulfide as superior adsorbent for effective adsorption removal of ciprofloxacin antibiotics	柴宏祥	CHEMICAL ENGINEERING JOURNAL	2018	1
7	The nitrogen removal performance and microbial communities in a two-stage deep sequencing constructed wetland for advanced treatment of secondary effluent	周健	BIORESOURCE TECHNOLOGY	2018	1

8	A novel methanotrophic co-metabolic system with high soluble methane monooxygenase activity to biodegrade refractory organics in pulping wastewater	周 健	BIORESOURCETECHNOLOGY	2018	1
9	Intensified nitrogen and phosphorus removal by embedding electrolysis in an anaerobic-anoxic-oxic reactor treating low carbon/nitrogen wastewater	周 健	BIORESOURCETECHNOLOGY	2018	1
10	Degradation of p-arsanilic acid and simultaneous in-situ removal of arsenic species with ferrate(VI): Kinetics, intermediate and degradation pathway	赵志伟	CHEMICAL ENGINEERING JOURNAL	2018	1
11	Magnetic field enhanced denitrification in nitrate and ammonia contaminated water under 3D/2D Mn <sub>2</sub> O <sub>3</sub> /g-C <sub>3</sub> N <sub>4</sub> photocatalysis	赵志伟	CHEMICAL ENGINEERING JOURNAL	2018	1
12	Efficient degradation of p-arsanilic acid with arsenic adsorption by magnetic CuO-Fe <sub>3</sub> O <sub>4</sub> nanoparticles under visible light irradiation	赵志伟	CHEMICAL ENGINEERING JOURNAL	2018	1
13	High speed water purification and efficient phosphate rejection by active nanofibrous membrane for microbial contamination and regrowth control	崔福义	CHEMICAL ENGINEERING JOURNAL	2018	1
14	Ultrathin two-dimensional BiOBr <sub>1-x</sub> I <sub>x</sub> solid solution with rich oxygen vacancies for enhanced visible-light-driven photoactivity in environmental remediation	崔福义	Applied Catalysis B: Environmental	2018	1
15	Anaerobic digestion of food waste: A review focusing on process stability	彭绪亚	BIORESOURCETECHNOLOGY	2018	1
16	Long-term high-solids anaerobic digestion of food waste: Effects of ammonia on process performance and microbial community	彭绪亚	BIORESOURCETECHNOLOGY	2018	1
17	Spatiotemporal distribution and potential risk assessment of microcystins in the Yulin River, a tributary of the Three Gorges Reservoir, China	艾海男	JOURNAL OF HAZARDOUS MATERIALS	2018	1
18	Characterization of an aerobic denitrifier Pseudomonas stutzeri strain XL-2 to achieve efficient nitrate removal	安 强	BIORESOURCETECHNOLOGY	2018	1
19	Acute and chronic responses of macrophyte and microorganisms in constructed wetlands to cerium dioxide nanoparticles: Implications for wastewater treatment	陈 一	CHEMICAL ENGINEERING JOURNAL	2018	1

20	Soot formation characteristics of ethylene premixed burner-stabilized stagnation flame with dimethyl ether addition	亢银虎	ENERGY	2018	1
21	Coupling of earth-to-air heat exchangers and buoyancy for energy efficient ventilation of buildings considering dynamic thermal behavior and cooling/heating capacity	阳 东	ENERGY	2018	1
22	Bioaugmentation with <i>A. faecalis</i> strain NR for achieving simultaneous nitrogen and organic carbon removal in a biofilm reactor	赵 彬	BIORESOURCE TECHNOLOGY	2018	1
23	Effect of nitrogen limitation on biochemical composition and photosynthetic performance for fed-batch mixotrophic cultivation of microalga <i>Spirulina platensis</i>	翟 俊	BIORESOURCE TECHNOLOGY	2018	1
24	New insight into sludge reduction induced by different substrate allocation strategy between oxygen and nitrate/nitrite as terminal electron acceptor	晏 鹏	BIORESOURCE TECHNOLOGY	2018	1
25	Mesophilic anaerobic co-digestion of residual sludge with different lignocellulosic wastes in the batch digester	古 励	BIORESOURCE TECHNOLOGY	2018	1
26	Alkaline-assisted leaching of iron-cyanide complex from contaminated soils	魏云梅	CHEMICAL ENGINEERING JOURNAL	2018	1
27	In-situ pre-concentration through repeated sampling and pyrolysis for ultrasensitive determination of thallium in drinking water by electrothermal atomic absorption spectrometry	郑怀礼	TALANTA	2018	2
28	Using ultrasonic (US)-initiated template copolymerization for preparation of an enhanced cationic polyacrylamide (CPAM) and its application in sludge dewatering	郑怀礼	Ultrasonics-Sonochemistry	2018	2
29	Rapid and efficient removal of heavy metal and cationic dye by carboxylate-rich magnetic chitosan flocculants: Role of ionic groups	郑怀礼	CARBOHYDRATE POLYMERS	2018	2
30	Ultrasound-initiated synthesis of cationic polyacrylamide for oily wastewater treatment: Enhanced interaction between the flocculant and contaminants	郑怀礼	Ultrasonics-Sonochemistry	2018	2
31	Indoor thermal environments in Chinese residential buildings responding to the diversity of climates	李百战	APPLIED THERMAL ENGINEERING	2018	2
32	Gender differences in physiological and psychological responses to the thermal environment with varying clothing ensembles	李百战	BUILDING AND ENVIRONMENT	2018	2
33	Experimental investigation on thermal comfort model between local thermal sensation and overall thermal sensation	刘 红	ENERGY AND BUILDINGS	2018	2
34	Investigation of the effects of temperature for supplied air from a personal nozzle system on thermal comfort of air	刘 红	ENERGY AND BUILDINGS	2018	2

	travelers				
35	A fast approach for large-scale Sky View Factor estimation using street view images	卢 军	BUILDING AND ENVIRONMENT	2018	2
36	Comparative study of vertical and horizontal indirect evaporative cooling heat recovery exchangers	卢 军	International Journal of Heat and Mass Transfer	2018	2
37	An integrated predictive model of the long-term performance of ground source heat pump (GSHP) systems	王 勇	ENERGY AND BUILDINGS	2018	2
38	Experimental and numerical investigations on heat transfer in stratified subsurface materials	王 勇	APPLIED THERMAL ENGINEERING	2018	2
39	Propagation and entrainment of buoyancy-driven flows in a narrow horizontal space and implications for buoyant contaminant transport under natural ventilation	阳 东	BUILDING AND ENVIRONMENT	2018	2
40	Experimental study on mixing and stratification of buoyancy-driven flows produced by continuous buoyant source in narrow inclined tank	阳 东	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER	2018	2
41	Dermal exposure to phthalates in home environment	喻 伟	BUILDING AND ENVIRONMENT	2018	2
42	Dermal exposure to phthalates in home environment: Handwipes, influencing factors and implications	喻 伟	BUILDING AND ENVIRONMENT	2018	2
43	Experimental study of the effectiveness of air curtains of variable width and injection angle to block fire-induced smoke in a tunnel configuration	刘 方	INTERNATIONAL JOURNAL OF THERMAL SCIENCES	2018	2
44	Study on the smoke stratification length under longitudinal ventilation in tunnel fires	翁庙成	INTERNATIONAL JOURNAL OF THERMAL SCIENCES	2018	2
45	Mathematical model for radiation energy from an urban surface penetrating the atmospheric infrared window	Min Chen/ 罗庆	Solar Energy	2018	2
46	Improving visible-light-driven photocatalytic NO oxidation over BiOBr nanoplates through tunable oxygen vacancies	曾晓岚	CHINESE JOURNAL OF CATALYSIS	2018	2
47	Impacts of rapid urbanization on the water quality and macroinvertebrate communities of streams: A case study in Liangjiang New Area, China	胡学斌	SCIENCE OF THE TOTAL ENVIRONMENT	2018	2
48	Phytoplankton response to polystyrene microplastics: Perspective from an entire growth period	李 宏	Chemosphere	2018	2

49	Mechanisms for center dot O-2(-) and center dot OH Production on Flowerlike BiVO4 Photocatalysis Based on Electron Spin Resonance	刘国涛	FRONTIERS IN CHEMISTRY	2018	2
50	Anaerobic digestion of food waste: Correlation of kinetic parameters with operational conditions and process performance	彭绪亚	BIOCHEMICAL ENGINEERING JOURNAL	2018	2
51	Formation of inorganic nitrogenous byproducts in aqueous solution under ultrasound irradiation	姚娟娟	ULTRASONICS SONOCHEMISTRY	2018	2
52	Auto-aggregation properties of a novel aerobic denitrifier Enterobacter sp strain FL	赵彬	APPLIED MICROBIOLOGY AND BIOTECHNOLOGY	2018	2
53	Effect of high salinity in wastewater on surface properties of anammox granular sludge	晏鹏	Chemosphere	2018	2
54	A novel flake-ball-like magnetic Fe3O4/gamma-MnO2 meso-porous nano-composite: Adsorption of fluorinion and effect of water chemistry	梁志杰	Chemosphere	2018	2
55	Effects of green roofs' variations on the regional thermal environment using measurements and simulations in Chongqing, China	白雪莲	URBAN FORESTRY & URBAN GREENING	2018	2
56	How green building rating systems affect designing green	刘猛	BUILDING AND ENVIRONMENT	2018	2
57	Degradation mechanisms of carbamazepine by delta-MnO2: Role of protonation of degradation intermediates	翟俊	SCIENCE OF THE TOTAL ENVIRONMENT	2018	2
58	Acute response of soil denitrification and N2O emissions to chlorothalonil: A comprehensive molecular mechanism	陈一	SCIENCE OF THE TOTAL ENVIRONMENT	2018	2
59	Approach deliberation for source identification of sedimentary organic matter via comparing freshwater lakes with multi-ecotypes	李伟	SCIENCE OF THE TOTAL ENVIRONMENT	2018	2
60	Adsorptive removal of anionic dyes by chitosan-based magnetic microspheres with pH-responsive properties	郑怀礼	JOURNAL OF MOLECULAR LIQUIDS	2018	3
61	Poly(2-acrylamido-2-methylpropane sulfonic acid) grafted magnetic chitosan microspheres: Preparation, characterization and dye adsorption	郑怀礼	INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES	2018	3

62	The investigation of the specific behavior of a cationic block structure and its excellent flocculation performance in high-turbidity water treatment	郑怀礼	RSC ADVANCES	2018	3
63	Modeling of methane formation in gravity sewer system: the impact of microorganism and hydraulic condition	艾海男	AMB EXPRESS	2018	3
64	Suitable flow pattern increases the removal efficiency of nitrogen in gravity sewers: a suitable anoxic and aerobic environment in biofilms	艾海男	ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH	2018	3
65	Experimental studies on fire-induced temperature distribution below ceiling in a longitudinal ventilated metro tunnel	翁庙成	TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY	2018	3
66	Experimental studies on thermal and smoke control using transverse ventilation in a sloping urban traffic link tunnel fire	翁庙成	TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY	2018	3
67	Facile fabrication of novel Mn <sub>2</sub> O <sub>3</sub> nanocubes with superior light-harvesting for ciprofloxacin degradation	赵志伟	CATALYSIS COMMUNICATIONS	2018	3
68	Synthesis of different crystallographic FeOOH catalysts for peroxymonosulfate activation towards organic matter degradation	赵志伟	RSC ADVANCES	2018	3
69	Occurrence of organotins in the aquatic environment during an operating cycle of the Three Gorges Reservoir, China	高俊敏	ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH	2018	3
70	Behavioural, physiological and psychological responses of passengers to the thermal environment of boarding a flight in winter	刘红	ERGONOMICS	2018	3
71	Synthesis, properties and mechanism of photodegradation of core-shell structured upconversion luminescent NaYF <sub>4</sub> :Yb <sup>3+</sup> ,Er <sup>3+</sup> @BiOCl	徐璇	APPLIED ORGANOMETALLIC CHEMISTRY	2018	3
72	Buoyant back-layering and the critical condition for preventing back-layering fluid in inclined tunnels under natural ventilation: Brine water experiments	阳东	EXPERIMENTAL THERMAL AND FLUID SCIENCE	2018	3
73	Risk assessment of inhalation exposure to VOCs in dwellings in Chongqing, China	喻伟	TOXICOLOGY RESEARCH	2018	3
74	Activation of sodium percarbonate with ferrous ions for degradation of chlorobenzene in aqueous solution: mechanism, pathway and comparison with hydrogen peroxide	张赛	ENVIRONMENTAL CHEMISTRY	2018	3



75	Double-shell Fe <sub>2</sub> O <sub>3</sub> hollow box-like structure for enhanced photo-Fenton degradation of malachite green dye	张育新	JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS	2018	3
76	Estimation of oxygen effective diffusion coefficient in a non-steady-state biofilm based on response time	陈猷鹏	ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH	2018	3
77	A numerical study on smoke movement in a metro tunnel with a non-axisymmetric cross-section	刘 方	TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY	2018	3
78	Assessment of numerical simulation capabilities of the Fire Dynamics Simulator (FDS 6) for planar air curtain flows	翁庙成	FIRE TECHNOLOGY	2018	4
79	Analysis of FDS 6 Simulation Results for Planar Air Curtain Related Flows from Straight Rectangular Ducts	翁庙成	FIRE TECHNOLOGY		4
80	Characterization of Dissolved Organic Matter in Mature Leachate during Ammonia Stripping and Two-Stage Aged-Refuse Bioreactor Treatment	曾晓岚	JOURNAL OF ENVIRONMENTAL ENGINEERING	2018	4
81	Preparation and coagulation performance of hybrid coagulant polyacrylamide-polymeric aluminum ferric chloride	蒋绍阶	JOURNAL OF APPLIED POLYMER SCIENCE	2018	4
82	Numerical investigation of driving forces in a geyser event using a dynamic multi-phase Navier-Stokes model	邵知宇	ENGINEERING APPLICATIONS OF COMPUTATIONAL FLUID MECHANICS	2018	4
83	Analysis of the sediment remobilization phenomenon in a rain garden using CSTR theory	邵知宇	JOURNAL OF WATER AND CLIMATE CHANGE	2018	4
84	Degradation of ofloxacin by UVA-LED/TiO <sub>2</sub> nanotube arrays photocatalytic fuel cells	姚娟娟	CHEMICAL PAPERS	2018	4
85	Potential for aerobic NO <sub>2</sub> (-) reduction and corresponding key enzyme genes involved in <i>Alcaligenes faecalis</i> strain NR	赵 彬	ARCHIVES OF MICROBIOLOGY	2018	4
86	Study of Phosphorus Removal by Using Sponge Iron Adsorption	古 励	WATER AIR AND SOIL POLLUTION	2018	4

### 三、发明专利

序号	专利名称	专利类型	获权时间	专利证书号	发明人
1	一种自然压差驱动的地铁车站节能通风系统	发明	2018	CN106523013B	肖益民
2	一种添加晶种诱导水热稳定垃圾焚烧飞灰中重金属的方法	发明	2018	2793550	石德智
3	一种用于液化石油气钢瓶防爆的安全罐	发明	2018	2780154	黄小美
4	一种燃气流动监测装置和室内安全保护系统	发明	2018	ZL201410652628.X	黄小美
5	一种垃圾热处理灰渣中含铁矿物质的富集方法	发明	2018	ZL201611239098.1	魏云梅
6	自清式微曝气复合人工湿地污水处理系统	发明	2018	ZL201510730548.6	翟俊
7	一种低能耗微气泡产生装置	实用新型	2018	CN207259247U	安强
8	一种新风除湿机	实用新型	2018	CN206875617U	张华玲
序号	专利名称	专利类型	申请时间	专利申请号	发明人
1	一种污水管网超标排放工业废水的贝叶斯统计溯源方法	发明	2018-07-09	CN201810741866.6	邵知宇
2	一种利用 SWMM 模型构建大排水系统的方法	发明	2018-03-05	CN201810177662.4	邵知宇
3	一种识别雨水管网污水直排污染源的方法	发明	2018-02-06	CN201810114905.X	邵知宇
4	一种强化雨水抑制城市封闭水体水华形成的方法	发明	2018-09-04	CN201811025847.X	汪昆平
5	一种强化雨水抑制城市封闭水体水华形成的管路系统	发明	2018-09-04	CN201811027446.8	汪昆平
6	一种家用空调期	实用新型	2018-04-26	CN201820609822.3	张华玲
7	一种新风机组	实用新型	2018-03-13	CN201820340306.5	张华玲
8	一种改性介孔硅材料的制备方法及其在去除甾体雌激素中的应用	发明	2018-05-17	201810475117.3	阳春
9	垃圾焚烧飞灰同步稳定重金属和降解多环芳烃的方法	发明	2018-05-22	201810495561.1	石德智

### 四、专著

(无)

## 五、科研获奖

序号	获奖名称	获奖人	获奖类别	获奖等级
1	三峡水库城镇水污染控制关键技术研究与应用	何强（1）、柴宏祥（2）、艾海南（4）、张智（5）、周健（6）、翟俊（8）、古励（9）、吉方英（10）、李莉（12）、阳春（13）、李果（15）	华夏建设科学技术奖	特等奖
2	高效水处理混凝剂及新型深度氧化方法基础研究	郑怀礼（1）、赵纯（5）、胡学斌（8）	重庆市自然科学奖	一等奖
3	餐厨垃圾收运处理与资源化成套关键技术及产业化	彭绪亚（3）、安强（12）、李蕾（13）（重大第二单位）	重庆市科学技术奖科技进步奖	一等奖
4	一种适用于山地城市冲刷径流处理的下凹式绿地	古励（1）、何强（2）、艾海南（3）	中国专利优秀奖	
5	海绵城市雨水模型研究与Uwater平台构建	邵知宇（2）、柴宏祥（6）	地理信息科技进步奖	一等奖