

## 2023年度河南省教育厅科技成果奖优秀科技论文奖奖励名单公示

项目名称	主要完成单位	主要完成人	奖励等级
Aqueous flexible all-solid-state NiCo-Zn batteries with high capacity based on advanced ion-buffering reservoirs of NiCo <sub>2</sub> O <sub>4</sub>	安阳工学院	来常伟, 王雨鑫, 付利, 宋海香	壹等
Protease Biosensor by Conversion of a Homogeneous Assay into a Surface-Tethered Electrochemical Analysis Based on Streptavidin-Biotin Interactions	安阳师范学院	夏宁	壹等
Electrochemical detection of telomerase in cancer cells based on the in-situ formation of streptavidin-biotin-DNA-biotin networks for signal amplification	安阳师范学院	刘林	壹等
Ternary nickel-cobalt selenide nanosheet arrays with enhanced electrochemical performance for hybrid supercapacitors	安阳师范学院	杜卫民	壹等
A novel image encryption algorithm based on DNA strand exchange and diffusion	安阳师范学院	邹成业	壹等
Effect of atom adsorption on the electronic, magnetic, and optical properties of the GeP monolayer: A first-principle study	安阳师范学院	张静, 杨癸, 王志	壹等
中国经济发展新旧动能转换的监测研究	安阳师范学院	柴士改	壹等
A switching-based state-scaling design for prescribed-time stabilization of nonholonomic systems with actuator dead-zones	安阳师范学院, 南京工程学院	侯德恒, 高芳征, 黄家才	壹等
Spatial differentiation of carbon emissions from residential energy consumption: A case study in Kaifeng, China	河南财经政法大学	荣培君, 张艳, 秦耀辰, Gangjun Liu, 刘荣增	壹等
Switching pinning control for memristive neural networks system with Markovian switching topologies	河南财经政法大学	李宁	壹等
Does haze pollution affect public health in China from the perspective of environmental efficiency?	河南财经政法大学, 北京科技大学, 河南农业大学, 湖北师范大学	马栋栋, 何枫, 李贵芳, 邓光君	壹等
Optimal economic-emission planning of multi-energy systems integrated electric vehicles with modified group search optimization	河南财经政法大学, 郑州西亚斯学院	杨文君, 郭嘉	壹等
Disease- and Drug-Related Knowledge Extraction for Health Management from Online Health Communities Based on BERT-BiGRU-ATT	河南财政金融学院	张艳丽, 李欣苗, 杨煜, 王涛	壹等
Characteristics of steel slag as an oxygen carrier for chemical looping gasification of sewage sludge	河南城建学院	张志远, 王许涛, 张力琳, 周恒涛, 鞠睿, 饶培军	壹等
Tension and compression stiffness of ring stiffener in tube-gusset plate connections	河南城建学院, 西安交通大学, 中国电力工程顾问集团西北电力设计院有限公司	屈讼昭, 卫思彤, 袁俊, 孙清	壹等
Conjugate Addition-Enantioselective Protonation of N Aryl Glycines to $\alpha$ Branched 2 Vinylazaarenes via Cooperative Photoredox and Asymmetric Catalysis	河南大学	尹艳丽, 乔保坤, 赵筱薇, 江智勇	壹等
An efficient visible-light photocatalyst for CO <sub>2</sub> reduction fabricated by cobalt porphyrin and graphitic carbon nitride via covalent bonding	河南大学	田淑芳, 陈苏迪, 任希彤, 胡姚情, 胡海燕, 孙嘉杰, 白锋	壹等
Preparation of multivariate zirconia metal-organic frameworks for highly efficient adsorption of endocrine disrupting compounds	河南大学	卢明华	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Regulating Twisted Skeleton to Construct Organ-Specific Perylene for Intensive Cancer Chemotherapy	河南大学	刘中华, 黄永伟, 卢锋	壹等
Rapid and sensitive electrochemical detection of myricetin based on polyoxometalates/SnO <sub>2</sub> /gold nanoparticles ternary nanocomposite film electrode	河南大学	邢瑞敏, 赵晓宇, 刘红玲, 马鹏涛, 赵俊伟, 刘小强	壹等
Efficient visible light photocatalytic antibiotic elimination performance induced by nanostructured Ag/AgCl@Ti <sub>3</sub> +TiO <sub>2</sub> mesocrystals	河南大学	于欣, 汤雁婷, 李娟, 郭泉辉, 马新起	壹等
Transport of Cd <sup>2+</sup> through saturated porous media: Insight into the effects of low-molecular-weight organic acids	河南大学	祁志冲	壹等
Constructing Interfacial Boron-Nitrogen Moieties in Turbostratic Carbon for Electrochemical Hydrogen Peroxide Production	河南大学	田志红	壹等
CoS <sub>2</sub> nanodots anchored into heteroatom-doped carbon layer via a biomimetic strategy: Boosting the oxygen evolution and supercapacitor performance	河南大学	刘山虎	壹等
β-NaYF <sub>4</sub> :Yb <sup>3+</sup> , Tm <sup>3+</sup> @TiO <sub>2</sub> core-shell nanoparticles incorporated into the mesoporous layer for high efficiency perovskite solar cells	河南大学	高惠平	壹等
Enhanced performance of perovskite solar cells by using ultrathin BaTiO <sub>3</sub> interface modification	河南大学	毛艳丽	壹等
Synergistic effect of Mn on bandgap fluctuations and surface electrical characteristics in Ag-based Cu <sub>2</sub> ZnSn(S, Se) <sub>4</sub> solar cells	河南大学	齐亚芳	壹等
In Situ Electrochemical Treatment Evoked Superior Grain Growth for Green Electrodeposition-Processed Flexible CZTSe Solar Cells	河南大学	刘景玲	壹等
Effect of nano-silica surface-capped by bis[3-(triethoxysilyl)propyl] tetrasulfide on the mechanical properties of styrene-butadiene rubber/ butadiene rubber	河南大学	田庆丰, 唐源, 丁涛, 李小红, 张治军	壹等
Blood-brain barrier-penetrating single CRISPR-Cas9 nanocapsules for effective and safe glioblastoma gene therapy	河南大学	邹艳	壹等
The tomato OST1-VOZ1 module regulates drought-mediated flowering	河南大学	许睿, 黄鹏成, 郭鹏程, 祝英方	壹等
COP1 promotes ABA-induced stomatal closure by modulating the abundance of ABI/HAB and AHG3 phosphatases	河南大学	陈庆彬, 白玲, 王文静	壹等
Maize PHYTOMELATONIN RECEPTOR1 functions in plant tolerance to osmotic and drought stress	河南大学	刘文成	壹等
Spatiotemporal dynamics of FERONIA reveal alternative endocytic pathways in response to flg22 elicitor stimuli	河南大学	邢晶晶, 段志坤	壹等
Introgressing the Aegilops tauschii genome into wheat as a basis for cereal improvement	河南大学	周云, 柏胜龙, 李浩	壹等
Brain-Targeted Codelivery of Bcl-2/Bcl-xl and Mcl-1 Inhibitors by Biomimetic Nanoparticles for Orthotopic Glioblastoma Therapy	河南大学	何文亚	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Naringenin Modifies the Development of Lineage-Specific Effector CD4+ T Cells	河南大学	王军朋, 牛新利, 吴春芳	壹等
Identification of molecular anti-metastasis mechanisms of lycorine in colorectal cancer by RNA-seq analysis	河南大学	高蕾, 代付军	壹等
Rapid Detection of Anti-SARS-CoV-2 Antibody Using a Selenium Nanoparticle-Based Lateral Flow Immunoassay	河南大学	陈春霞, 李小全, 刘志刚	壹等
The therapeutic roles of recombinant Hsp90 $\alpha$ on cornea epithelial injury	河南大学	王明丽, 胡延忠	壹等
MicroRNA-93 inhibits chondrocyte apoptosis and inflammation in osteoarthritis by targeting the TLR4/NF- $\kappa$ B signaling pathway	河南大学	丁艳杰, 王来芳, 赵清	壹等
Sex differences in changes in BMI and blood pressure in Chinese school-aged children during the COVID-19 quarantine	河南大学	张璐	壹等
Emerging Roles of Wnt Ligands in Human Colorectal Cancer	河南大学	聂小博, 刘慧阳	壹等
The Characteristic of Virulence, Biofilm and Antibiotic Resistance of <i>Klebsiella pneumoniae</i>	河南大学	谢龙祥, 王红菊	壹等
Early-season mapping of winter crops using Sentinel-2 optical imagery	河南大学	田海峰, 王永久, 陈婷, 张丽君, 秦耀辰	壹等
A systematic method for spatio-temporal phenology estimation of paddy rice using time series Sentinel-1 images	河南大学	杨会巾, 李宁, 王伟	壹等
Mapping cropping intensity in Huaihe basin using phenology algorithm, all Sentinel-2 and Landsat images in Google Earth Engine	河南大学	夏浩铭, 王瑞萌, 郭研	壹等
Water-sediment regulation scheme of the Xiaolangdi Dam influences redistribution and accumulation of heavy metals in sediments in the middle and lower reaches of the Yellow River	河南大学	赵清贺, 卢训令	壹等
Satellite-based ground PM2.5 estimation using a gradient boosting decision tree	河南大学	张天宁, 郑辉	壹等
中国区域创新能力与经济发展水平的耦合协调分析	河南大学	李二玲, 崔之珍	壹等
Multi-Imbalance: An open-source software for multi-class imbalance learning	河南大学	张重生, 毕璟君, 徐仕鑫, 凡高娟	壹等
Deep metric learning for accurate protein secondary structure prediction	河南大学	杨伟	壹等
Pseudo-full-space representation based classification for robust face recognition	河南大学	杨晓慧	壹等
Statistical identification of important nodes in biological systems	河南大学	王沛	壹等

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On Conformal Complex Finsler Metrics	河南大学	李鸿军	壹等
Fully discrete stabilized multiphysics finite element method for the polymer gel model	河南大学	葛志昊, 关振	壹等
RepDarkNet: A Multi-Branched Detector for Small-Target Detection in Remote Sensing Images	河南大学	周黎鸣, 郑昌, 闫好鑫, 左宪禹, 刘扬, 乔保军, 杨勇	壹等
Oxygen-containing-defect-induced synergistic nonlinear optical enhancement of graphene/CdS nanohybrids under single pulse laser irradiation	河南大学	朱宝华, 王芳芳, 顾玉宗	壹等
供需未匹配的多车场多车型多货品可拆分取送货车辆路径问题	河南大学	徐东洋	壹等
The effect of emission permit allocation in an early-stage cap-and-trade for a duopoly market	河南大学	郑艳芳	壹等
中国镇域经济的空间分异格局及影响因素——基于31755个乡镇的农民人均纯收入数据	河南大学	丁志伟, 刘盈盈, 吴小妮, 卫雅馨, 乔晓凡, 张浩鹏, 张改素	壹等
5G+智能技术: 构筑“智能+”时代的智能教育新生态系统	河南大学	兰国帅, 郭倩, 魏家财, 杨喜玲, 于亚萌, 陈静静	壹等
Development and validation of the win-win scale	河南大学	张杉, 臧鑫磊, 张锋	壹等
The Strategy Analysis of Grouped Bid Evaluation in Reverse Auction: A Tripartite Evolutionary Game Perspective	河南大学	刘旭旺	壹等
Can mobile information communication technologies (ICTs) promote the development of renewables?-evidence from seven countries	河南大学	郑佳佳	壹等
Inhibitory Control of Emotional Interference in Children with Learning Disorders: Evidence from Event-related Potentials and Event-related Spectral Perturbation Analysis	河南大学	谷璜, 赵俊峰, 陈亚楠	壹等
A Single-Ion Conducting Network as Rationally Coordinating Polymer Electrolyte for Solid-State Li Metal Batteries	河南大学, 北京科技大学	李昊, 赵勇, 连芳	壹等
High-Performance Flexible Piezoelectric Nanogenerator Based on Specific 3D Nano BCZT@Ag Hetero-Structure Design for the Application of Self-Powered Wireless Sensor System	河南大学, 国网福州供电公司	路浩为, 史慧杰, 陈高汝	壹等
Influence of alternating electric field on deep dewatering of municipal sludge and changes of extracellular polymeric substance during dewatering	河南工程学院	李亚林, 刘蕾, 关明玥, 王思赐, 路冬雪, 董婷婷, 张行	壹等
Simple Full-Spectrum Heterogeneous Photocatalyst for Photo-induced Atom Transfer Radical Polymerization (ATRP) under UV/vis/NIR and its Application for the Preparation of Dual Mode Curing Injectable Photoluminescence Hydrogel	河南工程学院	乔晓光, 庞新厂, 郝倩倩, 陈盟, 史歌, 何彦洁	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Structure feature and evolution mechanism of pores in different metamorphism and deformation coals	河南工程学院	任建刚, 宋志敏, 李冰, 刘见宝, 吕闰生, 刘高峰	壹等
Parameters uncertainty analysis of posture control of a four-wheel-legged robot with series slow active suspension system	河南工程学院	倪利伟	壹等
Research on simulation of risk control strategy for air traffic controllers' unsafe acts	河南工程学院	徐瑞华	壹等
A new generalized shift-splitting method for nonsymmetric saddle point problems	河南工程学院, 郑州航空工业管理学院	魏涛, 张理涛	壹等
Two-dimensional metal-organic frameworks Mo <sub>3</sub> (C <sub>2</sub> O) <sub>12</sub> as promising single-atom catalysts for selective nitrogen-to-ammonia	河南工学院	冯振, 李发闯, 苏光	壹等
Enhanced adsorption of aqueous tetracycline hydrochloride on renewable porous clay-carbon adsorbent derived from spent bleaching earth via pyrolysis	河南工业大学	万东锦, 吴来荣, 赵海亮	壹等
Transition-metal free direct C-H functionalization of quinoxalin-2(1H)-ones with oxamic acids leading to 3-carbamoyl quinoxalin-2(1H)-ones	河南工业大学	袁金伟, 朱军亮, 朱虎林, 彭方, 杨亮茹, 毛璞, 李艳春, 屈凌	壹等
Simultaneous Diels-Alder click reaction and starch hydrogel microsphere production via spray drying	河南工业大学	魏宏亮	壹等
Identification of compound CA-5f as a novel late-stage autophagy inhibitor with potent anti-tumor effect against non-small cell lung cancer	河南工业大学	张璐, 强鹏飞, 余京亭, 苗一鸣, 陈志强, 屈菊, 赵倩冰, 陈卓	壹等
Two 4-coumarate: Coenzyme A ligase genes involved in acteoside and flavonoids biosynthesis in Rehmannia glutinosa	河南工业大学	杨艳会	壹等
Insight into antibacterial mechanism of polysaccharides: A review	河南工业大学	王子朝	壹等
A rapid microwave-assisted phosphoric-acid treatment on carbon fiber surface for enhanced cell immobilization in xylitol fermentation	河南工业大学	王乐, 张帅兵, 武大鹏, 吕扬勇, 胡元森, 位启先, 袁其朋, 王	壹等
The antifungal activity of o-vanillin against Aspergillus flavus via disrupting ergosterol biosynthesis and promoting oxidative stress, and an RNA-seq analysis thereof	河南工业大学	李倩, 朱晓嫚, 赵颖	壹等
Synergistic chemotherapy and phototherapy based on red blood cell biomimetic nanomaterials	河南工业大学	杨硕晔	壹等
Effect of reverse micelle on physicochemical properties of soybean 7S globulins	河南工业大学	杜艳, 陈复生	壹等
Parametric analysis of the mechanism of creating indoor thermal environment in traditional houses in Lhasa	河南工业大学	李恩, 朱江昆	壹等
Temperature Forecasting for Stored Grain: A Deep Spatiotemporal Attention Approach	河南工业大学	段珊珊, 杨卫东, 张元	壹等
Optimization of Identifying Point Pollution Sources for the Convection-Diffusion-Reaction Equations	河南工业大学	原玉静	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Flow aggregation through dynamic routing overlaps in software defined networks	河南工业大学	赵志鹏, 吴斌	壹等
Food safety knowledge, attitudes, and eating behavior in the advent of the global coronavirus pandemic	河南工业大学	刘哲, 申聪	壹等
Revisiting multiplicative consistency of interval fuzzy preference relation	河南工业大学	张惠民	壹等
高管主动离职、薪酬契约参照点与企业绩效	河南工业大学, 郑州大学, 河北工业大学	刘莉, 任广乾, 郑敏娜	壹等
A dynamic capabilities perspective on pro-market reforms and university technology transfer in a transition economy	河南工业大学, 郑州轻工业大学	李阳, 唐玉洁	壹等
Iterative Detection for Orthogonal Time Frequency Space Modulation with Unitary Approximate Message Passing	河南开放大学	袁正道, 刘飞, 王忠勇	壹等
农作物生产三维可视化仿真系统设计与应用 ——以怀地黄为例	河南开放大学, 郑州铁路职业技术学院	赵迪, 杨阳	壹等
Wearable Strain Sensors Based on a Porous Polydimethylsiloxane Hybrid with Carbon Nanotubes and Graphene	河南科技大学	赫玉欣	壹等
ROS scavenger Hypotaurine delays postharvest softening of ‘Kyoho’ grape by regulating pectin and cell metabolism pathway	河南科技大学	刘海楠	壹等
Modulatory effect of fructooligosaccharide against triphenyltin-induced oxidative stress and immune suppression in goldfish ( <i>Carassius auratus</i> )	河南科技大学	张春暖, 王军辉, 齐茜	壹等
Assessment of attractancy and safeness of (E)-coniferyl alcohol for management of female adults of Oriental fruit fly, <i>Bactrocera dorsalis</i> (Hendel)	河南科技大学	刘欢, 王丹丹, 万琳, 胡朝阳, 何婷婷, 王俊博, 邓淑桢, 王新	壹等
Large-scale discovery of non-conventional peptides in grape ( <i>Vitis vinifera</i> L.) through peptidogenomics	河南科技大学	裴茂松	壹等
<i>Streptococcus suis</i> biofilm: regulation, drug-resistance mechanisms, and disinfection strategies	河南科技大学	汪洋, 王瑜欣, 孙理云	壹等
A phase 1b randomised controlled trial of a glucagon-like peptide-1 and glucagon receptor dual agonist IBI362 (LY3305677) in Chinese patients with type 2 diabetes	河南科技大学	姜宏卫	壹等
Effect of statins on Parkinson’ s disease: A systematic review and meta-analysis	河南科技大学	闫俊强, 乔靓, 田婧, 刘安然, 吴剑男, 黄家瑞, 申蒙蒙, 赖晓	壹等
Multistructural Anharmonicity Controls the Radical Generation Process in Biofuel Combustion	河南科技大学	邢利利	壹等
Chemical feature of the soot emissions from a diesel engine fueled with methanol-diesel blends	河南科技大学	范晨阳, 付政	壹等
Interactive effects of water and fertilizer on yield, soil water and nitrate dynamics of young apple tree in semiarid region of northwest China	河南科技大学	周罕觅, 牛晓丽, 燕辉, 赵娜, 张富仓, 尹冬雪	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Adaptive fuzzy control for a class of stochastic strict feedback high-order nonlinear systems with full-state constraints	河南科技大学	王楠, 陶发展, 宋书中	壹等
Optimization based adaptive cruise control and energy management strategy for connected and automated FCHEV	河南科技大学	朱龙龙, 付主木, 冀保峰, 董永生	壹等
Defect-induced ferromagnetism in W18O49 nanowires	河南科技大学	郑旭东, 董星星, 张少锋, 杨娇	壹等
世界一流体育学科建设的中国理路	河南科技大学	赵承磊	壹等
Prediction of daily reference crop evapotranspiration in different Chinese climate zones: Combined application of key meteorological factors and Elman algorithm	河南科技大学, 西北农林科技大学	赵龙, 赵辛博, 潘晓珑, 师翊, 邱兆美, 李秀珍, 邢旭光, 白佳宜	壹等
NRT1.1B improves selenium concentrations in rice grains by facilitating selenomethionine translocation	河南科技大学, 中国科学院遗传与发育生物学研究所	张联合, 胡斌, 邓坤, 高晓凯, 郁飞燕, 储成才	壹等
An in situ chemically and physically confined sulfur-polymer composite for lithium-sulfur batteries with carbonate-based electrolytes	河南科技学院	马晶晶, 李元超, 李晓波	壹等
Thymol mediates bactericidal activity against Staphylococcus aureus by targeting an aldo-keto reductase and consequent depletion of NADPH	河南科技学院	周威, 王贞, 莫海珍, 赵岩岩, 李红波, 张浩, 胡梁斌	壹等
A novel green production process of citric acid on the pilot scale by directly recycling its extraction effluent	河南科技学院	王宝石	壹等
High-pressure processing influences the conformation, water distribution, and gel properties of pork myofibrillar proteins containing Artemisia sphaerocephala Krasch gum	河南科技学院	赵圣明, 袁一博, 朱明明, 马汉军	壹等
Bisphenol A exposure induces apoptosis and impairs early embryonic development in Xenopus laevis	河南科技学院	葛亚明, 任斐, 陈玲丽, 胡东方, 尹志红, 宁红梅	壹等
SlGSTE9 participates in the stability of chlorpyrifos resistance in Spodoptera litura	河南科技学院	李冬植, 谢兰芬, 葛星, 李松伟, 李广领	壹等
Spatial-spectral feature extraction of hyperspectral images for wheat seed identification	河南科技学院	金松林, 杨鹏飞, 郑颖, 潘细朋	壹等
Underwater Image Enhancement via Minimal Color Loss and Locally Adaptive Contrast Enhancement	河南科技学院	张卫东, 庄培显, 李国厚, 李重仪	壹等
Natural sunlight driven highly efficient photocatalysis for simultaneous degradation of rhodamine B and methyl orange using I/C codoped TiO2	河南科技学院, 新乡学院	王吉超, 史维娜	壹等
Intelligent multicolor nano-sensor based on nontoxic dual fluoroprobe and MOFs for colorful consecutive detection of Hg2+ and cysteine	河南理工大学	张丽娜	壹等
A stick-like intelligent multicolor nano-sensor for the detection of tetracycline: The integration of nano-clay and carbon dots	河南理工大学	徐君, 贾磊	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Primary Mg <sub>2</sub> Si phase and Mg <sub>2</sub> Si/ $\alpha$ -Mg interface modified by Sn and Sb elements in a Mg-5Sn-2Si-1.5Al-1Zn-0.8Sb alloy	河南理工大学	杨文朋, 王英, 崔红保	壹等
Revealing the doping mechanism of barium in sulfoaluminate cement clinker phases	河南理工大学	朱建平, 陈洋, 张莉, 郭本凯, 范广新	壹等
Regulating the electronic and magnetic properties of 1T'-ReS <sub>2</sub> by fabricating nanoribbons and transition-metal doping: a theoretical study	河南理工大学	李思玫, 赵瑞奇	壹等
Effect of triethanolamine on the chloride binding capacity of cement pastewith a high volume of fly ash	河南理工大学	腾一标, 管学茂	壹等
Dissolution behavior and chemical characteristics of low molecular weight compounds from tectonically deformed coal under tetrahydrofuran extraction	河南理工大学	张硕, 张小东	壹等
The mechanisms of biogenic methane metabolism by synergistic biodegradation of coal and corn straw	河南理工大学	郭红玉, 张洺潞, 董志伟	壹等
Hydrodynamics and adsorption performance of liquid-solid fluidized bed with granular activated carbon for removal of copper ions from wastewater	河南理工大学	吕波	壹等
A coupled model of air leakage in gas drainage and an active support sealing method for improving drainage performance	河南理工大学	王志明, 孙玉宁, 王永龙, 孙志东	壹等
CBM geological characteristics and exploration potential in the Sunan Syncline block, southern north China basin	河南理工大学	王乾	壹等
Study on the difference of dispersion behavior between hydrogen and methane in utility tunnel	河南理工大学	邵翔宇, 杨申音, 原永亮, 贾海林, 郑立刚	壹等
Complex guided waves in functionally graded piezoelectric cylindrical structures with sectorial cross-section	河南理工大学	张博, 禹建功, 张小明, 明平美	壹等
Point-to-point Consensus Tracking Control for Unknown Nonlinear Multi-agent Systems Using Data-driven Iterative Learning	河南理工大学	尹艳玲, 卜旭辉	壹等
On non-resistive limit of 1D MHD equations with no vacuum at infinity	河南理工大学	李自来, 王华桥, 叶峨林	壹等
Effect of steam-assisted alkaline pretreatment plus enzymolysis on converting corn stalk into reducing sugar	河南农业大学	刘超齐, 刘梦洁, 王平, 常娟	壹等
Dual Functions of a Stable Peptide against Citrus Huanglongbing Disease	河南农业大学	刘娜	壹等
Chloroplast genomes of two species of Cyrtopodium: expanded genome size and proliferation of AT-biased repeat sequences	河南农业大学	郭艳艳	壹等
Toxicity of cadmium and its competition with mineral nutrients for uptake by plants: A review	河南农业大学	秦世玉, 李畅	壹等
African Swine Fever Virus MGF110-7L Induces Host Cell Translation Suppression and Stress Granule Formation by Activating the PERK/PKR-eIF2 $\alpha$ Pathway	河南农业大学	张雨杭, 韩世充, 万博	壹等



项目名称	主要完成单位	主要完成人	奖励等级
T-2 Toxin Caused Mice Testicular Inflammation Injury via ROS- Mediated NLRP3 Inflammasome Activation	河南农业大学	杨旭, 张丛, 姜义宝	壹等
Recombinant porcine beta defensin 2 alleviates inflammatory responses induced by Escherichia coli in IPEC-J2 cells	河南农业大学	张坤, 连少强, 沈晓阳, 赵新豪, 赵卫东, 李春丽	壹等
Genetic Dissection of Brassica napus Photosynthetic Pigment Content Diversity and Identification of Loci Associated with Photoperiod and Alkaline Soil Responses	河南农业大学	徐莉萍, 张智强	壹等
CircSETBP1 Acts as a MiR-149-5p Sponge to Promote Intramuscular Fat Deposition by Regulating CRTC3s	河南农业大学	韩雪蕾	壹等
microRNAs shape social immunity: a potential target for biological control of the termite Reticulitermes chinensis	河南农业大学	刘龙, 闫凤鸣, 赵晨晨, 苏丽娟, 黄求应, 汤清波	壹等
MicroRNA-376b-3p Promotes Porcine Reproductive and Respiratory Syndrome Virus Replication by Targeting Viral Restriction Factor TRIM22	河南农业大学	陈静, 刘慧敏, 夏平安	壹等
森林生态系统服务价值及其补偿校准—以马尾松林为例	河南农业大学	吴强, PENG Yuanying, 张合平, 刘奕汝	壹等
Estrogen Abolishes the Repression Role of gga-miR-221-5p Targeting ELOVL6 and SQLE to Promote Lipid Synthesis in Chicken Liver	河南农业大学	李红	壹等
In Vitro gene expression responses of bovine rumen epithelial cells to different pH stresses	河南农业大学	廉红霞, 张传凯, 刘怡帆, 李文静, 付彤, 高腾云, 张立阳	壹等
UL28 and UL33 homologs of Marek' s disease virus terminase complex involved in the regulation of cleavage and packaging of viral DNA are indispensable for replication in cultured cells	河南农业大学	孙爱军, 杨帅康, 王芮, 朱潇静, 庄国庆	壹等
Pectin polysaccharide from Flos Magnoliae (Xin Yi, Magnolia biondii Pamp. flower buds): Hot-compressed water extraction, purification and partial structural characterization	河南农业大学	王丽, 刘森, 麻兵继, 李连珍	壹等
Ensemble Time-Stepping Algorithm for the Convection-Diffusion Equation with Random Diffusivity	河南农业大学	李宁	壹等
An enhanced multi-modal brain graph network for classifying neuropsychiatric disorders	河南农业大学	刘亮亮, 张佩	壹等
Exploring characterizing factors and mechanisms of citizens' water literacy to promote sustainable water use: A grounded systems analysis method	河南农业大学	田康	壹等
乡村生态环境协同治理的现实诉求及应对策略	河南农业大学	宋保胜, 吴奇隆, 王鹏飞	壹等
Dynamic evaluation of environmental-economic performance of vehicle emission reduction policy from the perspective of the loss-aversion effect	河南农业大学	陈振, 李冰	壹等
Supervisor Narcissism and Employee Performance: A Moderated Mediation Model of Affective Organizational Commitment and Power Distance Orientation	河南农业大学	王晗蔚	壹等

项目名称	主要完成单位	主要完成人	奖励等级
数字经济时代下智能化、科技人力资源与产业转型升级	河南农业大学	侯建	壹等
The threshold effect of swine epidemics on the pig supply in China	河南农业大学	贾云飞, 孙文珊, 何泽军	壹等
Forecasting clean energy generation volume in China with a novel fractional time-delay polynomial discrete grey model	河南农业大学, 上海理工大学	李晔, 白雪, 刘斌	壹等
Double-shelled ZnSnO <sub>3</sub> hollow cubes for efficient photocatalytic degradation of antibiotic wastewater	河南师范大学	董淑英, 冯精兰, 孙剑辉	壹等
Hepatotoxicity of paraquat on common carp ( <i>Cyprinus carpio</i> L.)	河南师范大学	马军国, 李园园, 李卫国, 李效宇	壹等
Negative impacts of microcystin-LR and glyphosate on zebrafish intestine: Linked with gut microbiota and microRNAs?	河南师范大学	丁卫凯, 冯伊伊, 张榜军, 刘洋	壹等
A binary individual search strategy-based bi-objective evolutionary algorithm for high-dimensional feature selection	河南师范大学	李涛	壹等
Predator-taxis creates spatial pattern of a predator-prey model	河南师范大学	陈孟鑫	壹等
基于W2ID准则的Rich Model隐写检测特征选取方法	河南师范大学	马媛媛	壹等
DLS: A Link Prediction Method Based on Network Local Structure for Predicting Drug-Protein Interactions	河南师范大学	王伟, 吕贺贺, 赵远, 刘栋, 王永情, 张禹	壹等
Protein deubiquitylase USP3 stabilizes Aurora A to promote proliferation and metastasis of esophageal squamous cell carcinoma	河南医学高等专科学校, 临沂市人民医院	石科, 陆玉成, 张进忠, 杨亮, 郭丹	壹等
Encapsulating TiO <sub>2</sub> in Lignin-Based Colloidal Spheres for High Sunscreen Performance and Weak Photocatalytic Activity	河南中医药大学	李圆圆, 李朋伟	壹等
Soluble tetraaminophthalocyanines indium functionalized graphene platforms for rapid and ultra-sensitive determination of rutin in Tartary buckwheat tea	河南中医药大学	史艳梅	壹等
Zexie Tang targeting FKBP38/mTOR/SREBPs pathway improves hyperlipidemia	河南中医药大学	谢治深, 李二稳, 杜月月, 王梦瑶	壹等
High-frequency in vitro plantlet regeneration in <i>Lilium davidii</i> var. <i>unicolour</i> Salisb, an important edible and medicinal plant, and confirmation of genetic fidelity of regeneration plantlets using ISSR markers	河南中医药大学	杨林林, 晁利芹, 苏秀红, 王春艳, 董诚明	壹等
A sensitive HPLC-MS method for simultaneous determination of thirteen components in rat plasma and its application to pharmacokinetic study of Tanreqing injection	河南中医药大学	冯素香, 李先贺, 王蒙蒙, 郝蕊, 李蒙蒙, 张蕾, 王哲	壹等
头部八卦推拿法联合清胆宁神汤治疗痰热内扰型失眠	河南中医药大学	典迎彬	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Preparation and antitumor evaluation of quercetin nanosuspensions with synergistic efficacy and regulating immunity	河南中医药大学	乔永辉	壹等
Engelharquinone suppresses lipopolysaccharide-induced inflammation and proliferation of human liver cancer SMCC7721 cells via inhibition of NF- $\kappa$ B and MAPK signaling pathway	河南中医药大学	李姗, 张妍, 高爱社, 张悦, 张炅	壹等
附子-白术“药对”对成骨细胞BMP-2/Smads/Runx2通路的影响	河南中医药大学, 河南省肿瘤医院, 河南省中西医结合医院	程旭锋, 张新峰, 刘琦, 乔翠霞, 赵慧朵, 陈晓芳	壹等
Paeoniflorin Suppresses Rheumatoid Arthritis Development via Modulating the Circ-FAM120A/miR-671-5p/MDM4 Axis	河南中医药大学, 南阳理工学院	马俊福, 孟庆良, 展俊平, 王慧莲, 范围, 王妍琦, 张苏丹, 卞	壹等
Secure Frequency Control of Hybrid Power System Under DoS Attacks via Lie Algebra	河南中医药大学, 绍兴文理学院	程子豪, 沈士根	壹等
Wedge-splitting tests for tensile strength and fracture toughness of concrete	华北水利水电大学	管俊峰, 谢超鹏	壹等
Fusion of images and point clouds for the semantic segmentation of large-scale 3D scenes based on deep learning	华北水利水电大学	张蕊, 李广云, 李明磊, 王力	壹等
Modeling dam deformation in the early stage of internal seepage erosion-Application to the Teton Dam, Idaho, before the 1976 incident	华北水利水电大学	张兴胜, Chi-yuen Wang, Henry Wong, 姜彤, 董金玉	壹等
Impacts of climate change on hydrological droughts at basin scale:A case study of the Weihe River Basin, China	华北水利水电大学	赵盼盼, 吕海深, 杨会彩	壹等
Deformation similarity characteristics-considered hybrid panel model for multi-point deformation monitoring of super-high arch dams in operating conditions	华北水利水电大学	杨光	壹等
非理想航迹城市建筑群MIMO下视阵列SAR三维仿真	华北水利水电大学	刘辉, 徐青, 靳国旺, 楼良盛	壹等
Note on a paper by Bordellès, Dai, Heyman, Pan and Shparlinski, 2	华北水利水电大学	赵峰	壹等
公众积极参与社会治理总是有效么? ——基于生态水利工程建设 的博弈分析	华北水利水电大学	黄伟	壹等
Manufacturer's channel and logistics strategy in a supply chain	华北水利水电大学	王利莎	壹等
中国特色新型高端智库人才管理运行机制研究	华北水利水电大学	卢江阳	壹等
Parametric solutions to generalized periodic Sylvester bimatrix equations	华北水利水电大学, 河南大学	吕灵灵, 张磊	壹等
Regulating electronic structure of two-dimensional porous Ni/Ni <sub>3</sub> N nanosheets architecture by Co atomic incorporation boosts alkaline water splitting	黄河科技学院	王凯熙, 张守仁, 杨保成	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Reconfiguring graphene for high-performance metal-ion battery anodes	黄河科技学院	王帅伟	壹等
1-Aminopyrene/rGO nanocomposites for electrochemical energy storage with improved performance	黄河科技学院	张伟阳	壹等
Vacancy-vacancy pairs induced new phase formation in carbon boride: A design principle to achieve superior performance Li/Na-ion battery anodes	黄河科技学院	魏亚茹	壹等
A new higher order shear deformation theory for static, vibration and buckling responses of laminated plates with the isogeometric analysis	黄淮学院	石鹏, 胡乾坤	壹等
Innovative geothermal-based power and cooling cogeneration system; Thermodynamic analysis and optimization	黄淮学院	王银玲, 于磊, 张亮	壹等
Numerical prediction of asymmetrical ship slamming loads based on a hybrid two-step method	黄淮学院	谢行, 刘方, 刘新玉, 唐浩云	壹等
Debugging incoherent ontology by extracting a clash module and identifying root unsatisfiable concepts	黄淮学院	张瑜	壹等
The Artificial Intelligence System for the Generation of Sports Education Guidance Model and Physical Fitness Evaluation Under Deep Learning	黄淮学院	李元庆	壹等
Research on the Construction of an e-Commerce Marketing System Based on the Wireless Sensor Network	黄淮学院	张驰	壹等
Metal/metal-organic framework interfacial ensemble-induced dual site catalysis towards hydrogen generation	焦作师范高等专科学校	许文静, 李伟	壹等
Dynamic slave controller assignment for enhancing control plane robustness in software-defined networks	解放军战略支援部队信息工程大学	胡涛, 伊鹏, 兰巨龙, 胡宇翔	壹等
基于PSO-SVM方法的电源线传导泄漏信号识别与还原	解放军战略支援部队信息工程大学	周长林, 钱志升, 余道杰, 程俊平	壹等
Construction of Higher-level MDS Matrices in Nested SPNs	解放军战略支援部队信息工程大学	崔霆, 陈士伟, 郑浩然	壹等
卷积神经网络表征可视化研究综述	解放军战略支援部队信息工程大学	司念文, 张文林, 屈丹, 罗向阳, 常禾雨, 牛铜	壹等
Intelligent Reflecting Surface-Assisted Secret Key Generation With Discrete Phase Shifts in Static Environment	解放军战略支援部队信息工程大学	胡晓言, 金梁, 黄开枝, 孙小丽, 周游, 曲婧华	壹等
Optimal Decision Making Approach for Cyber Security Defense Using Evolutionary Game	解放军战略支援部队信息工程大学	胡浩, 刘玉岭, 陈晨, 张红旗, 刘艺	壹等
Fast Path Recovery for Single Link Failure in SDN-Enabled Wide Area Measurement System	解放军战略支援部队信息工程大学	段通	壹等
A Provably Secure and Practical PUF-Based End-to-End Mutual Authentication and Key Exchange Protocol for IoT	解放军战略支援部队信息工程大学	李森森, 张体奎, 郁滨, 何宽	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Analysis of an injection-locking-loop-hole attack from an external source for quantum key distribution	解放军战略支援部队信息工程大学	张晓旭, 江木生, 汪洋, 陆宜飞, 李宏伟, 周淳, 周雨, 鲍皖苏	壹等
Physically Securing Energy-Based Massive MIMO MAC via Joint Alignment of Multi-User Constellations and Artificial Noise	解放军战略支援部队信息工程大学	张艳语, 张建康, 于宏毅	壹等
利用波形信息的加权曲面拟合LiDAR点云滤波	解放军战略支援部队信息工程大学, 陆军炮兵防空兵学院郑州校区	李鹏程, 邢帅, 刘志青, 张军军	壹等
Doubly mononuclear cocrystal and oxalato-bridged binuclear copper compounds containing flexible 2-((3,5,6-trichloropyridin-2-yl)oxy)acetate tectons: Synthesis, crystal analysis and magnetic properties	洛阳师范学院	李俊霞	壹等
Inverting Conventional Chemoselectivity in the Sonogashira Coupling Reaction of Polyhalogenated Aryl Triflates with TMS-Arylalkynes	洛阳师范学院	汪森	壹等
Effects of Mn <sup>2+</sup> and humic acid on microbial community structures, functional genes for nitrogen and phosphorus removal, and heavy metal resistance genes in wastewater treatment	洛阳师范学院	李勇慧	壹等
Antibiotic resistance related to biofilm formation in <i>Streptococcus suis</i>	洛阳师范学院	易力	壹等
Polyak's gradient method for split feasibility problem constrained by level sets	洛阳师范学院	王丰辉	壹等
Distributed-delay-dependent exponential stability of impulsive neural networks with inertial term	洛阳师范学院	余天虎, 王华敏, 苏孟龙	壹等
Simulation of the dynamics of colloidal mixture of water with various nanoparticles at different levels of partial slip: Ternary-hybrid nanofluid	南阳理工学院	曹文豪, 季宪军	壹等
Realizing efficient CO <sub>2</sub> photoreduction in Bi <sub>3</sub> O <sub>4</sub> Cl: Constructing van der Waals heterostructure with g-C <sub>3</sub> N <sub>4</sub>	南阳师范学院	金晓丽, 李鑫, 谢海泉	壹等
Molecular oxygen activation enhancement by BiOBr <sub>0.5</sub> IO <sub>0.5</sub> /BiOI utilizing the synergistic effect of solid solution and heterojunctions for photocatalytic NO removal	南阳师范学院	苏风云	壹等
Heavy metal-immobilizing bacteria increase the biomass and reduce the Cd and Pb uptake by pakchoi ( <i>Brassica chinensis</i> L.) in heavy metal-contaminated soil	南阳师范学院	韩辉, 王晓宇, 胡小敏, 陈兆进	壹等
Intracellular Paclitaxel Delivery Facilitated by a dual-Functional CPP with a Hydrophobic Hairpin Tail	南阳师范学院	韦宇平, 张曼, 徐霞	壹等
Alternate furrow irrigation improves grain yield and nitrogen use efficiency in winter wheat	南阳师范学院	贾殿勇, 代兴龙, 贺明荣	壹等
lncR26319/miR-2834/EndophilinA axis regulates oogenesis of the silkworm, <i>Bombyx mori</i>	南阳师范学院	李丹丹, 王艺, 赵晨玥, 黄群霞	壹等
Security-Reliability Tradeoff Analysis of Untrusted Full-Duplex Relay Networks	南阳师范学院	张新刚, 陈德川	壹等

项目名称	主要完成单位	主要完成人	奖励等级
One-Pot Transformation of Waste Toner Powder into 3D Graphene Oxide Hydrogel	平顶山学院	田正山, 曹可生, 白素贞, 贺国旭	壹等
Characterization of Anoectochilus roxburghii polysaccharide and its therapeutic effect on type 2 diabetic mice	平顶山学院	高华山, 郑新华, 佟伟霜, 邱渊皓	壹等
Longitudinal-torsional coupled rotary ultrasonic machining of ZrO <sub>2</sub> ceramics: An experimental study	平顶山学院	陈凡, 别文博, 王晓博, 赵波	壹等
Dynamic community detection based on the Matthew effect	平顶山学院	孙泽军, 孙亚南, 常新峰, 王飞飞, 潘中强, 王冠, 刘建粉	壹等
Human Activity Recognition Based on Improved Bayesian Convolution Network to Analyze Health Care Data Using Wearable IoT Device	平顶山学院	周志青, 喻恒	壹等
Swelling Poly(ionic liquid) Supported by Three-Dimensional Wire Mesh for Oil/Water Separation	商丘师范学院	张永亚	壹等
Hollow $\beta$ -Bi <sub>2</sub> O <sub>3</sub> @CeO <sub>2</sub> heterostructure microsphere with controllable crystal phase for efficient photocatalysis	商丘师范学院	杨晓燕	壹等
Crystal Facet-Dependent CO <sub>2</sub> Photoreduction over Porous ZnO Nanocatalysts	商丘师范学院	李盼, 罗干	壹等
Analysis of heavy metal-related indices in the Eboling permafrost on the Tibetan Plateau	商丘师范学院	张淑红	壹等
Production and characterization of monoclonal antibodies against GII.6 norovirus virus-like particles	新乡学院	仇书兴, 殷星	壹等
A Fingerprint Removal Method Based On Fractal-Criminisi Technology	新乡学院	李尊, 陈爱敏, 苗同军	壹等
Wheat breeding in China over the past 80 years has increased grain zinc but decreased grain iron concentration	新乡学院, 河南师范大学, 中国农业大学农学院	蒿宝珍, 马静丽, 陈彭, 姜丽娜, 王小洁, 李春喜, 王志敏	壹等
EZH2-mediated epigenetic silencing of miR-29/miR-30 targets LOXL4 and contributes to tumorigenesis, metastasis, and immune microenvironment remodeling in breast cancer	新乡医学院	尹会龙, 王邑迪, 吴晔, 张翔, 张小芳, 刘俊, 王廷, 樊菁, 孙健勇, 杨安钢, 张瑞	壹等
Alterations in the gut microbiota and its metabolic profile of PM <sub>2.5</sub> exposure-induced thyroid dysfunction rats	新乡医学院	董新文, 姚三巧, 邓律飞, 李海斌, 张丰泉, 许洁, 李志春, 张	壹等
Fine particulate matter-induced lung inflammation is mediated by pyroptosis in mice	新乡医学院	李娟, 安珍, 宋杰, 杜锦阁	壹等
Evaluation of remodeling and regeneration of electrospun PCL/fibrin vascular grafts in vivo	新乡医学院	赵亮, 李霞飞, 杨磊, 孙路路, 慕松峰, 宗海斌, 李琼, 宋爽, 杨	壹等
Fluorinated Ionic Liquid Based Multicolor (19)F MRI Nanoprobes for In Vivo Sensing of Multiple Biological Targets	新乡医学院	朱祥龙, 熊贺贺, 王思甜, 李艳艳, 迟景献, 王雪菲, 李天天,	壹等
Physalin B reduces A $\beta$ secretion by downregulating the expression of BACE1 via the activation of FoxO1 and the inhibition of STAT3 phosphorylation	新乡医学院	张伟, 白姗姗, 倪天军	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Length dependent activation of OAS proteins by dsRNA	新乡医学院	王寅彪	壹等
Sulforaphane inhibits self-renewal of lung cancer stem cells through the modulation of sonic Hedgehog signaling pathway and PHC3	新乡医学院	王凡平, 王明永, 孙彦威, 黄晓愉, 乔彩娟, 张文芮	壹等
Search for single production of vector-like B quark decaying to bZ at future linear colliders	新乡医学院	韩琳, 申杰奋	壹等
A novel approach for authentication of shellac resin in the shellac-based edible coatings: Contain shellac or not in the fruit wax preservative coating	信阳农林学院, 中国林业科学研究院高原林业研究所	李坤, 唐保山, 张雯雯, 涂行浩, 马金菊, 邢淑婕, 邵颖, 雷福	壹等
Fluorescent supramolecular self-assembly gels and their application as sensors: A review	信阳师范学院	曹新华	壹等
Self-assembled copper nanoclusters structure-dependent fluorescent enhancement for sensitive determination of tetracyclines by the restriction intramolecular motion	信阳师范学院	王海波	壹等
Lowering the voltage-hysteresis of CuS anode for Li-ion batteries via constructing heterostructure	信阳师范学院	刘会俏, 何亚楠	壹等
Promoting K ion storage property of SnS2 anode by structure engineering	信阳师范学院	曹康哲	壹等
Spatial-resolved dual-signal-output electrochemiluminescent ratiometric strategy for accurate and sensitive immunoassay	信阳师范学院	王玉玲	壹等
Bulk diffusion regulated nanopore formation during vapor phase dealloying of a Zn-Cu alloy	信阳师范学院	夏燕杰	壹等
Photogenerated Hole-Induced Chemical Redox Cycling on Bi2S3/ Bi2Sn2O7 Heterojunction: Toward General Amplified Split-Type Photoelectrochemical Immunoassay	信阳师范学院	曹俊涛, 王冰	壹等
Morphology-dependent electrochemical activity of Cu2O polyhedrons and construction of sensor for simultaneous determination of phenolic compounds with graphene oxide as reinforcement	信阳师范学院	甘甜	壹等
A Novel Multiscale Adaptive Binning Phase Congruency Feature for SAR and Optical Image Registration	信阳师范学院	樊建伟	壹等
Real-time robot manipulator tracking control as multilayered time-varying problem	信阳师范学院	李健	壹等
Threshold dynamics of an HIV infection model with two distinct cell subsets	信阳师范学院	王霞	壹等
Thermally tunable terahertz metasurface absorber based on all dielectric indium antimonide resonator structure	信阳师范学院	罗浩	壹等
Measuring coupling coordination between urban economic development and air quality based on the Fuzzy BWM and improved CCD model	信阳师范学院	张龙	壹等

项目名称	主要完成单位	主要完成人	奖励等级
数字金融、环境规制与经济高质量发展	信阳师范学院	上官绪明	壹等
Cycling profile of layered MgAl <sub>2</sub> O <sub>4</sub> /reduced graphene oxide composite for asymmetrical supercapacitor	信阳学院, 信阳师范学院, 周口师范学院	高永平, 翟子波, 王倩倩, 侯志强, 黄克靖	壹等
Ag, Ge dual-gradient substitution for low-energy loss and high-efficiency kesterite solar cells	许昌学院	符俊杰	壹等
Ynamide-Mediated Peptide Bond Formation: Mechanistic Study and Synthetic Applications	许昌学院	许泗林	壹等
BiOBr nanosheets with oxygen vacancies and lattice strain for enhanced photoelectrochemical sensing of doxycycline	许昌学院	崔占奎	壹等
Few-layer In <sub>4</sub> /3P <sub>2</sub> Se <sub>6</sub> nanoflakes for high detectivity photodetectors	许昌学院	赵红晓, 闫勇, 宋孝辉, 马梓楠, 田甜, 蒋玉蓉, 李雪萍, 夏从	壹等
Extraction and determination of phenolic compounds in Chinese teas using a novel compound salt aqueous two-phase system coupled with multivariate chemometric methods	许昌学院	张晓华, 郑晶晶, 卿湘东	壹等
A review of wheat starch analyses: Methods, techniques, structure and function	许昌学院	黄继红	壹等
Effect of three natural antioxidants on the structure and physicochemical properties of sweet potato starch noodles	许昌学院	郭卫芸, 范玲	壹等
A kriging-based adaptive global optimization method with generalized expected improvement and its application in numerical simulation and crop evapotranspiration	许昌学院	李耀辉	壹等
Identification of characteristic volatile compounds and prediction of fermentation degree of pomelo wine using partial least squares regression	许昌学院	魏泉增, 张成丽, 孙军涛	壹等
Replenishment of the EHL contacts in a grease lubricated ball bearing	许昌学院	岑辉	壹等
Role of biochar from corn straw in influencing crack propagation and evaporation in sodic soils	许昌学院	杨滨滨	壹等
履带车辆行走机构设计与球铰应力分析	许昌学院	朱政通	壹等
Pinning bipartite synchronization for coupled reaction-diffusion neural networks with antagonistic interactions and switching topologies	许昌学院	苗宝军, 楼俊钢, 卢剑权	壹等
PSO and K-means-based semantic segmentation toward agricultural products	许昌学院	张海侠	壹等
Cryptanalysis and Improvement of DeepPAR: Privacy-Preserving and Asynchronous Deep Learning for Industrial IoT	许昌学院	陈艳格, 何苏豫, 洪智勇, 平源	壹等



项目名称	主要完成单位	主要完成人	奖励等级
High-order structure-preserving algorithms for the multi-dimensional fractional nonlinear Schrodinger equation based on the SAV approach	许昌学院	付亚运	壹等
Optical Hybrid Network Structure Based on Cloud Computing and Big Data Technology	许昌学院	魏会廷	壹等
Driving factors and decoupling analysis of fossil fuel related-carbon dioxide emissions in China	许昌学院	王旭光	壹等
Associations between new health conditions and healthcare service utilizations among older adults in the United Kingdom: effects of COVID-19 risks, worse financial situation, and lowered income	许昌学院	韩冰雪	壹等
“一带一路”建设的中国要素分解及其外部性检验	许昌学院	姬超	壹等
双罚制视阈下国家审计整改效果研究	许昌学院	靳思昌	壹等
4CzIPN-tBu-Catalyzed Proton-Coupled Electron Transfer for Photosynthesis of Phosphorylated N-Heteroaromatics	郑州大学	刘琰, 於兵	壹等
Interfacial Engineering of Bi19Br3S27 Nanowires Promotes Metallic Photocatalytic CO2 Reduction Activity under Near-Infrared Light Irradiation	郑州大学	李俊, 刘巧云	壹等
Photoresponsive propeller-like chiral AIE Cu(I) clusters	郑州大学	李恺, 孔玉金	壹等
Dopamine-crosslinked TiO2/perovskite layer for efficient and photostable perovskite solar cells under full spectral continuous illumination	郑州大学	张懿强, 刘小涛, 胡笑添, 李风煜, 宋延林	壹等
Metal-free carbocatalyst for room temperature acceptorless dehydrogenation of N-heterocycles	郑州大学	胡海涛, 聂云青, 陶跃雯, 聂仁峰	壹等
Wide band gap chalcogenide semiconductors	郑州大学	韩炎兵	壹等
Single-Atom Ru Implanted on Co3O4 Nanosheets as Efficient Dual-Catalyst for Li-CO2 Batteries	郑州大学	刘清朝	壹等
Dual Evolution in Defect and Morphology of Single-Atom Dispersed Carbon Based Oxygen Electrocatalyst	郑州大学	班锦锦, 曹国钦, 邵国胜, 胡俊华	壹等
A Garnet Type Solid Electrolyte based Molten Lithium-molybdenum-iron(II) Chloride Battery with Advanced Reaction Mechanism	郑州大学	徐晶, 刘凯, 金阳, 张自利, 陈易	壹等
Inkjet manipulated homogeneous large size perovskite grains for efficient and large-area perovskite solar cells	郑州大学	李鹏伟	壹等
Carbon Nanotube/Polymer Coaxial Cables with Strong Interface for Damping Composites and Stretchable Conductors	郑州大学	上媛媛, 常书龙, 娄辉清, 孟维雪, 李梦, 郭凤梅, 庞瑞, 徐洁, 张迎九, 曹安源	壹等
Europium ions doped WOx nanorods for dual interfacial modification facilitating high efficiency and stability of perovskite solar cells	郑州大学	陈旭	壹等

项目名称	主要完成单位	主要完成人	奖励等级
In-situ fabrication of PtSe2/GaN heterojunction for self-powered deep ultraviolet photodetector with ultrahigh current on/off ratio and detectivity	郑州大学	卓然然	壹等
Synergetic integration of passivation layer and oxygen vacancy on hematite nanoarrays for boosted photoelectrochemical water oxidation	郑州大学	易莎莎	壹等
Directed Cobalt-Catalyzed anti-Markovnikov Hydroalkylation of Unactivated Alkenes Enabled by “Co-H” Catalysis	郑州大学	杨丹丹	壹等
Cobalt(II)-Catalyzed Activation of C(sp <sup>3</sup> )-H Bonds: Organic Oxidant Enabled Selective Functionalization	郑州大学	牛俊龙	壹等
Production of Upgraded Biocrude from Hydrothermal Liquefaction using Clays as in situ Catalyst	郑州大学	马秋林	壹等
Durable self-polishing antifouling Cu-Ti coating by a micron-scale Cu/Ti laminated microstructure design	郑州大学	田佳佳	壹等
A self-reinforcing and self-healing elastomer with high strength, unprecedented toughness and room-temperature reparability	郑州大学	李禹函, 李雯娟, 孙爱灵, 荆梦璠, 刘兴江, 魏柳荷, 吴凯, 傅	壹等
Atomically dispersed Sn modified with trace sulfur species derived from organosulfide complex for electroreduction of CO <sub>2</sub>	郑州大学	王鑫, 李凤丽, 殷文金, 司玉冰, 苗铭, 王晓明, 付永柱	壹等
Anti-Freezing, Resilient and Tough Hydrogels for Sensitive and Large-range Strain and Pressure Sensors	郑州大学	杨艳宇, 王万杰	壹等
3D Carbon Foam Supported WS <sub>2</sub> Nanosheets for Cable-shaped Flexible Sodium Ion Batteries	郑州大学	王烨, 孔德志, 许婷婷	壹等
Pearlite formation via martensite	郑州大学	李松杰, 何梦园, 胡冠杰, 田芸, 王成铎, 景奔, 平德海	壹等
Pinning Bromide Ion with Ionic Liquid in Lead-Free Cs <sub>2</sub> AgBiBr <sub>6</sub> Double Perovskite Solar Cells	郑州大学	段艳艳	壹等
Enhanced triethylamine-sensing properties of hierarchical molybdenum trioxide nanostructures derived by oxidizing molybdenum disulfide nanosheets	郑州大学	侯星慧	壹等
High Performance Fluorescence Biosensing of Cysteine in Human Serum with Superior Specificity based on Carbon Dots and Cobalt-derived Recognition	郑州大学	刘海芳, 李朝辉	壹等
Controllable construction of hierarchically CdIn <sub>2</sub> S <sub>4</sub> /CNFs/Co <sub>4</sub> S <sub>3</sub> nanofiber networks towards photocatalytic hydrogen evolution	郑州大学	薛超	壹等
Modulating reaction pathways of formic acid oxidation for optimized electrocatalytic performance of PtAu/CoNC	郑州大学	梁梦超, 夏田雨, 高晗, 任晓燕, 李顺方	壹等
Double-edged roles of protein tyrosine phosphatase SHP2 in cancer and its inhibitors in clinical trials	郑州大学	宋宜辉, 余斌	壹等
Recent advances in developing butyrogenic functional foods to promote gut health	郑州大学	谈重芳, 刘芳	壹等

项目名称	主要完成单位	主要完成人	奖励等级
LSD1 deletion decreases exosomal PD-L1 and restores T-cell response in gastric cancer	郑州大学	申丹丹, 庞静茹, 毕亚平, 刘宏民, 郑一超	壹等
COVID-19 Vaccine Hesitancy Among Chinese Population: A Large-Scale National Study	郑州大学	苗豫东	壹等
Melatonin receptor activation provides cerebral protection after traumatic brain injury by mitigating oxidative stress and inflammation via the Nrf2 signaling pathway	郑州大学	王君敏, 蒋超, 张琨, 王中玉	壹等
Ultrahigh-resolution optical coherence microscopy accurately classifies precancerous and cancerous human cervix free of labeling	郑州大学	曾宪旭, 李灿宇, 王晓芳, 张琳琳	壹等
Discovery of New 4-Indolyl Quinazoline Derivatives as Highly Potent and Orally Bioavailable P-Glycoprotein Inhibitors	郑州大学	袁硕, 王博	壹等
Reversible Lysine Specific Demethylase 1 (LSD1) Inhibitors: A Promising Wrench to Impair LSD1	郑州大学	代兴杰, 薛雷朋, 熊小鹏, 周影	壹等
Baseline concentration of misfolded $\alpha$ -synuclein aggregates in cerebrospinal fluid predicts risk of cognitive decline in Parkinson's disease.	郑州大学	李昕	壹等
Discovery of thiosemicarbazone derivatives as effective New Delhi metallo- $\beta$ -lactamase-1 (NDM-1) inhibitors against NDM-1 producing clinical isolates	郑州大学	赵兵, 张鑫荟, 俞婷婷, 刘瀛, 张晓玲, 冯雪建, 秦上尚	壹等
Hydrogel-coated needles prevent puncture site bleeding in arteriovenous fistula and arteriovenous grafts in rats	郑州大学	徐艳华, 王志伟, 魏顺波, 孙鹏, 白华龙, 李敬安	壹等
Design, synthesis and evaluation of novel bis-substituted aromatic amide dithiocarbamate derivatives as colchicine site tubulin polymerization inhibitors with potent anticancer activities	郑州大学	孙亚鑫, 宋健, 孔丽君, 沙贝贝, 田心怡, 刘秀娟, 胡涛, 陈平, 张赛扬	壹等
Profiling of Blood-Brain Barrier Disruption in Mouse Intracerebral Hemorrhage Models: Collagenase Injection vs. Autologous Arterial Whole Blood Infusion	郑州大学	贾培君, 何金新, 李泽夫, 贾琳, 郝若晨, 臧卫东, 陈雪梅	壹等
Discovery of novel 4-phenylquinazoline-based BRD4 inhibitors for cardiac fibrosis	郑州大学	赵文, 何张旭, 马立英, 焦浩淼, 安琪, 张昕, 旦增央宗, 徐佳	壹等
Alterations of the Human Gut Microbiome in Chronic Kidney Disease	郑州大学	吴歌	壹等
Predicting postoperative delirium after microvascular decompression surgery with machine learning	郑州大学	王莹, 周成茂, 杨建军	壹等
Amplification of anticancer efficacy by co-delivery of doxorubicin and lonidamine with extracellular vesicles	郑州大学	李慧珍	壹等
SOX15 transcriptionally increases the function of AOC1 to modulate ferroptosis and progression in prostate cancer	郑州大学	贾占奎	壹等
Utility of trio-based prenatal exome sequencing incorporating splice-site and mitochondrial genome assessment in pregnancies with fetal ultrasound anomalies: prospective cohort study	郑州大学	朱晓帆, 高值, 王燕菲, 黄伟, 李倩倩	壹等

项目名称	主要完成单位	主要完成人	奖励等级
蒂尔堡妊娠痛苦量表的汉化及信效度检验	郑州大学	李金凤, 刘玉凤, 蒋恩社, 贾田田, 王琳琳, 石志宜	壹等
右美托咪定对腔隙性脑梗死患者术后谵妄的影响	郑州大学	茅晓玉, 张伟, 鲁稳梁	壹等
严重精神障碍病人体重管理的研究进展	郑州大学	马玲, 王晶晶, 赵伟, 徐晖, 赵燕利	壹等
Annual thermal performance analysis of underground cave dwellings based on climate responsive design	郑州大学	朱佳音	壹等
Distributed Event-Triggered Hierarchical Control to Improve Economic Operation of Hybrid AC/DC Microgrids	郑州大学	李忠文, 程志平	壹等
Clean products from coal gasification waste by flotation using waste engine oil as collector: Synergetic cleaner disposal of wastes	郑州大学	范桂侠, 李鹏, 曹亦俊, 彭伟军, 周国莉	壹等
Experimental study on mechanism, aging, rheology and fatigue performance of carbon nanomaterial/SBS-modified asphalt binders	郑州大学	王日冉, 乐明静, 熊玉超, 乐金朝	壹等
Natural convection heat transfer of a straight-fin heat sink	郑州大学	孟祥睿, 魏新利	壹等
Identifying fatigue damage of muddled intercalations based on dynamic triaxial test	郑州大学	闫长斌, 汪鹤健, 徐晓, 张彦昌	壹等
Estimating demand response potential under coupled thermal inertia of building and air-conditioning system	郑州大学	李为林	壹等
Automatic damage segmentation in pavement videos by fusing similar feature extraction siamese network (SFE-SNet) and pavement damage segmentation capsule network (PDS-CapsNet)	郑州大学	董家修, 王念念, 马铎, 胡浩帮	壹等
Carbon nanomaterials enhanced cement-based composites: advances and challenges	郑州大学	杜明瑞	壹等
A cleaner polyurethane elastomer grouting material with high hardening strain for the fundamental rehabilitation: The comprehensive mechanical properties	郑州大学	赵鹏, 张超, 潘旺, 王翠霞	壹等
Variabilities and their upper and lower bounds of the equivalent thermal conductivity and resistance defined by the entransy dissipation rate	郑州大学	刘永志, 徐朋辉, 王腾锐	壹等
Fast hybrid dimensionality reduction method for classification based on feature selection and grouped feature extraction	郑州大学	李蒙蒙, 杨莉芳, 尚志刚, 万红	壹等
Event-Triggered Impulsive Control for Stochastic Networked Control Systems Under Cyber Attacks	郑州大学	胡增辉, 慕小武	壹等
A Time-Space Network Model for Collision-free Routing of Planar Motions in a Multi-Robot Station	郑州大学	辛健斌	壹等
The divergence-free nonconforming virtual element for the Stokes problem	郑州大学	赵纪坤	壹等
TriATNE: Tripartite Adversarial Training for Network Embeddings	郑州大学	刘起东, Long Cheng, Zhang Jie, 徐明亮, 吕培	壹等

项目名称	主要 完成单位	主要完成人	奖励 等级
Conforming and nonconforming conservative virtual element methods for nonlinear Schrodinger equation: A unified framework	郑州大学	李猛, 陈绍春	壹等
ATM: an attentive translation model for next-item recommendation	郑州大学	吴宾, 何向南, 孙中川, 陈亮, 叶阳东	壹等
Superconvergence analysis of finite element method for time-fractional Thermistor problem	郑州大学	石东洋	壹等
Dynamic Selection Preference-Assisted Constrained Multiobjective Differential Evolution	郑州大学	于坤杰, 梁静, 罗勇, 岳彩通	壹等
2DLIF-PROMETHEE based on the hybrid distance of 2-dimension linguistic intuitionistic fuzzy sets for multiple attribute decision making	郑州大学	朱华, 赵建彬	壹等
An Ensemble Classification Model With Unsupervised Representation Learning for Driving Stress Recognition Using Physiological Signals	郑州大学	王可, 郭平	壹等
Infrared dim and small target detection based on three-dimensional collaborative filtering and spatial inversion modeling	郑州大学	任向阳, 王杰, 马天磊, 白珂, 葛明涛, 王禹博	壹等
Enhanced default mode network functional connectivity links with electroconvulsive therapy response in major depressive disorder	郑州大学	庞雅静, 赵闪闪, 李楠, 李志辉	壹等
On a vector long wave-short wave-type model	郑州大学	李若梦, 耿献国	壹等
Evolutionary multitasking for feature selection in high-dimensional classification via particle swarm optimization	郑州大学	陈科	壹等
Pareto-scheduling of two competing agents with their own equal processing times	郑州大学	陈如冰, 原晋江	壹等
A second-order space-time accurate scheme for Maxwell's equations in a Cole-Cole dispersive medium	郑州大学	白希贤, 芮洪兴	壹等
Control chaos to different stable states for a piecewise linear circuit system by a simple linear control	郑州大学	付士慧	壹等
A novel system for off-line 3D seam extraction and path planning based on point cloud segmentation for arc welding robot	郑州大学	杨磊, 刘艳红	壹等
A short note on open-neighborhood conflict-free colorings of graphs	郑州大学	黄飞, 郭姗姗	壹等
High-order control barrier functions-based impedance control of a robotic manipulator with time-varying output constraints	郑州大学	王海静, 彭金柱	壹等
Robust beamforming designs in secure MIMO SWIPT IoT networks with a nonlinear channel model	郑州大学	朱政宇, 王宁	壹等
Experimental Verification of Dissipation-Time Uncertainty Relation	郑州大学	闫磊磊, 苏石磊	壹等
Robust Design for Intelligent Reflecting Surface-Assisted MIMO-OFDMA Terahertz LoT Networks	郑州大学	郝万明	壹等

项目名称	主要完成单位	主要完成人	奖励等级
3D Solar-Blind Ga203 Photodetector Array Realized Via Origami Method	郑州大学	陈彦成, 田勇志, 郜超军, 杨珣	壹等
High-Performance Flexible Pressure Sensor with a Self-Healing Function for Tactile Feedback	郑州大学	刘伟杰, 郭海中	壹等
Optical Jamming Enhances the Secrecy Performance of the Generalized Space-Shift-Keying-Aided Visible-Light Downlink	郑州大学	王法松, 刘超文, 王琪	壹等
Energy-Efficient Hybrid Precoding Design for Integrated Multicast-Unicast Millimeter Wave Communications With SWIPT	郑州大学	孙钢灿	壹等
Thickness Dependent Ultrafast Charge Transfer in BP/MoS2 Heterostructure	郑州大学	张丽丽	壹等
Joint Channel-Estimation/Decoding With Frequency-Selective Channels and Few-Bit ADCs	郑州大学	孙鹏	壹等
Strange quark stars within proper time regularized (2+1)-flavor NJL model	郑州大学	李程明	壹等
Deep Local Feature Descriptor Learning With Dual Hard Batch Construction	郑州大学	汪松, 郭新, Yun Tie, 齐林	壹等
GUT-scale constrained SUSY in light of new muon g-2 measurement	郑州大学	王飞, 张阳	壹等
A Learning System Integrating Temporal Convolution and Deep Learning for Predictive Modeling of Crude Oil Price	郑州大学	牛通	壹等
Exploring different appraisals in deviant sharing behaviors: A mixed-methods study	郑州大学	侯婷婷	壹等
The impacts of democracy on innovation: Revisited evidence	郑州大学	王全景, 冯根福, 王海杰, 张存炳 (Chun-Ping Chang)	壹等
多调机环境下的树枝形铁路专用线作业车同步取送优化	郑州大学	李冰, 党佳俊	壹等
The coupling coordination of relationships between tourism destination image and product country image	郑州大学	郑鹏	壹等
The battery charging station location problem: Impact of users' range anxiety and distance convenience	郑州大学	郭放	壹等
Quantifying the contribution of SWAT modeling and CMIP6 inputting to streamflow prediction uncertainty under climate change	郑州大学, 河南省出山店水库建设管理局	陈长征, 甘容, 杨峰, 左其亭	壹等
Identification of three conserved linear B cell epitopes on the SARS-CoV-2 spike protein	郑州大学, 龙湖现代免疫实验室	王爱萍, 田媛媛, 刘红亮, 丁培阳, 陈玉梅, 梁超, 朱习芳, 殷佳佳, 张改平*	壹等
A dPCR-NIPT assay for detections of trisomies 21, 18 and 13 in a single-tube reaction-could it replace serum biochemical tests as a primary maternal plasma screening tool?	郑州大学, 上海塔歌生物技术有限公司, 河南新柏恩医疗科技有限公司	代鹏, YANFENG YANG, 顾志强, 任化楠, 胡爽, 焦伟萌, 李金芳	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Dendrite Net with Acceleration Module for Faster Nonlinear Mapping and System Identification	郑州大学, 西安交通大学	刘刚, 尹帅, 牛晓可, 王晶	壹等
Multi-faceted epigenetic dysregulation of gene expression promotes esophageal squamous cell carcinoma	郑州大学, 郑州大学附属郑州中心医院	曹巍, 崔渊博, 刘嘉, 关红亚, 吕朋举, 孙晓燕, 韩鹏黎, 娄雅楠	壹等
Human umbilical cord blood-derived MSCs trans-differentiate into endometrial cells and regulate Th17/Treg balance through NF- $\kappa$ B signaling in rabbit intrauterine adhesions endometrium	郑州大学, 郑州大学附属郑州中心医院	华晴, 张勇, 李红娟, 栗浩然, 靳冉冉, 李璆, 相元翠, 田梦, 王晶晶, 孙蕾, 王雅莉	壹等
Low anisotropy of fatigue crack growth in Al-5.8Mg-0.25Sc	郑州大学, 中南大学, 重庆大学	李梦佳, 史运嘉, 潘清林, 张宇, 卢广玺, 关绍康	壹等
国外图书情报领域数字人文工作需求及职能分析	郑州航空工业管理学院	苏芳荔, 常人杰	壹等
图书馆即教育: 元宇宙视域下的公共图书馆社会教育	郑州航空工业管理学院	郭亚军, 李帅, 马慧芳, 李捷	壹等
Research on ecological evaluation of Shanghai port logistics based on emergy ecological footprint models	郑州航空工业管理学院	谢本凯, 张笑笑, 卢俊玲, 樊毓卿	壹等
Quantifying inter-regional payments for watershed services on the basis of green ecological spillover value in the Yellow River Basin, China	郑州航空工业管理学院	冯英杰, 朱爱孔, 刘卫星	壹等
政府补贴与金融支持如何影响创新效率?——来自中国战略性新兴产业上市公司的经验证据	郑州航空工业管理学院	闫俊周, 齐念念, 童超	壹等
不确定情形下在线多源多属性反向拍卖双边协商决策	郑州航空工业管理学院	王世磊, 屈绍建, 常广庶, 马刚	壹等
高层管理团队断裂带影响管理者能力实证研究	郑州航空工业管理学院	谢庆	壹等
Ratiometric fluorescence sensing and colorimetric decoding methanol by a bimetallic lanthanide-organic framework	郑州轻工业大学	陈迪明	壹等
Do environmental concentrations of zinc oxide nanoparticle pose ecotoxicological risk to aquatic fungi associated with leaf litter decomposition?	郑州轻工业大学	杜京京, 张玉燕, 尹玉婷, 张锦	壹等
Effects of combined treatment with ultrasound and pH shifting on foaming properties of chickpea protein isolate	郑州轻工业大学	望运滔, 王莎莎	壹等
Understanding the structural, pasting and digestion properties of starch isolated from frozen wheat dough	郑州轻工业大学	王宏伟, 许可, 刘兴丽, 张艳艳, 张华	壹等
Dynamic scheduling method for integrated process planning and scheduling problem with machine fault	郑州轻工业大学	文笑雨, 廉孝楠, 钱运洁, 张玉彦, 王昊琪, 李浩	壹等
Experimental combustion characteristics and NOx emissions at 50% of the full load for a 600-MWe utility boiler: Effects of the coal feed rate for various mills	郑州轻工业大学	遆曙光	壹等

项目名称	主要完成单位	主要完成人	奖励等级
Heat and moisture transfer and dimension optimization of cross-flow hollow fiber membrane contactor for membrane distillation desalination	郑州轻工业大学	李国培, 刘建华, 张芳芳, 王俊儒	壹等
Collaborative scheduling of production resources and spare parts inventory for distributed equipment with feedback guidance and minimum capacity loss	郑州轻工业大学	张丽科	壹等
Memristor-based neural network circuit with multimode generalization and differentiation on pavlov associative memory	郑州轻工业大学	孙军伟, 王洋洋, 刘鹏, 王延峰	壹等
Object Detection in Remote Sensing Images Based on Improved Bounding Box Regression and Multi-Level Features Fusion	郑州轻工业大学	钱晓亮, 林生, 任航丽, 王慰	壹等
Multiple Solutions of Double Phase Variational Problems with Variable Exponent	郑州轻工业大学	师夏阳	壹等
Supplier portfolio of key outsourcing parts selection using a two-stage decision making framework for Chinese domestic auto-maker	郑州轻工业大学	周福礼	壹等
Deriving the personalized individual semantics of linguistic information from flexible linguistic preference relations	郑州轻工业大学	姜乐, 刘红彬, 马悦, 李永凤	壹等
中国作物秸秆资源利用潜力的多适宜性综合评价	郑州轻工业大学	曹志宏, 郝晋珉	壹等
Efficient medical big data management with keyword-searchable encryption in healthchain	郑州轻工业大学, 北京邮电大学, Muroran Institute of Technology	李朝阳, 李剑, 陈秀波, 董冕雄, 太田香	壹等
Starch granule sizes and degradation in sweet potatoes during storage	郑州师范学院	牛苏燕	壹等
The Hybrid Similar Neighborhood Robust Factorization Machine Model for Can Bus Intrusion Detection in the In-Vehicle Network	郑州师范学院	何宇矗, 贾志娟, 胡明生, 崔驰, 程亚歌, 杨艳艳	壹等
城市轨道交通运营安全管理协同机制分析	郑州铁路职业技术学院	李亚	壹等
A Double-Helix Metal-Chain Metal-Organic Framework as a High-Output Triboelectric Nanogenerator Material for Self-Powered Anticorrosion.	中原工学院	邵志超	壹等
A new synergetic system based on triboelectric nanogenerator and corrosion inhibitor for enhanced anticorrosion performance	中原工学院	崔思文, 艾文英, 关晓艳	壹等
Homogeneous and Fast Li-Ion Transport Enabled by a Novel Metal-Organic-Framework-Based Succinonitrile Electrolyte for Dendrite Free Li Deposition	中原工学院	韩点点	壹等
Dynamic multifield coupling model of gas drainage and a new remedy method for borehole leakage	中原工学院	张钧祥, 李波, 刘彦伟, 李鹏, 陈亮, 付江伟, 丁鹏初	壹等
Synergistic enhancement effect of recycled fine powder (RFP) cement paste and carbonation on recycled aggregates performances and its mechanism	中原工学院	边亚东, 李忠	壹等
Parametric investigation of thermal-hydrodynamic performance in the innovative helically coiled heat exchangers in the heat pump system	中原工学院	刘献飞, 王方, 李志强, 朱彩霞	壹等



项目名称	主要完成单位	主要完成人	奖励等级
Multi-strategy fusion differential evolution algorithm for UAV path planning in complex environment	中原工学院	柴旭朝	壹等
Human Gait Data Augmentation and Trajectory Prediction for Lower-Limb Rehabilitation Robot Control Using GANs and Attention Mechanism	中原工学院	王燕, 廖伍代	壹等
Conservation laws, periodic and rational solutions for an extended modified Korteweg-de Vries equation	中原工学院	王鑫, 张建林, 王雷	壹等
A self-organized speciation based multi-objective particle swarm optimizer for multimodal multi-objective problems	中原工学院	瞿博阳	壹等
Dynamic economic emission dispatch based on multi-objective pigeon-inspired optimization with double disturbance	中原工学院	闫李	壹等
DLSE-Net: A Robust Weakly Supervised Network for Fabric Defect Detection	中原工学院	刘洲峰, 霍昭辰, 李春雷, 董燕, 李碧草	壹等
Innovation Efficiency Evaluation Based on a Two-Stage DEA Model with Shared-Input: A Case of Patent-Intensive Industry in China	中原工学院	王小黎, 刘云, 陈领弟	壹等
Experimental study on the preparation and cool storage performance of a phase change micro-capsule cold storage material	中原工学院, 西安建筑科技大学	郑慧凡, 田国记, 赵亚辉, 辛鑫, 杨晨伟, 曹露函, 马原青	壹等
Chromatin architectures are associated with response to dark treatment in the oil crop Sesamum indicum, based on a high quality genome assembly	周口师范学院	李超琼	壹等
Genome-wide analysis of Jatropha curcas MADS-box gene family and functional characterization of the JcMADS40 gene in transgenic rice	周口师范学院	唐跃辉, 杨同文	壹等
Dynamic Autonomous Cross Consortium Chain Mechanism in e-Healthcare	周口师范学院	乔蕊	壹等
EV-Based reconfigurable smart grid management using support vector regression learning technique machine learning	周口师范学院	姜静	壹等
Adversarial domain adaptation convolutional neural network for intelligent recognition of bearing faults	安阳工学院	吴耀春, 马洪儒, 杜少华, 武杰	贰等
m-CAr-H Bond Alkylations and Difluoromethylation of Tertiary Phosphines Using a Ruthenium Catalyst	安阳师范学院	李刚	贰等
Pd-Catalyzed Borylsilylative Cyclization of 1,6-Allenynes	安阳师范学院	杨占涛	贰等
Copper-catalyzed regioselective 1,4-sulfonylcyanation of 1,3-enynes with sulfonyl chlorides and TMSCN	安阳师范学院	吕允贺, 蒲卫亚	贰等
Borylative Cyclization of 1,6-Allenynes Driven by BC13	安阳师范学院	杨春华	贰等
Deformation analysis of deep foundation pit excavation in China under time-space effect	安阳师范学院	张庆伟	贰等

项目名称	主要完成单位	主要完成人	奖励等级
基于遗传BP神经网络的煤矿爆破振动特征参量预测	安阳师范学院	张士科	贰等
河南省城镇化与水资源的耦合协调发展研究	安阳师范学院	焦士兴, 王安周, 李青云	贰等
河南省承接产业转移区域差异及影响因素	安阳师范学院	张建伟, 肖文杰	贰等
Multifractal analysis in non-uniformly hyperbolic interval maps	安阳师范学院	马冠忠	贰等
基于熵权TOPSIS的区域工业绿色制造水平评价研究	安阳师范学院	王鸣涛	贰等
新塑料乒乓球实施后优秀运动员战术能力特征研究	河南财经政法大学	徐君伟	贰等
Smallholder farmers' behavioral preferences under the impact of climate change: A comparative analysis of two agricultural areas in China	河南财经政法大学, 郑州大学, 国家行政学院	彭宇芳, 魏朋邦, 程琳轶, 许正中	贰等
Novel binuclear and trinuclear metal (II) complexes: DNA interactions and in vitro anticancer activity through apoptosis	河南城建学院	赵振新	贰等
酸性氧化物对脱硝催化剂催化性能的促进机制研究	河南城建学院	宋忠贤, 刘盼, 扶咏梅, 黄真真, 康海彦, 毛艳丽, 刘彪	贰等
Performance of plastic concrete under true tri-axial compressive stress	河南城建学院	宋帅奇	贰等
A Fuzzy Analytical Process to Assess the Risk of Disaster when Backfill Mining Under Aquifers and Buildings	河南城建学院	刘佳维	贰等
Study on Performance Parameters of Short-Secondary Type Slotless Permanent Magnet Linear Synchronous Motor Based on Analytic Method	河南城建学院, 沈阳工程学院	刘豪, 殷孝睢	贰等
Mixed solvent-mediated exfoliation of graphene invoked by synergistic effect of steric hindrance and hydrogen bond for improved electrochemical performance on its polymeric composites	河南大学	陈建平	贰等
Metal Sulfides for Photocatalytic Hydrogen Production: Current Development and Future Challenges	河南大学	张公信, 关中杰, 杨建军, 李秋叶	贰等
Synthesis and structures of unsymmetrical bull' s horn-shaped heptathienoacenes with isomeric location of sulfur atoms	河南大学	张超	贰等
Selenophene-Based Heteroacenes: Synthesis, Structures, and Physicochemical Behaviors	河南大学	徐婉, 王萌杰, 单震, 李春丽, 王华	贰等
Skeletal remodeling of chalcone-based pyridinium salts to access isoindoline polycycles and their bridged derivatives	河南大学	王琪琳	贰等
Role of Oxygen Vacancies on Oxygen Evolution Reaction Activity: $\beta$ -Ga <sub>2</sub> O <sub>3</sub> as a Case Study	河南大学	刘太丰	贰等
Succinimide-KI: An efficient binary catalyst system for mild, solvent-free cycloaddition of CO <sub>2</sub> to epoxides	河南大学	李庆硕, 常海波, 乔聪震	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Homochiral Double Helicates based on Cyclooctatetrathiophene: Chiral Self-sorting with the Intramolecular S · · · N Interaction	河南大学	王光霞, 马志英, 徐莉	贰等
Lanthanum hydroxide: a highly efficient and selective adsorbent for arsenate removal from aqueous solution	河南大学	王玉龙, 刘颜红	贰等
The high chlorophyll fluorescence 244 (HCF244) is potentially involved in glutathione peroxidase 7-regulated high light stress in Arabidopsis thaliana	河南大学	李坤, 郭敬功, 杨凤博, 苗雨晨	贰等
Rapid detection of ractopamine and salbutamol in swine urine by immunochromatography based on selenium nanoparticles	河南大学	王志增, 郭亚飞	贰等
Accuracy of space-for-time substitution for vegetation state prediction following shrub restoration	河南大学	苗仁辉	贰等
A combination therapy of Phages and Antibiotics: Two is better than one	河南大学	滕铁山	贰等
Intramuscular and intranasal immunization with an H7N9 influenza virus like particle vaccine protects mice against lethal influenza virus challenge	河南大学	任志广, 杨争艳	贰等
Genome-Wide Analysis of the RAV Gene Family in Wheat and Functional Identification of TaRAV1 in Salt Stress.	河南大学	罗运鑫, 陈守坤, 王鹏丹, 彭德, 张旭, 李海峰, 冯翠珠	贰等
A Highly Sensitive Electrochemical Sensor Based on beta-cyclodextrin Functionalized Multi-Wall Carbon Nanotubes and Fe3O4 Nanoparticles for Rutin Detection	河南大学	洪军	贰等
Characterization of WRKY gene family in whole-genome and exploration of flowering improvement genes in Chrysanthemum lavandulifolium	河南大学	康冬茹, 巫祎飞, 王莹, 艾鹏慧, 王子成	贰等
Quench treatment cytochrome c: Transformation from a classical redox protein to a peroxidase like enzyme	河南大学	肖保林	贰等
1,25(OH)2D3 alleviates DSS-induced ulcerative colitis via inhibiting NLRP3 inflammasome activation	河南大学	曹润, 马雨婷, 李少伟	贰等
Short-term efficacy of transvaginal specimen extraction for right colon cancer based on propensity score matching: A retrospective cohort study	河南大学	李兴旺, 王晨宇, 张军杰, 葛政, 林旭红, 胡军红	贰等
Sirt2 epigenetically down-regulates PDGFR $\alpha$ expression and promotes CG4 cell differentiation	河南大学	房娜, 季少平	贰等
PEST-containing nuclear protein mediates the proliferation, migration, and invasion of human neuroblastoma cells through MAPK and PI3K/AKT/mTOR signaling pathways	河南大学	吴东栋, 李涛, 王大勇, 魏建设, 姬新颖	贰等
Calycosin inhibits viability, induces apoptosis, and suppresses invasion of cervical cancer cells by upregulating tumor suppressor miR-375	河南大学	张冬丽, 孙桂霞, 田君, 张红霞	贰等
Synthesis and biological evaluation of genistein- O-alkylamine derivatives as potential multifunctional anti- Alzheimer agents	河南大学	洪琛, 张鑫, 罗稳	贰等
Vitamin K2 enhances fat degradation to improve the survival of C. elegans	河南大学	曲直, 张璐, 黄巍, 郑善清	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Inflammatory Response and Oxidative Stress as Mechanism of Reducing Hyperuricemia of Gardenia jasminoides-Poria cocos with Network Pharmacology	河南大学	刘丽军	贰等
胸腔镜辅助食管癌根治横结肠代食管术视频要点	河南大学	董彦军, 任廷楷, 张丁乾, 杨忠信, 张双林	贰等
氟保护漆与GC护牙素在正畸治疗中抑制 牙釉质脱矿的临床效果研究	河南大学	朱永翠, 翟蕾, 时光辉, 贾杰, 郭靖	贰等
异甘草素通过调节VEGFA/NF- $\kappa$ B通路抑制高糖诱导的ARPE-19细胞增殖、迁移	河南大学	洪萌, 李权达	贰等
Mechanical Properties of Na-montmorillonite modified EICP-treated Silty Sand	河南大学	原华, 刘康, 赵志亮	贰等
Multi-scenario simulation of production-living-ecological space and ecological effects based on shared socioeconomic pathways in Zhengzhou, China	河南大学	姜欣彤, 翟石艳, 刘欢, 陈静, 朱悦悦, 王铮	贰等
Odd graph and its applications to the strong edge coloring	河南大学	王涛, 赵晓丹	贰等
A fully-decoupled discontinuous Galerkin approximation of the Cahn-Hilliard-Brinkman-Ohta-Kawasaki tumor growth model	河南大学	邹广安	贰等
Robust EEG feature learning model based on an adaptive weight and pairwise-fused LASSO	河南大学	杨利军	贰等
On a conservative Fourier spectral Galerkin method for cubic nonlinear Schrodinger equation with fractional Laplacian	河南大学	王波	贰等
A Dense RNN for Sequential Four-Chamber View Left Ventricle Wall Segmentation and Cardiac State Estimation	河南大学	王崧, 张婉君	贰等
政府低碳补贴的最优监管策略及其最优边界问题	河南大学	董莉莉	贰等
Difference in returns to schooling between formal and informal employment in China	河南大学	李麦收	贰等
Cool down emotion, don' t be fickle! The role of paradoxical leadership in the relationship between emotional stability and creativity	河南大学	朴寅祚	贰等
Does private supplementary tutoring matter in Chinese students' learning of mathematics: a longitudinal study	河南大学	张玉环, 崔成成, 何雅涵, 王立东	贰等
An on-demand service platform with self-scheduling capacity: Uniform versus multiplier-based pricing	河南大学	陈铭洋	贰等
A Bibliometric and Visualization Analysis of Intermittent Fasting	河南大学	刘海涛	贰等
未意识到错误影响错误后调整的电生理证据	河南大学	王丽君, 索涛, 赵国祥	贰等

项目名称	主要完成单位	主要完成人	奖励等级
The Short-Term Impact of Animation on the Executive Function of Children Aged 4 to 7	河南大学, 平顶山学院	范丽恒, 詹美晨, 青文静, 高潭, 王梦影	贰等
Solvent triggering structural changes for two terbium-based metal-organic frameworks and their photoluminescence sensing	河南工程学院	岳丹, 王艳艳, 陈栋, 王振领	贰等
The isotopomer ratios of N2O in the Shaying River, the upper Huai River network, Eastern China: The significances of mechanisms and productions of N2O in the heavy ammonia polluted rivers	河南工程学院	马培, 刘帅霞	贰等
An attempt to enhance water flux of hollow fiber polyamide composite nanofiltration membrane by the incorporation of hydrophilic and compatible PPTA/PSF microparticles	河南工程学院	石文英, 李腾飞, 李红宾, 杜启云, 张海霞, 覃小红	贰等
Discharged energy density and efficiency of nanocomposites based on poly (vinylidene fluoride) and core-shell structured BaTiO <sub>3</sub> @Al <sub>2</sub> O <sub>3</sub> nanoparticles	河南工程学院	刘少辉, 王娇, 郝好山, 赵利敏, 翟继卫	贰等
Preparation and thermophysical properties of Lu <sub>3</sub> TaO <sub>7</sub>	河南工程学院	桑玮玮	贰等
Exploiting PET-RAFT polymerization mediated by cross-linked zinc porphyrins for the thermo-sensitive regulation of poly (N-isopropylacrylamide-b-acrylamide)	河南工程学院	李帆帆, 于毅	贰等
Finite time extended dissipative control for a class of linear neutral semi-Markovian jumping systems under event-triggering scheme	河南工程学院	丁志帅, 程桂芳	贰等
Torsion pairs in recollements of abelian categories	河南工程学院	马欣, 黄兆泳	贰等
Ferroelectric and magnetoelectric origins of multiferroic SmCrO <sub>3</sub>	河南工程学院	丁俊, 文黎巍	贰等
Performance optimization and parameter design of a benzene molecule heat engine	河南工程学院	李海东, 王远	贰等
An Efficient Correlation-Based Reception Scheme for Satellite Communications	河南工程学院	余忠洋	贰等
Plasmon coupling nanorice trimer for ultrahigh enhancement of hyper-Raman scattering	河南工程学院	朱双美	贰等
基于惩罚似然比的高维空间相关过程EWMA质量监控模型	河南工程学院	张帅	贰等
Bioinformatic prediction of the structure and characteristics of human sperm acrosome membrane-associated protein 1 (hSAMP32) and evaluation of its antifertility function in vivo	河南工程学院, 郑州大学	张天伍, 王芳, 刘锦	贰等
Development and Analysis of Educational Virtual Reality System Using Static Image	河南工学院	张茜, 李扬波	贰等
政府支持、创新环境与工业企业研发	河南工学院	赵天宇	贰等
Analytical study on the dynamic characteristics of multiple gas-filled spherical bubbles in typical spatial locations	河南工学院, 大连理工大学	秦玉鹏, 王振, 邹丽, 宗智	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Understanding of the Ignition Behavior of n-Heptane Spray in Constant Volume Combustion Bombs Focusing on Chemical Kinetics	河南工学院, 大连理工大学	范玮卫, 常亚超, 贾明, 刘刚	贰等
Stable LBL self-assembly coating porous membrane with 3D heterostructure for enhanced water treatment under visible light irradiation	河南工业大学	史亚慧, 刘永德, 李进松	贰等
Engineering heterostructure and crystallinity of Ru/RuS <sub>2</sub> nanoparticle composited with N-doped graphene as electrocatalysts for alkaline hydrogen evolution	河南工业大学	孙旭燭	贰等
In situ growth CNT@MOFs core-shell structures enabling high specific supercapacitances in neutral aqueous electrolyte	河南工业大学	卢明霞, 杨喜平	贰等
Design of 3D lightweight Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> MXene porous film with graded holes for efficient electromagnetic interference shielding performance	河南工业大学	陈倩倩, 崔巍, 贾雲超, 徐三魁	贰等
Synthesis and characterization of double-network hydrogels based on sodium alginate and halloysite for slow release fertilizers	河南工业大学	申艳敏	贰等
Hydrothermally synthesized ZnO-RGO-PPy for water-borne epoxy nanocomposite coating with anticorrosive reinforcement	河南工业大学	朱青松, 赵耀, 苗保记	贰等
Effect of heat treatment temperature on mechanical and tribological	河南工业大学	王培, 魏凤春, 郭永刚	贰等
Novel Structured Sm <sub>0.5</sub> Sr <sub>0.5</sub> CoO <sub>3-δ</sub> Cathode for Intermediate and Low Temperature Solid Oxide Fuel Cells	河南工业大学	陈静	贰等
The design of single iron atoms dispersed with nitrogen coordination environment electrocatalyst for zinc-air battery	河南工业大学	蔡世昌	贰等
The synergistic supercapacitive performance of Mo-MOF/PANI and its electrochemical impedance spectroscopy investigation	河南工业大学	许元栋, 张霞, 李丹青, 董朝阳, 史建国	贰等
The art of framework construction: hollow-structured materials toward high-efficiency electromagnetic wave absorption	河南工业大学	程博, 靳笑天	贰等
High-performance microstructured Au-Ag bimetallic catalyst for oxidative coupling of methanol to methyl formate	河南工业大学	张巧飞, 朱春山	贰等
Sr doping effect on the structure property and NO oxidation performance of dual-site doped perovskite La(Sr)Co(Fe)O <sub>3</sub>	河南工业大学	郭丽红, 李莹	贰等
Reaction kinetics and properties of VN/CrN nanocomposite via microwave in situ synthesis	河南工业大学	赵志伟, 千雁菊, 赵小苗, 杨宝震, 卢新坡, 关春龙	贰等
Effect of glucose levels on carbon flow rate, antioxidant status, and enzyme activity of yeast during fermentation	河南工业大学	谢东东	贰等
Effects of Cysteine on Physicochemical Properties of High-Moisture Extrudates Prepared from Plant Protein	河南工业大学	代慧慧, 安红周	贰等
Gastrointestinal digestive fate of whey protein isolate coated liposomes loading astaxanthin: Lipolysis, release, and bioaccessibility	河南工业大学	潘丽	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Study on sampling scheme for detecting mycotoxin during wheat storage	河南工业大学	伊艳杰, 樊坤, 单友田, 周显青, 张玉荣, 张慧茹	贰等
Autophagy induction and antiproliferative effect of a novel curcumin derivative MOMI-1 on the human lung cancer cells A549	河南工业大学	周广舟, 石妍妍	贰等
Large-scale shaking table test on tall buildings with viscous dampers considering pile-soil-structure interaction	河南工业大学	杨金平	贰等
Shaking table tests on a small-scale steel cylindrical silo model in different filling conditions	河南工业大学	静行, 陈慧芳	贰等
粮食筒仓储粮和卸粮状态下的仓壁侧压力试验研究	河南工业大学	王振清, 李莹, 刘海燕, 孟伟新, 徐向楠, 刘旭	贰等
Coupled translational-torsional response for SRC frame with special-shaped columns under earthquake	河南工业大学	周超锋	贰等
CuS Hollow Nanospheres/Cellulose Composite Film as a Recyclable Interfacial Photothermal Evaporator for Solar Steam Generation	河南工业大学	尚蒙娅, 徐善弘, 李金玲, 孙浩炯, 彭进, 张猛	贰等
Molecular insights into gas hydrate formation in the presence of graphene oxide solid surfaces	河南工业大学	刘杨	贰等
CGAN Based Improved ASI Retrieval Algorithm for Antarctic Sea Ice Concentration	河南工业大学	王星东	贰等
A fully discrete local discontinuous Galerkin method with the generalized numerical flux to solve the tempered fractional reaction-diffusion equation	河南工业大学	韦雷雷, 何银年	贰等
Graph regularized locally linear embedding for unsupervised feature selection	河南工业大学	苗建雨, 杨铁军, 孙丽君, 费选, 牛凌峰, 石勇	贰等
Event-based dissipative analysis for discrete time-delay singular stochastic systems	河南工业大学	张应奇	贰等
Existence of solution for a quasilinear elliptic Neumann problem involving multiple critical exponents	河南工业大学	李圆晓, 王喜英	贰等
Longtime behavior for an extensible beam equation with rotational inertia and structural nonlinear damping	河南工业大学	丁鹏燕, 杨志坚	贰等
Power surplus solutions for weighted hypergraph communication situations	河南工业大学	李向辉, Reinoud Joosten, 李扬	贰等
Multiple attention based encoder-decoder networks for gas meter character recognition	河南工业大学	李卫东, 王帅, Inam Ullah, 段金龙	贰等
A note on $\pi$ -partial characters of $\pi$ -separable groups	河南工业大学	陈晓友	贰等
Three body radiative decay $B_s \rightarrow \phi K^0 \gamma$ in the PQCD approach	河南工业大学	张志清, 郭红霞	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Tuning method of phononic band gaps of locally resonant pentamode metamaterials	河南工业大学	蔡成欣, 韩超, 吴剑峰, 王兆宏, 张庆辉	贰等
Chinese College English Teachers' Ability to Develop Students' Informationized Learning in the Era of Big Data: Status and Suggestions	河南工业大学	沈国荣	贰等
Effects of La on microstructure and mechanical properties of NbMoTiVSi <sub>0.2</sub> refractory high entropy alloys	河南工业大学, 哈尔滨工业大学, 广东(东莞)材料基因高等理工研究院	徐琴, 陈德志, 王聪锐, 曹文超, 王琪, 张书彦, 陈瑞润	贰等
Online scheduling on a single machine with linear deteriorating processing times and delivery times	河南工业大学, 郑州大学	柴幸, 李文华, 王利博	贰等
基于ANSYS/LS-DYNA的磷矿开采状态下的地应力研究	河南工业和信息化职业学院	许江涛	贰等
数字时代匿名化个人信息处理的正当性问题	河南警察学院	王勇旗	贰等
Synthesis, microstructure and mechanical properties of a MoAlB ceramic prepared by spark plasma sintering from elemental powders	河南科技大学	王帅, 杜三明, 张永振	贰等
Effect of coexistence of defect and dopant on the quantum capacitance of graphene-based supercapacitors electrodes	河南科技大学	周清晓, 琚伟伟, 刘妍伶, 李嘉慧, 张倩	贰等
Stretchable vertical graphene arrays for electronic skin with multifunctional sensing capabilities	河南科技大学	姚大虎, 高喜平, 陆昶	贰等
Crucial roles of graphene oxide in preparing alginate/nanofibrillated cellulose double network composites hydrogels	河南科技大学	刘红宇, 潘炳力, 杜西刚	贰等
Addition of Chlorella sorokiniana meal in the diet of juvenile rainbow trout ( <i>Oncorhynchus mykiss</i> ): Influence on fish growth, gut histology, oxidative stress, immune response, and disease resistance against <i>Aeromonas</i>	河南科技大学	高世阳	贰等
Chemistry and biology of nuciferine	河南科技大学	黄晓博, 陈根强, 刘圣明, 车志平	贰等
Transcriptome analysis reveals the responsive pathways to potassium (K <sup>+</sup> ) deficiency in the roots and shoots of grapevines	河南科技大学	韦同路	贰等
Dietary sodium butyrate supplementation attenuates intestinal inflammatory response and improves gut microbiota composition in largemouth bass ( <i>Micropterus salmoides</i> ) fed with a high soybean meal diet	河南科技大学	陈卫军	贰等
In vitro and in vivo Activity of Phibilin Against <i>Candida albicans</i>	河南科技大学	李钟杰, 李莎莎, 邓博, 张文璐	贰等
An efficient method to improve the stability of submerged functionally graded cylindrical shell	河南科技大学	李戎, 刘林霞, 梁斌, 杨萌	贰等
Simulation and experiment on sealing mechanism with rigid-flexible combined seal groove in hub bearing	河南科技大学, 河南工学院, 浙江兆丰机电股份有限公司	张帅, 邓四二, 张文虎, 康乃正	贰等



项目名称	主要完成单位	主要完成人	奖励等级
Influence of growth temperature on structure, optical and electrical properties of nickel oxide films by magnetron sputtering	河南科技大学, 吉林建筑大学	王辉, 杨帆, 甄志强, 李新忠, 李秋泽, 李静杰	贰等
Impact damage assessment in patch-repaired carbon fiber-reinforced polymer laminates using the nonlinear Lamb wave-mixing technique	河南科技大学, 郑州大学	尹振华, 铁瑛, 李成, 陈栋	贰等
Nanostructured zeolitic imidazolate framework-67 reinforced poly (ethylene oxide) composite electrolytes for all solid state Lithium ion batteries	河南科技学院	赵二庆, 郭玉娣, 刘亚茹, 刘善芹, 许光日	贰等
Multi-omics analysis reveals the influence of tetracycline on the growth of ryegrass root	河南科技学院	韩涛	贰等
Efficient synthesis of diphenyl carbonate from CO <sub>2</sub> , phenol, and carbon tetrachloride under mild conditions	河南科技学院	王松林, 杨鹏, 张齐英, 牛红英	贰等
Transcriptome analysis of Spodoptera litura reveals the molecular mechanism to pyrethroids resistance	河南科技学院	徐莉	贰等
Identification and assessment of pathogenicity of a naturally reassorted infectious bursal disease virus from Henan, China	河南科技学院	王秋霞, 陈光丽, 刘海林, 余燕, 张艳红, 马金友	贰等
Investigating the potential mechanism of pydiflumetofen resistance in Sclerotinia sclerotiorum	河南科技学院	周锋, 胡海燕, 李成伟	贰等
Multi-perspective Dynamic Features for Cross-database Face Presentation Attack Detection	河南科技学院	马玉琨, 徐姚文, 刘方昊	贰等
Effect of different gypsum dosage on the chloride binding properties of C4AF hydrated paste	河南理工大学	薛江伟, 刘松辉, 马小娥	贰等
白砂岩卸围压强度与损伤破坏特征	河南理工大学	王云飞	贰等
Study on the difference of pore structure of anthracite under different particle sizes using low temperature nitrogen adsorption method	河南理工大学	戚灵灵, 周晓庆, 彭信山	贰等
Sensing platform of PdO-ZnO-In <sub>2</sub> O <sub>3</sub> nanofibers using MOF templated catalysts for triethylamine detection	河南理工大学	郭兰兰, 王国东	贰等
Aflatoxin B1 disrupts the intestinal barrier integrity by reducing junction protein and promoting apoptosis in pigs and mice	河南牧业经济学院	张曼, 李庆豪, 王军, 孙娟, 项玉强, 金鑫	贰等
MicroRNA-124 inhibits canine mammary carcinoma cell proliferation, migration and invasion by targeting CDH2	河南牧业经济学院	任晓丽, 范玉莹, 石冬梅, 徐恩爽, 刘云	贰等
The novel zoonotic pathogen, Anaplasma capra, infects human erythrocytes, HL-60, and TF-1 cells in vitro	河南牧业经济学院	彭永帅, 卢晨阳, 闫亚群, 宁长申	贰等
Flux concentrating multi-tooth splitting poles permanent magnet vernier machine cogging torque optimization and experimental verification	河南牧业经济学院, 河南工程学院	孔婉琦, 张洋, 黄明明, 黄全振	贰等
Cu(I)-Catalyzed Oxidative Cyclization of Enynamides: Regioselective Access to Cyclopentadiene Frameworks and 2-Aminofurans	河南农业大学	申文波, 唐香婷, 张婷婷, 刘思雨, 何江曼, 苏同福	贰等

项目名称	主要完成单位	主要完成人	奖励等级
High Interfacial Thermal Stability of Flexible Flake-Structured Aluminum Thin-Film Electrodes for Bi <sub>2</sub> Te <sub>3</sub> Based Thermoelectric Devices	河南农业大学	王亚玲, 李文强, 刘小标, 李辉, 谭明	贰等
Reversible Near-Infrared Fluorescent Probe for Rapid Sensing Sulfur Dioxide and Formaldehyde: Recognition and Photoactivation Mechanism and Applications in Bioimaging and Encryption Ink	河南农业大学	刘立杰	贰等
Hollow cubic MnS-CoS <sub>2</sub> -NC@NC designed by two kinds of nitrogen-doped carbon strategy for sodium ion batteries with ultraordinary rate and cycling performance	河南农业大学	董玉涛, 盛夏, 张建民	贰等
Underlying mechanism of accelerated cell death and multiple disease resistance in a maize lethal leaf spot 1 allele	河南农业大学	李见坤, 母小焕, 师翠兰, 牛洪斌, 苟明月	贰等
Splenic-targeting biomimetic nanovaccine for elevating protective immunity against virus infection	河南农业大学	何华	贰等
Physical mapping of stem rust resistance gene Sr52 from <i>Dasypyrum villosum</i> based on ph1b-induced homoeologous recombination	河南农业大学	李欢欢, 刘文轩	贰等
BsTup1 is required for growth, conidiogenesis, stress response and pathogenicity of <i>Bipolaris sorokiniana</i>	河南农业大学	马庆周, 武海燕, 谢顺培, 赵炳森, 尹新明, 丁胜利, 郭雅双,	贰等
Functional characterization and regulatory mechanism of wheat CPK34 kinase in response to drought stress	河南农业大学	李鸽子, 王鹏飞, 肖向红, 康国章	贰等
1Selenium supply alters the subcellular distribution and chemical forms of cadmium and the expression of transporter genes involved in cadmium uptake and translocation in winter wheat ( <i>Triticum aestivum</i> )	河南农业大学	聂兆君, 王祎, 刘红恩	贰等
A PAS Protein Directs Metabolic Reprogramming during Cryptococcal Adaptation to Hypoxia	河南农业大学	赵友宝	贰等
Afaxin B1 alters meat quality associated with oxidative stress, inflammation, and gut-microbiota in sheep	河南农业大学	曹芹芹, 林露茜, 徐婷婷, 卢莹, 张朝栋, 岳珂, 黄淑成, 董海	贰等
Advances in the development of microbial double-stranded RNA production systems for application of RNA interference in agricultural pest control	河南农业大学	关若冰, 楚冬冬, 李海超	贰等
Differences in Humoral Immune Response against the Type 2 Porcine Reproductive and Respiratory Syndrome Virus via Different Immune Pathways	河南农业大学	张宜娜	贰等
The basic helix-loop-helix transcription factor OsBLR1 regulates leaf angle in rice via brassinosteroid signalling	河南农业大学	赵文丽	贰等
Comparative morpho-physiological analyses revealed H2O2-Induced different cadmium accumulation in two wheat cultivars ( <i>Triticum aestivum</i> L.)	河南农业大学	高巍, 王效瑾, 于冲冲, 冯文静, 化党领	贰等
<i>Bacillus velezensis</i> EEAM 10B Strengthens Nutrient Metabolic Process in Black Soldier Fly Larvae ( <i>Hermetia illucens</i> ) via Changing Gut Microbiome and Metabolic Pathways	河南农业大学	裴亚欣, 赵思捷, 陈想, 张继冉, 倪宏宇航, 孙梦晓, 刘新育, 杨森	贰等
Effect and mechanism of peanut skin proanthocyanidins on gliadin-induced Caco-2 celiac disease model cells	河南农业大学	王娜, 崔晨旭, 徐超, 余秋颖	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Soil nematode community and crop productivity in response to 5-year biochar and manure addition to yellow cinnamon soil	河南农业大学	李慧	贰等
Interactions of bacterial-feeding nematodes and indole-3-acetic acid (IAA)-producing bacteria promotes growth of Arabidopsis thaliana by regulating soil auxin status	河南农业大学	姜瑛	贰等
Development of an Effective Double Antigen Sandwich ELISA Based on p30 Protein to Detect Antibodies against African Swine Fever Virus	河南农业大学	王梦翔, 宋金星, 孙俊如, 杜永坤, 秦晓东, 夏璐, 吴亚楠	贰等
Porcine reproductive and respiratory syndrome virus non-structural protein 4 cleaves guanylate-binding protein 1 via its cysteine proteinase activity to antagonize GBP1 antiviral effect	河南农业大学	段红, 张昂克	贰等
A new monooxygenase from Herbaspirillum huttiense catalyzed highly enantioselective epoxidation of allylbenzenes and allylic alcohols	河南农业大学	林晖, 唐燕红, 董爽, 郎瑞博, 陈红歌	贰等
花生致敏蛋白Ara h1与咖啡酸互作对其抗原性的影响	河南农业大学	任红涛, 石奇磊, 李静, 王凡, 胡梅	贰等
Review of zoonotic amebiasis: Epidemiology, clinical signs, diagnosis, treatment, prevention and control	河南农业大学	李俊强, 李晓迎	贰等
Nuf2 is a prognostic-related biomarker and correlated with immune infiltrates in hepatocellular carcinoma	河南农业大学	李祥	贰等
Safety assessment of sand casting explosion accidents through on-site testing and numerical simulation of the temperature variation in sand molds to protect employee health	河南农业大学	徐青伟	贰等
Non-uniform continuity on initial data for a Camassa-Holm-type equation in Besov space	河南农业大学	吴星, 肖羽	贰等
带弱阻尼Navier-Stokes方程拉回吸引子的收敛性	河南农业大学	曹洁	贰等
Detecting Personal Medication Intake in Twitter via Domain Attention-Based RNN with Multi-Level Features	河南农业大学	熊蜀峰, 席磊, 孙昌霞	贰等
An investigation of the targeting and allocation of post-flood disaster aid for rehabilitation in Punjab, Pakistan	河南农业大学	Muhammad Irshad Ahmad, 马恒运	贰等
品牌延伸对母品牌顾客资产驱动要素的影响——基于构型理论的实证研究	河南农业大学	张君慧, 邵景波	贰等
The Microcosmic Mechanism and Empirical Test of Uncertainty on the Non-linear Fluctuation of Chinese Grain Prices-Based on the Perspective of Global Economic Policy Uncertainty	河南农业大学	花俊国, 丁婧, 靳馥同	贰等
The Economic Impact of Climate Change on Wheat and Maize Yields in the North China Plain	河南农业大学	宋春晓, 黄笑	贰等
Multidimensional research on agrometeorological disasters based on grey BP neural network	河南农业大学	李炳军, 张淑华	贰等

项目名称	主要完成单位	主要完成人	奖励等级
SUBSIDY AND PRICING STRATEGIES OF AN AGRI-FOOD SUPPLY CHAIN CONSIDERING THE APPLICATION OF BIG DATA AND BLOCKCHAIN	河南农业大学	刘盼, 张自冉, 董奋义	贰等
考虑政府补贴和不同回收渠道的再制造闭环供应链最优决策研究	河南农业大学	郭三党, 荆亚倩, 李倩	贰等
中国国家大学科技园运行效率研究	河南农业大学	沙德春, 荆晶	贰等
Can “green food” certification achieve both sustainable practices and economic benefits in a transitional economy? The case of kiwifruit growers in Henan province, China	河南农业大学	刘瑞峰	贰等
Effect of combined strategy on mitigating air pollution in China	河南农业大学	贾书伟	贰等
Effect of the Combined Compound Probiotics with Glycyrrhinic Acid on Alleviating Cytotoxicity of IPEC-J2 Cells Induced by Multi-Mycotoxins	河南农业大学, 河南德邻生物制品有限公司, 河南普爱饲料股份有限公司	王利军, 王晓敏, 尹清强, 朱群, 卢富山	贰等
Evolutionary characterization of miR396s in Poaceae exemplified by their genetic effects in wheat and maize	河南农业大学, 中国科学院分子植物科学卓越创新中心	于延文, 申彦洁, 张坤普, 时振英	贰等
P2-layered Na <sub>0.5</sub> Li <sub>0.07</sub> Mn <sub>0.61</sub> Co <sub>0.16</sub> Ni <sub>0.16</sub> O <sub>2</sub> cathode boosted Na-storage properties via rational subgroup element doping	河南师范大学	代冬梅	贰等
The screening and identification of DNA barcode sequences for Rehmannia	河南师范大学	段红英, 王婉坤, 曾云鹏, 郭萌萌, 周延清	贰等
The regulatory role of apelin on the appetite and growth of common carp (Cyprinus Carpio L.)	河南师范大学	闫潇	贰等
Allelopathic effects and potential active substances of Ceratophyllum demersum L. on Chlorella vulgaris Beij.	河南师范大学	董静	贰等
基于机器学习的光纤故障数据信息快速排除方法	河南应用技术职业学院	吴华芹	贰等
Sinomenine relieves airway remodeling by inhibiting epithelial-mesenchymal transition through downregulating TGF- $\beta$ 1 and Smad3 expression in vitro and in vivo	河南中医药大学	贺红娟, 苗晋鑫	贰等
Systems Pharmacology and In Silico Docking Analysis Uncover Association of CA2, PPAR $\gamma$ , RXRA, and VDR with the Mechanisms Underlying the Shi Zhen Tea Formula Effect on Eczema	河南中医药大学	王真真	贰等
杜仲TIFY转录因子鉴定与表达分析	河南中医药大学	刘俊	贰等
Identification of Potential Key Genes in the Pathogenesis of Chronic Obstructive Pulmonary Disease Through Bioinformatics Analysis	河南中医药大学	关庆洲, 田燕歌, 张珍珍, 张蓝熙, 赵鹏	贰等
基于“脉积学说”论糖尿病大血管病变	河南中医药大学	符宇, 邵明义, 杜冰墨, 远佳瑶, 李蕾蕾, 李真	贰等

项目名称	主要完成单位	主要完成人	奖励等级
基于PI3K/AKT/NF- $\kappa$ B信号传导通路探讨大黄素对非酒精性脂肪性肝炎模型大鼠的影响	河南中医药大学	刘鸣昊, 张丽慧, 马庆亮, 赵文霞	贰等
Glycyrrhizic acid exhibits strong anticancer activity in colorectal cancer cells via SIRT3 inhibition	河南中医药大学	左振魁, 贺璐璐, 段晓宇	贰等
Pharmacokinetics, tissue distribution and excretion of five rhubarb anthraquinones in rats after oral administration of effective fraction of anthraquinones from rheum officinale	河南中医药大学	赵迪, 张浩杰, 张娜, 刘学芳, 万焱	贰等
消囊调经汤对非肥胖型多囊卵巢综合征患者卵巢储备及卵泡发育的影响	河南中医药大学	李潇, 李秋芳, 周艳艳	贰等
An Energy-Constrained Forwarding Scheme Based on Group Trustworthiness in Mobile Internet of Things	河南中医药大学	李继蕊	贰等
Online Social Support and Depressive Symptoms—Mediating Effect of Self-esteem and Gender Differences	河南中医药大学	张红坡, 李俊芝	贰等
Psychological Resilience and Career Success of Female Nurses in Central China: The Mediating Role of Craftsmanship	河南中医药大学	薛会元, 司晓娜, 王贺, 宋小认, 朱可可, 柳晓利, 张芬	贰等
新时代高校教育评价改革政策落实跟踪审计研究初探	河南中医药大学	孙睿敏	贰等
Xiao-Xu-Ming Decoction Reduced Mitophagy Activation and Improved Mitochondrial Function in Cerebral Ischemia and Reperfusion Injury	河南中医药大学, 郑州大学第三附属医院	兰瑞, 张勇, 吴涛, 马云枝, 王保奇, 郑海忠, 李亚娜, 王燕, 古	贰等
Sesquiterpenoids of diverse types from the rhizomes of Acorus calamus	河南中医药大学, 中国医学科学院药物研究所天然药物活性物质与功能国家重点实验室	郝志友, 刘彦飞, 曹彦刚	贰等
Floc properties and membrane fouling in coagulation/ultrafiltration process for the treatment of Xiaoqing River: The role of polymeric aluminum-polymer dual-coagulants	华北水利水电大学	李瑞华, 高宝玉, 王文语, 岳钦艳, 王燕	贰等
Structural transformations of growing thin colloidal crystals in confined space via convective assembly	华北水利水电大学	胡素梦, 康克家	贰等
Engineering Au Nanoclusters for Relay Luminescence Enhancement with Aggregation-Induced Emission	华北水利水电大学	周佩	贰等
Generic mathematical formulation of the total heat transfer coefficients between heated radiant floor surfaces and rooms	华北水利水电大学	王梅杰, 李盼盼, 刘伟杰	贰等
再生骨料透水混凝土关键性能统计及预测分析	华北水利水电大学	陈守开, 陈家林, 汪伦焰, 李海瑞, 郭磊	贰等
Prediction model of axially-loaded wood-dowel welding joints by high-speed rotation	华北水利水电大学	徐云, 高丹盈, ALEKSANDR G. CHERNYKH	贰等
Characteristics and Hazards Analysis of Vortex Shedding at the Inverted Siphon Outlet	华北水利水电大学	许新勇, 陈绥琦, 孟向阳, 蒋莉	贰等

项目名称	主要完成单位	主要完成人	奖励等级
A Weibull distribution-based method for the analysis of concrete fracture	华北水利水电大学	李列列	贰等
Influence of Animal/Plant Activated Biochar Properties on Methane Production from Corn Stalk by Anaerobic Fermentation	华北水利水电大学	张振, 田书建, 刘军	贰等
Long-term dam behavior prediction with deep learning on graphs	华北水利水电大学	何鹏, 潘建波, 李岳洋	贰等
Analysis of anomaly detection method for Internet of things based on deep learning	华北水利水电大学	马威	贰等
Clustering Routing Algorithm and Simulation of Internet of Things Perception Layer Based on Energy Balance	华北水利水电大学	徐燕	贰等
W-representation of Rainbow tensor model	华北水利水电大学	康贝	贰等
Multiple positive solutions for quasilinear elliptic problems with combined critical Sobolev-Hardy terms	华北水利水电大学	李园园	贰等
A three-term derivative-free projection method for convex constrained monotone equations	华北水利水电大学	曹海松	贰等
智能制造环境下的备件生产与运输协同调度问题研究	华北水利水电大学	何珮洋, 李昆鹏, 李文莉	贰等
Stabilization of two-dimensional penta-silicene for flexible lithium-ion battery anodes via surface chemistry reconfiguration	黄河科技学院	吴东海	贰等
SECONDARY METABOLITES OF A DESERT SOIL-DERIVED FUNGUS <i>Chaetomium madrasense</i> 375	黄河科技学院	郭庆丰	贰等
Chemical Constituents and Coagulation Activity of <i>Amygdalus persica</i> L. Flowers	黄河科技学院	张娟娟	贰等
含沙量监测的wavelet-Kalman多尺度融合研究	黄河科技学院	付立彬, 刘明堂	贰等
Hirshfeld surface and electrostatic potential surface analysis of clozapine and its solubility and molecular interactions in aqueous blends	黄河水利职业技术学院	姚新鼎	贰等
Synthesis of Biomass Based Plasticizer from Linoleic Acid and Cardanol for Preparing Durable PVC Material	黄河水利职业技术学院	楚红英, 孙晓艳, 张尧旺	贰等
High Performance Resistive Memory Device Based On Highly Stable CsPb2Br5 Perovskite Polymer Nanocomposite	黄河水利职业技术学院	李华北, 王小林	贰等
Segregation-modified interfacial strength and deformation mechanism at SiCp/2009Al composite interface	黄淮学院	郭晓雷, 刘文富, 宋俊, 行舒乐	贰等
Improving Thermostability of GH11 Xylanase XynASP by the Design of Loop Region	黄淮学院	李同彪, 杨思文, 王宵宵, 蔡鸿轩, 王冶, 李恩中	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Effects of Compound Mycotoxin Detoxifier on Alleviating Aflatoxin B1-Induced Inflammatory Responses in Intestine, Liver and Kidney of Broilers	黄淮学院	郭红伟	贰等
Milling chatter detection system based on multi-sensor signal fusion	黄淮学院	高海宁, 沈红丹, 李荣义, Babar Nazir	贰等
Characterization of single event effect simulation in InP-based High Electron Mobility Transistors	黄淮学院	孙树祥, 刘琳爽, 吴海涛, 姚汝贤, 梅红樱, 钟英辉	贰等
Simultaneously improved strength and elongation at cryogenic temperature in Ti-5Al-1V-1Sn-1Zr-0.8Mo alloy with a bimodal structure	黄淮学院, 兰州理工大学	王启, 任军强	贰等
Gait Control System of Autonomous Mobile Robot Based on PMAC	焦作大学	司国斌, 靳孝峰, 王春霞	贰等
AN INSIGHT ON THE (2+1)-DIMENSIONAL FRACTAL NONLINEAR BOITI-LEON-MANNA-PEMPINELLI EQUATIONS	焦作师范高等专科学校	孙建设	贰等
基于机器视觉的采摘机器人果实三维模型重构与识别	焦作师范高等专科学校	李丽	贰等
基于仿真软件的拖拉机型腔类零件加工模拟研究	焦作师范高等专科学校	薛涛	贰等
Highly efficient federated learning with strong privacy preservation in cloud computing	解放军战略支援部队信息工程大学	方晨, 郭渊博, 王娜, 琚安康	贰等
RS-HABE: Revocable-Storage and Hierarchical Attribute-Based Access Scheme for Secure Sharing of e-Health Records in Public Cloud	解放军战略支援部队信息工程大学	魏江宏, 陈晓峰, 胡学先	贰等
Automatic Search of Impossible Differentials and Zero-Correlation Linear Hulls for ARX Ciphers	解放军战略支援部队信息工程大学	张凯, 关杰, 胡斌	贰等
Temperature and stress of RC T-beam under different heating curves	开封大学	吴耀欢	贰等
脑梗死后运动性失语患者脑功能可塑性的静息态功能磁共振研究	漯河医学高等专科学校	李闯, 唐海霞	贰等
经皮经椎间孔入路内镜下椎间盘切除术治疗腰椎间盘突出症中并发类脊髓高压症的临床研究	漯河医学高等专科学校	刘雅普, 高利峰, 徐永辉, 胡军华, 吴广良, 侯秀伟	贰等
剖宫产产褥感染的病原及SOD与MDA和IFN- $\gamma$ 的预测价值	漯河医学高等专科学校	张秀丽	贰等
Porous LiNi1/3Co1/3Mn1/3O2 microsheets assembled with single crystal nanoparticles as cathode materials for lithium ion batteries	洛阳理工学院	赵娜, 陈建, 刘忠卿, 班克坚, 段文军	贰等
A constitutive model for anisotropic clay-rich rocks considering micro-structural composition	洛阳理工学院	赵建建	贰等
财政分权对区域绿色经济高质量发展的实证测度	洛阳理工学院	董浩然, 金荣学	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Monodispersed ruthenium nanoparticles interfacially bonded with defective nitrogen-and-phosphorus-doped carbon nanosheets enable pH-universal hydrogen evolution reaction	洛阳师范学院	李文强	贰等
Berberine-Loaded Thiolated Pluronic F127 Polymeric Micelles for Improving Skin Permeation and Retention	洛阳师范学院	牛江秀	贰等
Disturbance of potassium iodide solution on nonlinear chemical oscillation system of (NH <sub>4</sub> ) <sub>4</sub> Ce(SO <sub>4</sub> ) <sub>4</sub> -NaBrO <sub>3</sub> -malonic acid	洛阳师范学院	马永杰	贰等
The dynamic analysis on a class of stochastic impulsive equations with doubly weighted pseudo almost automorphic coefficients on time scales	洛阳师范学院	朱平	贰等
A novel fuzzy reset method for pressure control of proton exchange membrane fuel cell in the presence of uncertainty	洛阳师范学院	伍临莉	贰等
Application Analysis of the Machine Learning Fusion Model in Building a Financial Fraud Prediction Model	洛阳师范学院	徐红升, 范刚龙, 宋燕平	贰等
A semi-finite form of the quintuple product identity	洛阳师范学院	朱军明, 张之正	贰等
Energy-Aware Relay Optimization and Power Allocation in Multiple Unmanned Aerial Vehicles Aided Satellite-Aerial-Terrestrial Networks	洛阳师范学院	时永鹏	贰等
Can urbanization, renewable energy, and economic growth make environment more eco-friendly in Northeast Asia?	洛阳师范学院	刘徐益	贰等
农村进城买房家庭户口和土地退出问题研究	洛阳师范学院	张成玉	贰等
The roles of international tourism and renewable energy in environment: New evidence from Asian countries	洛阳师范学院	张舜	贰等
我国传媒产权制度的历史变迁及其动力机制	洛阳师范学院	姜涛	贰等
An optimal round-trip route planning method for tourism based on improved genetic algorithm	洛阳师范学院	曹莎	贰等
Hepatoprotective effects of ethyl pyruvate against CC14-induced hepatic fibrosis via inhibition of TLR4/NF- $\kappa$ B signaling and up-regulation of MMPs/TIMPs ratio	洛阳职业技术学院	张明晓	贰等
Cronobacter spp. in commercial powdered infant formula collected from nine provinces in China: Prevalence, genotype, biofilm formation, and antibiotic susceptibility	南阳理工学院	费鹏, 敬何, 马艳, 董格格	贰等
Visualized detection of quality change of cooked beef with condiments by hyperspectral imaging technique	南阳理工学院	谢安国	贰等
Comprehensive Analysis Reveals USP45 as a Novel Putative Oncogene in Pan-Cancer	南阳理工学院	李凯	贰等
Experimental investigation of mechanical behaviors of EPS foamed concrete-filled pultruded GFRP sandwich panels	南阳理工学院	李森森	贰等
Effects of added gluten with different disulfide bonds and sulphhydryl concentrations on properties of wheat flour	南阳理工学院, 河南工业大学	李翠翠, 陆啟玉	贰等



项目名称	主要完成单位	主要完成人	奖励等级
Behaviours and mechanisms of nanofiltration membrane fouling by anionic polyacrylamide with different molecular weights in brackish wastewater desalination	南阳师范学院	赵东升, 宋基瑜	贰等
Cooperative adsorption of L-tryptophan and sodium ion on a hyper-cross-linked resin: Experimental studies and mathematical modeling	南阳师范学院	焦朋飞, 李娜, 王鹏, 杨朋朋	贰等
Expression of Novel L-Leucine Dehydrogenase and High-Level Production of L-Tert-Leucine Catalyzed by Engineered Escherichia coli	南阳师范学院	唐存多, 解玉丽, 史红玲	贰等
Phylogenetic and genomic analyses of two new species of Clavispora (Metschnikowiaceae, Saccharomycetales) from Central China	南阳师范学院	柴春月	贰等
Petroleum geology and exploration direction of gas province in deepwater area of North Carnarvon Basin, Australia	南阳师范学院	冯杨伟, 任艳, 张功成, 屈红军	贰等
Observer-based Adaptive Tracking Control of Wheeled Mobile Robots with Unknown Slipping Parameters	南阳师范学院	崔明月	贰等
Mobile Wireless Multimedia Sensor Networks Image Compression Task Collaboration Based on Dynamic Alliance	南阳师范学院	李贺, 齐庆磊, 刘金江, 杨杨	贰等
On the Outage Probability of Interference-Limited Multi-hop Linear Vehicular Ad-hoc Network	南阳师范学院	虎大力	贰等
Research on the Mixed Teaching Mode of TPACK in Software Testing Course	南阳师范学院	杨彩	贰等
HPLC-ABTS-DAD-Q-TOF/MS在线筛选黄连抗氧化活性物质	南阳医学高等专科学校	李淑娇, 王宇卿	贰等
基于DCT与自适应人类学习优化算法的图像匹配算法	南阳医学高等专科学校	张旭, 郭东恩	贰等
Pyridoxal hydrochloride thiosemicarbazones with copper ions inhibit cell division via Topo-I and Topo-II $\alpha$	平顶山学院	齐金旭	贰等
Molecular cloning and characterization of two genes encoding peroxiredoxins from freshwater bivalve Anodonta woodiana: Antioxidative effect and immune defense	平顶山学院	夏西超, 于瑞雪, 李梦博, 刘丽	贰等
Electric Load Forecasting based on Wavelet Transform and Random Forest	平顶山学院	彭丽玲, 张毓珍	贰等
Superconvergence analysis of Crank-Nicolson Galerkin FEMs for a generalized nonlinear Schrödinger equation	平顶山学院	张厚超	贰等
Superconvergence analysis for a nonlinear parabolic equation with a BDF finite element method	平顶山学院	王俊俊, 杨晓侠	贰等
最大差值图决策的低照度图像自适应增强算法	平顶山学院	王瑞尧	贰等
Pyramidal convolution attention generative adversarial network with data augmentation for image denoising	平顶山学院	吕琼帅, 夏栋梁, 刘亚玲, 杨晓静, 李蕊	贰等
Measurements of fast neutron capture cross section for $^{180}\text{Hf}$	平顶山学院	周丰群, 宋月丽, 李勇, 孙小军, 畅心怡	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Forecasting short-term electricity load using hybrid support vector regression with grey catastrophe and random forest modeling	平顶山学院	范国锋, 余梦, 董松巧, 叶乙璇, 洪维强	贰等
计算机网络安全技术的影响因素与防范策略	三门峡社会管理职业学院	张节群	贰等
酶制剂在柿子醋传统发酵生产中的应用研究	三门峡职业技术学院	陈书明, 张晶	贰等
Pore engineering of metal-organic frameworks for ethylene purification	商丘师范学院	刘双	贰等
A Dual-Functional Ferroferric Oxide/Quantum Dots Theranostic Nanoplatform for Fluorescent Labeling and Photothermal Therapy	商丘师范学院	尹乃强	贰等
Active contour model based on local absolute difference energy and fractional-order penalty term	商丘师范学院	吕红力	贰等
Large mode area multi segmented-trench crisscross fiber with resonance and leakage	商丘师范学院	马绍朔	贰等
叶黄对乳腺癌细胞活力的影响	商丘医学高等专科学校	常景芝, 王琛, 刘青, 芦琨, 郭亚莉	贰等
Preparation of Novel Magnetic Nanomaterials Based on “Facile Coprecipitation” for Developing Latent Fingerprints (LFP) in Crime Scenes	铁道警察学院	万敬伟, 陈蕾, 李伟, 崔胜峰	贰等
Positively charged PVC ultrafiltration membrane via micellar enhanced ultrafiltration for removing trace heavy metal cations	新乡学院	杨倩	贰等
Substrate-Controlled Regioselectivity Switchable [3 + 2] Annulations To Access Spirooxindole Skeletons	新乡学院	王凯凯, 李艳利	贰等
A Three-Component Reaction to Construct $\beta$ -Aminonitroso- $\alpha$ -Diazocarbonyl Compounds under Metal-Free Conditions	新乡学院	陈荣祥, 兰纪红, 薛颖慧	贰等
OTUB1 suppresses Hippo signaling via modulating YAP protein in gastric cancer	新乡学院	闫诚	贰等
提升企业碳循环核心能力的实现路径	新乡学院	马东俊	贰等
产业化发展趋势互动视频发展研究	新乡学院	苏武江	贰等
Metformin's Mechanisms in Attenuating Hallmarks of Aging and Age-Related Disease	新乡医学院	程方方	贰等
Menstrual blood-derived mesenchymal stromal cells efficiently ameliorate experimental autoimmune encephalomyelitis by inhibiting T cell activation in	新乡医学院	李永海, 李萌, 沈萍	贰等
Umbilical Cord Mesenchymal Stem Cells Conditioned Medium Promotes A $\beta$ 25-35 Phagocytosis by Modulating Autophagy and A $\beta$ -degrading Enzymes in BV2 cells	新乡医学院	徐志浩, 南文滨, 张晓悦, 孙钰棕	贰等

项目名称	主要完成单位	主要完成人	奖励等级
A bispecific immunotoxin (IHPP) with a long half-life targeting HER2 and PDGFR $\beta$ exhibited improved efficacy against HER2-positive tumors in a mouse xenograft model	新乡医学院	郭睿, 杨赟, 张娣, 杨芬	贰等
Muse cells: ushering in a new era of stem cell-based therapy for stroke	新乡医学院	李晗, 魏景辉	贰等
Probing anomalous tqh couplings via single top production in associated with the Higgs boson at the HE-LHC and FCC-hh	新乡医学院	张艳菊	贰等
河南省果业结构调整及果业经济发展策略	信阳农林学院	万莹	贰等
Biochemical Mechanisms, Cross-resistance and Stability of Resistance to Metaflumizone in Plutella xylostella	信阳农林学院, 华中农业大学	申君, 李钊, 李东阳, 王茹梦, 游红, 李建洪	贰等
Water oxidation by Bronsted acid-catalyzed in situ generated thiol cation: dual function of the acid catalyst leading to transition metal-free substitution and addition reactions of S-S bonds	信阳师范学院	马献涛, 朱影影	贰等
Molecular-Level Synthesis of Cobalt Phosphide Nanocrystals Confined in Highly Nitrogen-Doped Mesoporous Carbon Electrocatalyst for Highly Efficient Dye-Sensitized Solar Cells	信阳师范学院	陈明	贰等
Visible-Light Photoredox-Catalyzed Sulfonyl Lactonization of Alkenoic Acids with Sulfonyl Chlorides for Sulfonyl Lactone Synthesis	信阳师范学院	饶伟浩, 蒋莉莉	贰等
Copper-Catalyzed Oxidative Fragmentation of Alkynes with NFSI Provides Aryl Ketones	信阳师范学院	唐林	贰等
Two-dimensional defective black phosphorus/BiVO <sub>4</sub> nanoheterojunctions for molecular nitrogen activation	信阳师范学院	查汝华	贰等
Hierarchical CoMoO <sub>4</sub> nanoneedle electrodes for advanced supercapacitors and electrocatalytic oxygen evolution	信阳师范学院	方林霞	贰等
A paper-supported sandwich immunosensor based on upconversion luminescence resonance energy transfer for the visual and quantitative determination of a cancer biomarker in human serum	信阳师范学院	何梦媛	贰等
Substrate- and layer-effects on structural and photovoltaic properties of spin-coated Aurivillius-type Bi <sub>m+1</sub> Fem-3Ti <sub>3O3m+3</sub> thin films	信阳师范学院	孙书杰	贰等
Amorphous carbon nanofibers incorporated with ultrafine GeO <sub>2</sub> nanoparticles for enhanced lithium storage performance	信阳师范学院	谢文合	贰等
Bimetal-Organic framework derived high-valence-state Cu-doped Co <sub>3O4</sub> porous nanosheet arrays for efficient oxygen evolution and water splitting	信阳师范学院	田永尚	贰等
Regulation of hierarchically porous structures based on multi-scale nanosheets derived from kaolinite for enhanced adsorption	信阳师范学院	于永生, 杨梦南, 燕昭利	贰等
Twist-stacked 2D bilayer Fe <sub>3</sub> GeTe <sub>2</sub> with tunable magnetism	信阳师范学院	陈东	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Research progress on AIE cyanostilbene-based self-assembly gels:	信阳师范学院	高爱萍, 王情情, 吴慧娟	贰等
Construction of hierarchical honeycomb-like MnCo <sub>2</sub> S <sub>4</sub> nanosheets as integrated cathodes for hybrid supercapacitors	信阳师范学院	李超, 赵甜甜	贰等
Comparison of corrosion behaviors of Sc <sub>2</sub> O <sub>3</sub> -CeO <sub>2</sub> co-stabilized ZrO <sub>2</sub> and YSZ ceramics exposed to CMAS at 1250 °C	信阳师范学院	王进双, 陈梦迪	贰等
High-capacity and ultrastable lithium storage in SnSe <sub>2</sub> -SnO <sub>2</sub> @NC microbelts enabled by heterostructures	信阳师范学院	孙海斌	贰等
A comparative study on magnetic behaviors and magnetocaloric effect in heavy rare-earth antiferromagnetic orthoferrites RFeO <sub>3</sub> (R = Dy, Ho and	信阳师范学院	李苍龙	贰等
CO <sub>2</sub> -Driven reversible transfer of amine-functionalized ZIF-90 between organic and aqueous phases	信阳师范学院	裴晓燕	贰等
Two Cu(II) complexes of 1,2,4-triazole fungicides with enhanced antifungal activities	信阳师范学院	李洁	贰等
A dual-chemosensor based on Ni-CP: Fluorescence turn-on sensing toward ascorbic acid and turn-off sensing toward acetylacetone	信阳师范学院	王艳宁	贰等
Experimental and theoretical investigation on degradation of enoxacin in aqueous solution by UV-activated persulfate: Kinetics, influencing factors and degradation pathways	信阳师范学院	曾小兰, 孟雨	贰等
Preparation and characterization of tea oil powder with high water solubility using Pickering emulsion template and vacuum freeze-drying	信阳师范学院	许威	贰等
Rational design of a mesoporous silica@ZIF-8 based molecularly imprinted electrochemical sensor with high sensitivity and selectivity for atropine monitoring	信阳师范学院	孙俊永	贰等
Dynamic Variation of Amino Acid Contents and Identification of Sterols in Xinyang Mao Jian Green Tea	信阳师范学院	孙萌, 袁红雨	贰等
A conductive framework embedded with cobalt-doped vanadium nitride as an efficient polysulfide adsorber and convertor for advanced lithium-sulfur batteries	信阳师范学院	陆阳	贰等
Instability mechanism and control countermeasure of a cataclastic roadway regenerated roof in the extraction of the remaining mineral resources: a case study	信阳师范学院	马文强	贰等
Hydrothermal Aging and Bonding Properties of a New Room Temperature Cured Structural Adhesive in Building Components	信阳师范学院	李卉, 龚关	贰等
Dynamics of a stochastic periodic SIRS model with time delay	信阳师范学院	师向云	贰等
Giant near-field radiative heat transfer between ultrathin metallic films	信阳师范学院	王垒	贰等
Tunable Casimir equilibria with phase change materials: From quantum trapping to its release	信阳师范学院	葛力新	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Study of $\alpha(980)-f(980)$ mixing from $\alpha(1450)->\alpha(980)f(500)->\pi^+\pi^--f(500)$	信阳师范学院	程晓东	贰等
Transition probabilities of the seven lowest-lying singlet states of the AlN radical	信阳师范学院	邢伟	贰等
Anomaly free cosmological perturbations with generalised holonomy correction in loop quantum cosmology	信阳师范学院	韩愈	贰等
The spatial effect of high-speed rail on regional tourism economy in a Chinese urban agglomeration	信阳师范学院	李明伟	贰等
可持续生计分析框架在乡村旅游研究中的改进与应用	信阳师范学院	刘玲	贰等
Detection of Ag <sup>+</sup> ions via an anti-aggregation mechanism using unmodified gold nanoparticles in the presence of thiamazole	信阳学院	毛丽惠, 雒宇豪	贰等
Facile synthesis of bismuth oxyhalide nanosheet films with distinct conduction type and photo-induced charge carrier behavior	许昌学院	贾会敏, 何伟伟, 张贝贝, 姚磊, 杨晓凯, 郑直	贰等
The O/S heteroatom effects of covalent triazine frameworks for photocatalytic hydrogen evolution	许昌学院	刘满营	贰等
ICT-modulated NIR water-soluble fluorescent probe with large Stokes shift for selective detection of cysteine in living cells and zebrafish	许昌学院	侯旭锋, 李振升, 许志红	贰等
CuBr/NHPI co-catalyzed aerobic oxidative [3 + 2] cycloaddition-aromatization to access 5,6-dihydro-pyrrolo[2,1-a]isoquinolines	许昌学院	谢智宇, 牛亮峰, 李洪兵, 郑进才, 韩瑞静, 鞠志宇, 李闪闪	贰等
Multilocus Genotyping of <i>Giardia duodenalis</i> in Alpine Musk Deer ( <i>Moschus chrysogaster</i> ) in China	许昌学院	崔朝辉, 黄夕瑶	贰等
Investigation of curcumin emulsion stability and gastrointestinal digestion prepared with rapeseed oil body	许昌学院	何胜华	贰等
Punicalagin Damages the Membrane of <i>Salmonella Typhimurium</i>	许昌学院	李光辉	贰等
Two New Phenylethanoid Glycosides from <i>Ginkgo biloba</i> Leaves and Their Tyrosinase Inhibitory Activities	许昌学院	舒朋华, 费莹莹, 李军萍, 刘安琦, 张凌翔, 牛浩莹, 刘婉蓉,	贰等
Radiometric Cross-Calibration of GF-4/PMS Based on Radiometric Block Adjustment	许昌学院	韩杰	贰等
Optimal Operation of Energy Hubs Integrated with Electric Vehicles, Load Management, Combined Heat and Power Unit and Renewable Energy Sources	许昌学院	李瑞华	贰等
Seepage-Fractal Model of Embankment Soil and Its Application	许昌学院	赵晓明	贰等
Spatial Pattern and Influencing Factors of Basic Education Resources in Rural Areas around Metropolises—A Case Study of Wuhan City' s New Urban	许昌学院	蒋亮, 陈洁, 田野, 罗静	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Evaluation of groundwater geochemical characteristics and quality in the central and Northern Shaanxi Province, China	许昌学院	闫慧	贰等
Evaluating and optimization of 7-DOF automated fiber placement robotic manipulator performance index based on AdaBoost algorithm	许昌学院	葛新锋	贰等
Specification and adaptive verification of access control policy for cyber-physical-social spaces	许昌学院	曹彦, 陶少华, 陈永刚, 朱彦霞	贰等
Turing instability in the reaction-diffusion network	许昌学院	郑前前	贰等
A Kriging-based sequential optimization method with dual Transformation for black-box models	许昌学院	张全友	贰等
Automatic identification of cashmere and wool fibers based on microscopic visual features and residual network model	许昌学院	路凯, 罗俊丽, 张泊平	贰等
Privacy-Preserving Cross-Zone Ride-Matching for Online Ride-Hailing Service	许昌学院	马慧, 张永	贰等
Recent advances in dimensionality reduction modeling and multistability reconstitution of memristive circuit	许昌学院	张云贞, 张志立, 赵广哲	贰等
A New Error Analysis of Nonconforming EQ1rot FEM for Nonlinear BBM Equation	许昌学院	史艳华	贰等
Impulsive-Interaction-Driven Synchronization in an Array of Coupled Neural Networks	许昌学院	王楠, 李雪臣	贰等
Two-Qubit State Swap and Entanglement Creation in a Superconducting Circuit QED via Counterdiabatic Drivings	许昌学院	闫润瑛	贰等
Construction of electron and grain boundary barrier in quantum dots light-emitting diodes: The role of NiO interface coating	许昌学院	张翼东, 董振伟, 李品将	贰等
Optimal controls of invariant-based population transfer in a superconducting qutrit	许昌学院	冯志波, 路晓静	贰等
基于三频点声速测量方法的气体压强合成算法	许昌学院	张向群, 杜根远	贰等
乡村生态环境“微治理”的逻辑机理与运行机制研究	许昌学院	赵国党	贰等
智能生态系统中图书馆的空间结构及其形成路径	许昌学院	郑玉娟	贰等
Role of environmental degradation and energy use for agricultural economic growth: Sustainable implications based on ARDL estimation	许昌学院	王宏伟	贰等
The impact of teaching-research conflict on job burnout among university teachers An integrated model	许昌学院	李永占	贰等

项目名称	主要完成单位	主要完成人	奖励等级
宅基地的符号性与宅基地退出中的乡土惯习——以已购房农民为例	许昌学院	漆彦忠	贰等
以全面从严治党推动执政党治理转型——基于国家治理现代化的视角	许昌学院	屈鑫涛	贰等
Research on the Operation of Agricultural Products E-Commerce Platform Based on Cloud Computing	许昌学院	刘凌霄	贰等
A garnet-electrolyte based molten Li-I2 battery with high performance	郑州大学	孙彬, 汪盼盼, 金前争	贰等
Highly dispersed iron-doped biochar derived from sawdust for Fenton-like degradation of toxic dyes	郑州大学	王重庆, 孙瑞瑞, 黄荣	贰等
Microwave-assisted synthesis of colorimetric and fluorometric dual-functional hybrid carbon nanodots for Fe3+ detection and bioimaging	郑州大学	时宇鹏	贰等
Metal-Free Visible-Light Promoted Radical Cyclization to Access Perfluoroalkyl-Substituted Benzimidazo[2,1-a]isoquinolin-6(5H)ones and Indolo[2,1-a]isoquinolin-	郑州大学	曾繁林, 吕琪妍	贰等
A simple and sustainable beamhouse by the recycling of waste-water from KCl-dispase synergistic unhairing in leather making	郑州大学	刘辉, 李萌雅, 张亚飞, 汤克勇, 郑学晶	贰等
A highly colorimetric photonic film composed of non-close-packed melanin-like colloidal arrays	郑州大学	刘盼苗, 顾汉文	贰等
Metal-free sulfonyl radical-initiated cascade cyclization to access sulfonated indolo[1,2-a]quinolines	郑州大学	孙凯, 陈晓岚	贰等
Catalytic diesel soot elimination over potassium promoted transition metal oxide (Co/Mn/Fe) nanosheets monolithic catalysts	郑州大学	曹春梅, 杨华, 肖婕妤, 杨幸川, 任保增, 徐丽, 刘国际, 李新刚	贰等
Fluorometric determination of nucleic acids based on the use of polydopamine nanotubes and target-induced strand displacement amplification	郑州大学	葛佳	贰等
Generation of edge dislocation defects in Co3O4 catalysts: an efficient tactic to improve catalytic activity for oxygen evolution	郑州大学	李修敏	贰等
Tuning structure and properties of gelatin edible films through pullulan dialdehyde crosslinking	郑州大学	刘捷, 张丽茹, 刘畅	贰等
The synergistic antibacterial activity and mechanism of ultrasound and hydrogen peroxide against Staphylococcus aureus in water	郑州大学	朱育攀, 马若男	贰等
Biopolymer Nanoscale Assemblies as Building Blocks for New Materials: A Review	郑州大学	裴莹, 王璐	贰等
Effect of Angiotensin II on ENaC in the Distal Convoluted Tubule and in the Cortical Collecting Duct of Mineralocorticoid Receptor Deficient Mice	郑州大学	吴鹏, 高钟秀子	贰等
Physical mapping of repetitive oligonucleotides facilitates the establishment of a genome map-based karyotype to identify chromosomal variations in peanut	郑州大学	付留洋, 王倩	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Lactobacillus plantarum inoculants delay spoilage of high moisture alfalfa silages by regulating bacterial community composition	郑州大学	杨逢源, 王雁萍	贰等
Dynamics Changes of Microorganisms Community and Fermentation Quality in Soybean Meal Prepared with Lactic Acid Bacteria and Artemisia argyi through Fermentation and Aerobic Exposure Processes	郑州大学	王伟伟, 王珍玉, 庞会利	贰等
Role of carbon ion beams irradiation in mitigating cold stress in Arabidopsis thaliana	郑州大学	王琳, 阴悦, 焦滨	贰等
Characteristics of Lactobacillus plantarum QZW5 and its effects on wheat silage under multigelation	郑州大学	张淼, 吴国芳, 王磊	贰等
Telehealth readiness and its influencing factors among Chinese clinical nurses: A cross-sectional study	郑州大学	田雨同, 张艳, 刘珍, 许冰, 程青云	贰等
Dose-response association of sleep quality with anxiety symptoms in Chinese rural population: the Henan rural cohort	郑州大学	毛振兴	贰等
Benefits finding among Chinese family caregivers of stroke survivors: a qualitative descriptive study	郑州大学	梅永霞	贰等
腰丛-坐骨神经阻滞对高龄全髋关节置换术术后转归的影响	郑州大学	秦爱敏, 马春宇, 张增梅, 李丽伟	贰等
Application of High-Resolution C-Arm CT Combined with Streak Metal Artifact Removal Technology for the Stent-Assisted Embolization of Intracranial Aneurysms	郑州大学	李腾飞, 付培基, 牛瑞娜, 任建庄	贰等
Ferroptosis and Acute Kidney Injury (AKI): Molecular Mechanisms and Therapeutic Potentials	郑州大学	冯其, 乔颖进, 杨阳	贰等
Vancomycin-Loaded Polycaprolactone Electrospinning Nanofibers Modulate the Airway Interfaces to Restrain Tracheal Stenosis	郑州大学	赵亚楠, 田川, 吴昆鹏, 周学良, 冯柯鑫, 李兆南, 王子健, 韩	贰等
护士职业性肌肉骨骼损伤影响因素及预防对策的研究进展	郑州大学	陈静	贰等
Exogenous proline enhances susceptibility of NSCLC to cisplatin via metabolic reprogramming and PLK1-mediated cell cycle arrest	郑州大学	韩冰洁, 孙圆圆, 张晓芬, 岳萍, 田美玲, 闫丹, 殷凡响	贰等
Association analyses of genetic variants in long non-coding RNA MALAT1 with breast cancer susceptibility and mRNA expression of MALAT1 in Chinese Han population	郑州大学	彭瑞, 宋春花	贰等
超声引导骶管阻滞用于新生儿肛门成形术麻醉的效果	郑州大学	刘博, 魏晓永, 王涛, 李黎, 王玉霞, 赵军博, 王丽娟, 姜丽华	贰等
Behavioral Assessment of Sensory, Motor, Emotion, and Cognition in Rodent Models of Intracerebral Hemorrhage	郑州大学	石小雨, 白慧英, 王建	贰等
Different frequency bands in various regions of the brain play different roles in the onset and wake-sleep stages of infantile spasms	郑州大学	董燕, 徐瑞娟, 史亚丽, 杜开先, 王芳	贰等
An Intelligent Tongue Diagnosis System via Deep Learning on the Android Platform	郑州大学	徐华兴	贰等



项目名称	主要完成单位	主要完成人	奖励等级
Comprehensive Molecular Analyses of a Six-Gene Signature for Predicting Late Recurrence of Hepatocellular Carcinoma	郑州大学	张玉元, 刘灶渠, 李鑫, 李臻	贰等
社区人群需求分级系统的汉化及信效度检验	郑州大学	王鹏, 李萌萌, 焦佳伟	贰等
Numerical and experimental study of diffusion law of foamed polymer grout in fracture considering viscosity variation of slurry	郑州大学	杜雪明, 石明生	贰等
Influence of substrate and interfacial adhesion on the scratch resistance of poly(methylmethacrylate)	郑州大学	张建伟, 赵思伟, 张金革	贰等
Mechanical behavior of concrete pipes with erosion voids and the effectiveness evaluation of the polyurethane grouting	郑州大学	李斌, 方宏远, 翟科杰	贰等
Enhancing cleaner biomass-coal co-combustion by pretreatment of wheat straw via washing versus hydrothermal carbonization	郑州大学	马李洋	贰等
天然气发动机燃烧不稳定性的多尺度特性分析	郑州大学	丁顺良, 贺帅峰, 刘津津	贰等
Vibro-acoustic responses of a coupled propeller-shaft-hull system due to propeller forces	郑州大学	李晨阳, 刘扭扭, 苏金鹏, 华宏星	贰等
Mechanical Response of CFRP Laminates Subjected to Low-Velocity Oblique Impact	郑州大学	段玥晨, 谢鑫	贰等
Unconditional Energy Dissipation and Error Estimates of the SAV Fourier Spectral Method for Nonlinear Fractional Generalized Wave Equation	郑州大学	王楠, 黄乘明	贰等
An iterative optimization approach for multi-robot pattern formation in obstacle environment	郑州大学	张方方, 王婷婷, 李琦岩	贰等
Effects of high-definition transcranial direct-current stimulation on resting-state functional connectivity in patients with disorders of consciousness	郑州大学	张锐, 郭永坤, 师丽, 王新军, 胡玉霞	贰等
A new error analysis of nonconforming Bergan's energy-orthogonal element for the Extended Fisher-Kolmogorov equation	郑州大学	裴丽芳	贰等
An adaptive estimation for covariate-adjusted nonparametric regression model	郑州大学	李锋, 林路, 卢一强, 冯三营	贰等
The Influence of Different EEG References on Scalp EEG Functional Network Analysis During Hand Movement Tasks	郑州大学	张利朋, 王鹏, 陈明明, 高金峰	贰等
Long-term prediction of the sporadic COVID-19 epidemics induced by $\delta$ -virus in China based on a novel non-autonomous delayed SIR model	郑州大学	裴利军, 呼燕红	贰等
Multiscale approach and analysis for transient simulation of light interaction with nonlocal metallic nanostructure arrays	郑州大学	张永威, 马楚鹏, 曹礼群	贰等
Matchings in graphs with a given number of cuts	郑州大学	刘金凤	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Two agent Pareto scheduling of minimizing total weighted completion time and total weighted late work	郑州大学	耿志超	贰等
Bifurcation in Mean Phase Portraits for Stochastic Dynamical Systems with Multiplicative Gaussian Noise	郑州大学	王慧	贰等
Multi-modal optimization to identify personalized biomarkers for disease prediction of individual patients with cancer	郑州大学	李宗玮, 胡灼, 程涵, 郭伟峰	贰等
Critical temperature for shape transition in hot nuclei within covariant density functional theory	郑州大学	张炜, 牛一斐	贰等
Pressure-Induced Metallization of Lead-Free Halide Double Perovskite (NH <sub>4</sub> ) <sub>2</sub> PtI <sub>6</sub>	郑州大学	王玲瑞, 袁亦方, 王飞	贰等
Double Full Diversity Massive Unitary Space-Time Codes for MIMO Channels	郑州大学	李双志, 穆晓敏	贰等
Surface plasmon resonance sensor based on D-shaped Hi-Bi photonic crystal fiber	郑州大学	王帅, 孙晓红, 罗艳华, 彭纲定	贰等
基于SAO语义分析的多维技术演化路径与技术创新机会识别研究	郑州大学	冯立杰, 周炜, 王金凤, 张珂, 张世斌	贰等
考虑运输的柔性流水车间多处理器任务调度的混合遗传优化算法	郑州大学	轩华, 王潞, 王薛苑	贰等
基于建构扎根理论的中国 EPC 工程质量监管机制研究	郑州大学, 河南省建设工程质量安全技术总站	沈志锋, 王鹏, 郭士干, 冯军	贰等
The clinical efficacy study of treatment to Chiari malformation type I with syringomyelia under the minimally invasive surgery of resection of Submeningeal cerebellar Tonsillar Herniation and reconstruction of Cisterna magna.	郑州大学, 郑州大学附属郑州中心医院	娄永利, 杨记超, 王留向, 陈曦, 辛新	贰等
Redox-responsive glycosylated combretastatin A-4 derivative as novel tubulin polymerization inhibitor for glioma and drug delivery	郑州大学, 郑州伊美诺生物技术有限公司	赵毅, 崔亚敏, 陈星, 秦波	贰等
Seismic behavior of terminal stirrup-confined concrete-filled elliptical steel tube columns: Experimental investigation	郑州航空工业管理学院	张涛	贰等
液体大幅晃动中的动平衡位置研究	郑州航空工业管理学院	苗楠	贰等
雷诺数对跨声速压气机失速分离特性的影响	郑州航空工业管理学院	王正鹤	贰等
A Human Error Mechanism for Pilot Based on Fault Tree Analysis and Bayesian Network	郑州航空工业管理学院	郭昕曜, 孟斌, 路娜	贰等
Radial symmetry and Hopf lemma for fully nonlinear parabolic equations involving the fractional Laplacian	郑州航空工业管理学院	蔡苗苗, 李风泉, 王朋燕	贰等
Superconvergence analysis of Galerkin method for semilinear parabolic integro-differential equation	郑州航空工业管理学院	杨怀君	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Bogdanov-Takens bifurcation analysis of a delayed predator-prey system with double Allee effect	郑州航空工业管理学院	焦建锋	贰等
Steady-state analysis of the stochastic Beverton-Holt growth model driven by correlated colored noises	郑州航空工业管理学院	余兴旺	贰等
Stochastic stability and stationary probability density analysis for a nutrient-phytoplankton model with multiplicative and additive noises	郑州航空工业管理学院	马元林	贰等
Anti-Motion Interference Wearable Device for Monitoring Blood Oxygen Saturation Based on Sliding Window Algorithm	郑州航空工业管理学院	焦斌	贰等
Unconditional superconvergence analysis of an energy-stable finite element scheme for nonlinear Benjamin-Bona-Mahony-Burgers equation	郑州航空工业管理学院	王乐乐, 廖歆	贰等
Simulation of AC drive control for supercapacitor trams based on high-order neural network pattern discrimination algorithm	郑州航空工业管理学院	李玲	贰等
Ge2Sb2Se4Te1-based multifunctional metalenses for polarization-independent, switchable and dual-mode focusing in the mid-infrared region	郑州航空工业管理学院	田喜敏	贰等
基于阈值公共物品演化博弈模型的企业合作治污分析	郑州航空工业管理学院	夏可	贰等
Does Environmental Regulation Help Mitigate Factor Misallocation?—Theoretical Simulations Based on a Dynamic General Equilibrium Model and the Perspective of TFP	郑州航空工业管理学院	董旭, 杨亚丽, 庄芹芹, 谢伟丽, 赵晓梦	贰等
COVID-19大流行、有限关注和分析师预测离散度	郑州航空工业管理学院	张津津	贰等
基于模糊层次分析法的社交媒体隐私安全量化评估研究	郑州航空工业管理学院	赵静, 丁一凡, 赵旭阳	贰等
考虑质量损失和预防维修策略下的VSI EWMA 标准差控制图经济决策模型	郑州航空工业管理学院	薛丽	贰等
我国公共图书馆无接触式服务研究	郑州航空工业管理学院	郭锐, 刘婧涵, 杨紫楠	贰等
公司战略差异度与审计师选择	郑州航空工业管理学院, 首都经济贸易大学	董雪雁, 高靖宇	贰等
中国南北过渡带范围的地理表达及定量探测	郑州旅游职业学院	李亚男	贰等
新冠肺炎疫情对河南省旅游业的冲击表征及影响机理研究	郑州旅游职业学院	王少华, 王璐, 王梦茵	贰等
Response of partial nitrification sludge to the single and combined stress of CuO nanoparticles and sulfamethoxazole antibiotic on microbial activity, community and resistance genes	郑州轻工业大学	张肖静, 陈召, 张楠, 位登辉, 张红丽	贰等
Effects of polycyclic aromatic hydrocarbons on sludge performance for denitrification and phosphorus removal	郑州轻工业大学	金宝丹	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Manganese bridge of mercury and oxygen for elemental mercury capture from industrial flue gas in layered Mn/MCM-22 zeolite	郑州轻工业大学	马永鹏, 徐腾飞, 张宏忠, 徐浩森, 马云霞	贰等
Antibacterial activity and a membrane damage mechanism of plasma-activated water against <i>Pseudomonas deceptionensis</i> CM2	郑州轻工业大学	相启森, 康超娣, 牛力源, 赵电波, 李可, 白艳红	贰等
The degradation of <i>Alternaria</i> mycotoxins by dielectric barrier discharge cold plasma	郑州轻工业大学	王小媛, 王世豪, 闫溢哲, 王维静, 张丽华, 纵伟	贰等
基于盲辨识模型和极限学习机的下肢假肢路况识别	郑州轻工业大学	刘磊	贰等
组合开关状态的NPC三电平模型预测不平衡治理策略	郑州轻工业大学	李琰琰	贰等
RBF and NSGA-II based EDM process parameters optimization with multiple constraints	郑州轻工业大学	李晓科, 闫富宏	贰等
Self-healing, elastic and deformable novel composite phase change polymer based on thermoplastic elastomer SEBS for wearable devices	郑州轻工业大学	张琦, 宋俊	贰等
New Design on Distributed Event-Based Sliding Mode Controller for Disturbed Second-Order Multiagent Systems	郑州轻工业大学	吴僖慧	贰等
Asynchronous $H_\infty$ control of Markov jump discrete-time systems with incomplete transition probability and unreliable links	郑州轻工业大学	单要楠	贰等
Wave breaking analysis for the periodic rotation-two-component Camassa-Holm system	郑州轻工业大学	刘静静	贰等
Coupling of boundary integral equation and finite element methods for transmission problems in acoustics	郑州轻工业大学	耿宏瑞	贰等
Technology cluster coupling and invulnerability of industrial innovation networks: the role of centralized structure and technological turbulence	郑州轻工业大学	李莉	贰等
Reliability Analysis for Electrical Power Systems Based on Importance Measures	郑州轻工业大学	刘芳宇	贰等
Trust and Consumers' Purchase Intention in a Social Commerce Platform: A Meta-Analytic Approach	郑州轻工业大学	王俭	贰等
分布式电源电压支撑能力层次分析评价	郑州轻工业大学, 国网河南省电力公司三门峡供电公司	季玉琦, 潘超, 肖晗, 薛源, 姚迎新, 王惠丽	贰等
基于B-CNN模型的异构网络大数据知识扩充算法研究	郑州商学院	张伟华	贰等
Delay feedback impulsive control of a time-delay nonlinear complex financial networks	郑州升达经贸管理学院	蔡国梁, 张志银, 冯改红, 陈巧灵	贰等
Theoretical insights into the CO/NO oxidation mechanisms on single-atom catalysts anchored H4, 4, 4-graphyne and H4, 4, 4-graphyne/graphene sheets	郑州师范学院	唐亚楠, 史金磊	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Upconversion luminescent nanoheater based on NaGd(MoO <sub>4</sub> ) <sub>2</sub> :Yb <sup>3+</sup> /Tm <sup>3+</sup> nanocrystals: Surfactant-free solvothermal synthesis, upconversion photoluminescence and photothermal conversion	郑州师范学院	李安明	贰等
Reduction of Aflatoxin B <sub>1</sub> and Zearalenone Contents in Corn Using Power Ultrasound and Its Effects on Corn Quality	郑州师范学院	刘远方	贰等
Theoretical Analysis of Terahertz Dielectric-Loaded Graphene Waveguide	郑州师范学院	滕达	贰等
Effect of powdery mildew on antioxidant enzymes of wheat grain	郑州师范学院, 河南农业大学, 郑州轻工业大学, 河南大学	高红云, 牛吉山, 赵万勇, 张大乐, 李锁平, 刘宇邈	贰等
Polyvinylidene fluoride multi-scale nanofibrous membrane modified using N-halamine with high filtration efficiency and durable antibacterial properties for air filtration	中原工学院	邵伟力, 李俊丽, 张雨婷, 孙宁, 吴婷, 闫蒙蒙	贰等
Enhancement of Output Performance of Triboelectric Nanogenerator by Switchable Stimuli in Metal-Organic Frameworks for Photocatalysis	中原工学院	黄超, 张莹莹	贰等
Chlorine Modulation Fluorescent Performance of Seaweed-Derived Graphene Quantum Dots for Long-Wavelength Excitation Cell-Imaging Application	中原工学院	李伟涛, 何建新, 蒋宁佳, 张罗曼	贰等
Preparation of a polyurethane electret nanofiber membrane and its air-filtration performance	中原工学院	刘凡, 李梦莹, 岳万里, 胡宝继, 翁凯, 陈元昆, 廖熙	贰等
High catalytic performance non-enzymatic H <sub>2</sub> O <sub>2</sub> sensor based on Cu <sub>2</sub> O@Cu <sub>9</sub> S <sub>5</sub> yolk-shell nanospheres	中原工学院	李湾湾	贰等
Synergetic Improvement of Interlaminar Fracture Toughness in Carbon Fiber/Epoxy Composites Interleaved with PES/PEK-C Hybrid Nanofiber Veils	中原工学院	周金利, 王明, 杨志晖, 杨艳菲	贰等
Scalable Fabrication of Highly Breathable Cotton Textiles with Stable Fluorescent, Antibacterial, Hydrophobic, and UV-Blocking Performance	中原工学院	刘宏臣, 张晓莉, 杨红英, 代亚敏, 周培文	贰等
Interaction of irradiation-induced point defects with transmutants (H, He, Li, Be, B, Mg, Al and P) in 3C-SiC ceramics	中原工学院	孙静静	贰等
Ultrathin 2D Fe <sub>x</sub> Co <sub>1-x</sub> Se <sub>2</sub> nanosheets with enhanced sodium-ion storage performance induced by heteroatom doping effect	中原工学院	王艳杰, 陈孔耀	贰等
Effect of small amount of multi-walled carbon nanotubes on crystallization and thermal-mechanical properties of overflow microinjection molded isotactic polypropylene	中原工学院	刘忠柱	贰等
Co-N heteroatomic interface engineering in peanut Shell-Derived porous carbon for enhanced oxygen reduction reaction	中原工学院	刘静	贰等
Hydrogen production and phosphorus recovery via supercritical water gasification of sewage sludge in a batch reactor	中原工学院	龚为进, 周子振, 刘玥, 王擎宇, 郭丽娜	贰等
Enhanced thermal stability and UV resistance of polyamide 6 filament fabric via in-situ grafting with methyl methacrylate	中原工学院	杜姗, 魏云航, Shaharia Ahmed, 周飞越, 谭宇	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Bio-based coating of phytic acid, chitosan, and biochar for flame-retardant cotton fabrics	中原工学院	承小杰, 凡祖伟, 于媛媛	贰等
Superwetable Amidoximed Polyacrylonitrile-Based Nanofibrous Nonwovens for Rapid and Highly Efficient Separation of Oil/Water Emulsions	中原工学院	周伟涛, 张一敏, 吴婷	贰等
3D-EEMs和PARAFAC解析土壤渗滤处理污水厂二级出水研究	中原工学院	吕晶晶, 窦艳艳	贰等
Evaluation and analysis of novel flux-adjustable permanent magnet eddy current couplings with multiple rotors	中原工学院	李召	贰等
Mechanism investigation of ring type winding in linear permanent magnet vernier machine for improving force density	中原工学院	卞芳方	贰等
Numerical analysis of the flow and heat transfer characteristics in serpentine microchannel with variable bend amplitude	中原工学院	张慧	贰等
Confined synthesis of N, P co-doped 3D hierarchical carbons as high efficiency oxygen reduction reaction catalysts for Zn-air battery	中原工学院	陈思如	贰等
Experimental investigation and analysis on the axial compressive performance of recycled concrete-filled corroded steel tubular columns	中原工学院	惠存, 海然	贰等
Discrete-Time Modified UDE-Based Current Control for LCL-Type Grid-Tied Inverters	中原工学院	叶永强, 赵强松	贰等
Laboratory and in situ tests on dynamic shear modulus of granite residual soil	中原工学院	尹松, 黄家宁, 刘鹏飞	贰等
Normalized Subband Spline Adaptive Filter: Algorithm Derivation and Analysis	中原工学院	鹏伟	贰等
区块链技术：架构及进展	中原工学院	邵奇峰	贰等
Convergence rates of nonlinear Stokes problems in homogenization	中原工学院	王娟, 赵杰	贰等
导弹定向定时航迹规划的改进 PSO 方法研究	中原工学院	张利民, 李茜, 李伟勋	贰等
Laser tweezers Raman spectroscopy combined with machine learning for diagnosis of Alzheimer' s disease	中原工学院	林漫漫	贰等
Force sensing and cooling for the mechanical membrane in a hybrid optomechanical system	中原工学院	贺庆, 宋燕来	贰等
Fluid simulation of the plasma uniformity in pulsed dual frequency inductively coupled plasma	中原工学院	孙晓艳, 张钰如, 柴森, 王友年	贰等
Recent progress in biomass-derived carbonaceous composites for enhanced microwave absorption	中原工学院, 河南省纺织服装产业协同创新中心	强荣, 冯帅博, 陈熠, 马茜, 陈博文	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Synthesis and multi-electrochromic properties of asymmetric structure polymers based on carbazole-EDOT and 2, 5-dithienylpyrrole derivatives	周口师范学院	胡彬	贰等
La <sub>2</sub> MgTiO <sub>6</sub> :Bi <sup>3+</sup> /Mn <sup>4+</sup> photoluminescence materials: Molten salt preparation, Bi <sup>3+</sup> → Mn <sup>4+</sup> energy transfer and thermostability	周口师范学院	苑红磊	贰等
Facile synthesis of superwetting FeNi foam for oil/water separation	周口师范学院	薛莹莹, 段胜阳	贰等
Confirmed and potential roles of bacterial T6SSs in the intestinal ecosystem	周口师范学院	陈璨	贰等
Overexpression of RcLEC1-B, a HAP3 transcription factor of PLB from Rosa canina, increases the level of endogenous gibberellin and alters the development of cuticle and floral organs in Arabidopsis	周口师范学院	徐克东	贰等
The highly conserved barley powdery mildew effector BEC1019 confers susceptibility to biotrophic and necrotrophic pathogens in wheat	周口师范学院	张怡	贰等
Conjugated polyamines are involved in conformation stability of plasma membrane from maturing maize grain embryos under drought stress	周口师范学院	杜红阳, 刘东晓, 刘骨挺, 刘怀攀	贰等
Growth-Promoting Ability of Rhodopseudomonas palustris G5 and Its Effect on Induced Resistance in Cucumber Against Salt Stress	周口师范学院	葛红莲, 张福丽	贰等
Simulation analysis and performance study of cocrmo porous structure manufactured by selective laser melting	周口师范学院	张国庆	贰等
Parameters exploration of SOFC for dynamic simulation using adaptive chaotic grey wolf optimization algorithm	周口师范学院	王二垒	贰等
Riemann-Hilbert approach and nonlinear dynamics of the coupled higher-order nonlinear Schrodinger equation in the birefringent or two-mode fiber	周口师范学院	魏含玉, 范恩贵, 郭汉东	贰等
Pinning synchronization of complex delayed dynamical networks via generalized intermittent adaptive control strategy	周口师范学院	刘梅	贰等
$H^\infty$ output synchronization of directed coupled reaction-diffusion neural networks via event-triggered quantized control	周口师范学院	卢秉龙	贰等
Improved label propagation algorithm for overlapping community detection	周口师范学院	董仕	贰等
Research on vehicle intelligent wireless location algorithm based on convolutional neural network	周口师范学院	王亚子, 冯跃红, 孙怀波	贰等
Robust input-to-state stability of discrete-time singularly perturbed systems with nonlinear perturbation	周口师范学院	刘伟, 王岩岩, 汪志鸣	贰等
A Cross-Modal Image and Text Retrieval Method Based on Efficient Feature Extraction and Interactive Learning CAE	周口师范学院	殷秀叶, 陈立勇	贰等
Non-terminating 3F2-series with unit argument	周口师范学院	李纳, 初文昌	贰等

项目名称	主要完成单位	主要完成人	奖励等级
Application of hyperbolic partial differential equations in global optimal scheduling of UAV	周口师范学院	田冲, 陈劲松	贰等
Improper Integrals Involving Powers of Inverse Trigonometric and Hyperbolic Functions	周口师范学院	李春丽	贰等
Interaction properties of double-hump solitons in the dispersion decreasing fiber	周口师范学院	朱雨	贰等
A note on the girth of (3, 19)-regular Tanner' s quasi-cyclic LDPC codes	周口师范学院	周慢杰	贰等
Higher-dimensional soliton structures of a variable-coefficient Gross-Pitaevskii equation with the partially nonlocal nonlinearity under a harmonic potential	周口师范学院	杨静	贰等
Effects of di-n-butyl phthalate on aerobic composting process of agricultural waste: Mainly based on bacterial biomass and community dynamics analysis	周口师范学院, 中国科学院生态环境研究中心	王萍, 金德才, 王振	贰等
The relationship between perceptions of school climate and internet gaming disorder of teenage students: A moderated mediation model	周口职业技术学院	张梦柔, 张文华, 李云鹤, 何相材, 陈峰, 郭英	贰等
新型添加型光敏剂芳基三唑制备光降解塑料及性能研究	驻马店职业技术学院	王艳霞	贰等