

李坤权

欢迎优秀在校本科生申请加入课题组，开展创新研究实践；欢迎校内外优秀毕业生报考课题组硕士、博士研究生，携手共创未来。

姓名	李坤权	性别	男	
职称	教授	导师	博导	
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研究领域	智能纳米材料与环境装备；生物质环境新材料；纳米传感与电容材料与器件			
研究生招生	博士：农业生物环境与能源工程（082803）招生研究方向：纳米功能材料调控与装备设计；新型电容与传感材料与器件设计 硕士：农业生物环境与能源工程（学硕，082803）；电子信息（专硕，085400）			
研究概述	<p>南京农业大学教授，博导，南京大学环境工程博士，复旦大学材料学博士后，美国伊利诺伊大学访问学者，南京农业大学钟山学者，教育部学位论文评审专家，国家自然科学基金评审专家，江苏省能源研究会理事，美国化学学会会员。近十年来一直致力于生物质环境新材料、智能纳米材料与装备设计领域的研究与应用工作，掌握多孔纳米生物质炭环境功能材料定向制备与设计技术，熟悉生物质新型纳米材料的制备及其对土壤、水与气体中典型重金属、有机物污染的修复以及新型电容与传感材料与器件设计与研究方法。先后承担国家重点研发、国家自然科学基金面上项目、教育部博士点、江苏省重点研发、江苏省科技专项等各类研究课题 20 余项，在国内外学术期刊发表研究论文 69 篇，其中 SCI 论文 27 篇，在生物质纳米新材料的定向制备、表面化学性质、孔结构调控及其环境、电容与传感功能装备设计等方面有扎实的理论基础和丰富的研究经验，成功试制出生物质碳重金属选择钝化剂、生物质碳化炉尾气处理系统、可移动活性炭废气处理装置、生物质新型新传感电极等多项产品，获得了江苏省科协青年创新大赛能源与材料领域二等奖，部分成品已与江苏华中化肥、深圳博林环保、北京三聚环保等知名企业合作转化，在南京新三板科技股挂牌，受到扬子晚报、南京日报等多家媒体报道。</p>			
社会兼职	教育部学位论文评审专家；江苏省能源研究会理事；农业工程学会会员；美国化学协会会员；Chemosphere 等国际知名期刊审稿人			

<p>承担项目</p>	<ol style="list-style-type: none"> 1. 2018.18-2022.12, 高稳定性多孔秸秆炭表面氮基团活性点的定向调控及其对土壤铅镉汞的选择固定机制(国家自然科学基金面上项目, 78 万元); 2. 2018.6-2021.12, 基于氮磷活性点位定向调控的秸秆炭钝化剂的可控制备及其对铅镉汞的固定机制(江苏省重点研发社会发展, 50 万元) 3. 2013.01-2015.8, 生物质炭绿色农业技术转化与示范(农业科技成果转化资金项目, 2013GB23600666, 60 万元) 4. 2018.05-2021.12, 新型绿色高效生物炭基控释复混大蒜专用肥产业化开发(江苏省科技专项, 50 万元) 5. 2014 年-2016 年, “高效去除水中微量有机污染物的氧化物基介孔碳催化材料的制备与催化再生(中国博士后基金, 8 万元) 6. 2020 年-2022 年, 新型秸秆生物质炭基控释复混葡萄专用肥制备及养分控释机理研究(中央高校新疆联合专项, 主持) 7. 2012 年-2014 年, “高效去除微囊藻毒素的烧绿石型复合氧化物基介孔碳的可控制备与催化再生(国家自然科学基金, 51102136) 8. 2008 年-2010 年, “十一·五”国家水专项太湖项目武进港课题“武进港小流域农村污水处理及氮磷削减技术与工程示范”子课题(编号:2008ZX07101-004-01) 9. 2011 年-2012 年, “新型磁性碳吸附材料的孔调控、分子修饰及其对水中微囊藻毒素的净化(上海市科技局项目, 11R21412300) 10. 2011 年-2013 年, 基于辐照技术抑制越冬期蓝藻复苏的机理研究”(国家自然科学基金, 11075039) 5. 2009 年-2010 年, 江苏省农机局项目“基于纳米多孔炭材料/TiO₂ 的等离子放电催化深度处理水中低浓度有机污染物(编号:2009-G002)”, 主持完成。 11. 2006 年-2007 年, 校青年科技创新基金项目“生物质活性炭的制备及其在农村生活污水处理中的应用”。 12. 2007 年-2009 年, 塔式蚯蚓生态滤池农村生活污水处理成套技术示范研究(江苏省太湖水专项, BS2007148)” 13-18. 2018.05-2019.12, 园林生物质碳气化联产高温尾气多功能智能化处理系统开发等企业委托课题(企业委托课题)
<p>学术成果</p>	<p>一. 主要科研论文</p> <ol style="list-style-type: none"> 1. Li, B. Y., Li, K. Q*. 2019. Effect of nitric acid pre-oxidation concentration on pore structure and nitrogen/oxygen active decoration sites of ethylenediamine -modified biochar for mercury(II) adsorption and the possible mechanism. Chemosphere, 220, 28-39. 5.089 TOP20% 2. Li, K. Q*, Wan, Z. Q. 2019. Preparation of Biomass-based Mesoporous Carbon with Higher Nitrogen-/Oxygen-chelating Adsorption for Cu(II) Through Microwave Pre-Pyrolysis. Jove-Journal of Visualized Experiments(144). 2.584 JCR 2 区 3. Li, K. Q*, Wan, Z. Q., Liu, J.M., Guliyeva, G. 2019. Bayberry-Kernel-Derived Wormlike Micro/Mesoporous Carbon Decorated with Human Blood Vessel-Like Structures and Active Nitrogen Sites as Highly Sensitive Electrochemical Sensors for Efficient Lead-Ion Detection. Acs Omega, 4(1), 1191-1200.1.

4. **K. Q. Li***, Y. Zhou, J. Li, Soft-templating synthesis of partially graphitic Fe-embedded ordered mesoporous carbon with rich micropores from bayberry kernel and its adsorption for Pb(II) and Cr(III), Journal of the Taiwan Institute of Chemical Engineers, 82 (2018) 312–321. **JCR 1 ☒, 3.728 TOP20%**
5. **K. Q. Li***, J.M. Liu, J. Li, Z.Q. Wan, Effects of N mono- and N/P dual-doping on H₂O₂, center dot OH generation, and MB electrochemical degradation efficiency of activated carbon fiber electrodes, Chemosphere, 193 (2018) 800–810. **JCR 1 ☒, 5.089 TOP20%**
6. Z. Q. Wan, **K. Q. Li***, Effect of pre-pyrolysis mode on simultaneous introduction of nitrogen/oxygen-containing functional groups into the structure of bagasse-based mesoporous carbon and its influence on Cu(II) adsorption, Chemosphere, 194 (2018) 370–380. **JCR1 ☒, 5.089 TOP20%**
7. **K. Q. Li***, Z. Q. Wan, J. Li, M. Z. Lu, X.H. Wang, Amino-functionalized bimodal ordered mesoporous carbon with high surface area for efficient adsorption of lead (II) ions, Desalination and Water Treatment, 60 (2017) 200–211. **JCR2 ☒, 1.643**
8. **Li KQ***, Tao SY, Li J, Wang XH. Controllable Fe introduction into ordered mesoporous carbon with interconnected small pores for investigating Fe doping effect on hydrogen adsorption. International Journal of Hydrogen Energy 2017;42:4733–4740. **JCR2 ☒, 3.647**
9. H. Li, X. Li, L. Liu, **KQ. Li***, X. Wang, H. Li, Experimental study of microwave-assisted pyrolysis of rice straw for hydrogen production, International Journal of Hydrogen Energy, 41 (2016) 2263–2267. **JCR2 ☒, 3.419**
10. **K. Q. Li**, Z. Rong, Y. Li, C. Li, Z. Zheng, Preparation of nitrogen-doped cotton stalk microporous activated carbon fiber electrodes with different surface area from hexamethylenetetramine-modified cotton stalk for electrochemical degradation of methylene blue, Results in Physics, 7 (2017) 656–664. **JCR2 ☒, 1.259**
11. **K. Q. Li***, J. Li, M. Z. Lu, H. Li, X.H. Wang, Preparation and amino modification of mesoporous carbon from bagasse via microwave activation and ethylenediamine polymerization for Pb(II) adsorption, Desalination and Water Treatment, 57 (2016) 24004–24018. **JCR2 ☒, 1.643**
12. **K. Q. Li***, Y. Jiang, X.H. Wang, D. Bai, H. Li, Z. Zheng, Effect of nitric acid modification on the lead(II) adsorption of mesoporous biochars with different mesopore size distributions, Clean Technologies and Environmental Policy, 18 (2016) 797–805. **JCR2 ☒, 2.374**
13. **K. Q. Li***, J.F. Cao, H. Li, J.M. Liu, M. Z. Lu, D.Y. Tang, Nitrogen functionalized hierarchical microporous/mesoporous carbon with a high surface area and controllable nitrogen content for enhanced lead(II)

adsorption, Rsc Advances, 6 (2016) 92186–92196. **JCR2 区, 3.485**

14. Ma HW, Li KQ*, Chai QF. Chemical modification of bagasse-based mesoporous carbons for chromium(III) ion adsorption. Journal of Applied Biomaterials & Functional Materials 2017;15:S52–S61. **JCR4 区, 1.363**

15. Li B. Y.; Li K. Q*, Effect of nitric acid pre-oxidation concentration on pore structure and nitrogen/oxygen active decoration sites of ethylenediamine -modified biochar for mercury(II) adsorption and the possible mechanism. Chemosphere 2019, 220, 28–39. **JCR1 区, 5.089 TOP20%**

16. Li K. Q*; Wan Z. Q.; Liu J. M.; Guliyeva G., Bayberry–Kernel–Derived Wormlike Micro/Mesoporous Carbon Decorated with Human Blood Vessel–Like Structures and Active Nitrogen Sites as Highly Sensitive Electrochemical Sensors for Efficient Lead–Ion Detection. Acs Omega 2019, 4 (1), 1191–1200.

17. Li K. Q*; Wan Z. Q., Preparation of Biomass-based Mesoporous Carbon with Higher Nitrogen-/Oxygen-chelating Adsorption for Cu(II) Through Microwave Pre-Pyrolysis. Jove–Journal of Visualized Experiments 2019, (144). **JCR2 区, 1.677**

18. Li X. H.; Li K. Q.; Li H.; El-Mashad H.; Jenkins B. M.; Yin W. Q., White Poplar Microwave Pyrolysis: Heating Rate and Optimization of Biochar Yield. Bioresources 2018, 13 (1), 1107–1121. **JCR2 区, 1.526**

19. Li J.; Li X. B.; Li K. Q.; Tao T., Plasmas ozone inactivation of Legionella in deionized water and wastewater. Environmental Science and Pollution Research 2018, 25 (10), 9697–9707. **JCR2 区, 2.989**

20. Wang X. H.; Li K. Q.; Li H.; Bai D.; Liu J. R., Research on China's rural household energy consumption – Household investigation of typical counties in 8 economic zones. Renewable & Sustainable Energy Reviews 2017, 68, 28–32. **JCR1 区, 9.122 TOP10%**

21. Li X. H.; Li K. Q.; Geng C. L.; El Mashad H.; Li H.; Yin W. Q., An economic analysis of rice straw microwave pyrolysis for hydrogen-rich fuel gas. Rsc Advances 2017, 7 (84), 53396–53400. **JCR2 区, 3.257**

22. Li J.; Li K. Q.; Zhou Y.; Li X. B.; Tao T., Kinetic analysis of Legionella inactivation using ozone in wastewater. Chemosphere 2017, 168, 630–637. **JCR1 区, 5.089 TOP20%**

23. Lu M. Z.; Xiong Y. J.; Li K. Q.; Liu L. S.; Yan L.; Ding Y. Q.; Lin X. Z.; Yang X. J.; Shen M. X., An automatic splitting method for the adhesive piglets' gray scale image based on the ellipse shape feature. Computers and Electronics in Agriculture 2016, 120, 53–62. **JCR2 区, 2.365 TOP20%**

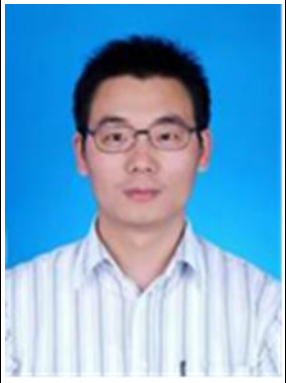
二、专利:

1. 新型雾霾空气洁净专用炭质口罩, 申请号 20141061198.9

2. 一种选择固定污染土壤中汞、铬、铅的多胺基炭质复合材料及制备方法. 申请号 201410112291.3

	<p>3. 一种新型多功能空气净化材料, 申请号 201410611998.9</p> <p>4. 一种原位固化移除土壤重金属的生态袋及施用方法, 申请号 20140611997.4</p> <p>5. 一种对硝基苯胺生产废水的治理与资源回收利用的方法, 申请号</p> <p>6. 一种利用互花米草茎秆制备活性炭的方法, 申请号 200810023749.2</p> <p>7. 一种用于含酚废水电化学处理的石墨电极, 申请号 200810018745.5</p> <p>8. 一种治理重金属镉的活性炭的制备方法, 申请号 2008</p> <p>9. 竹炭填料生物滴滤塔脱除烟气中二氧化硫的方法, 申请号 200710021124.8</p> <p>10. 一种处理生活污水的塔式蚯蚓生态滤池, 申请号 200810018774.1</p> <p>三、转让技术与产品</p> <p>1. 土壤重金属生物钝化剂(选择钝化土壤重金属铅、镉、铜、铬的生物钝化材料, 有效解决中轻度土壤面源重金属污染对作物带来的危害);</p> <p>2. 生物质碳化炉尾气处理系统; 可移动活性炭废气处理装置。用于实验室挥发试剂配制产生的有害废气净化, 更换碳滤芯可用盐酸、氨气、原子吸收测定汞铅净化, 有适用性强、方便移动等优势</p> <p>3. 水处理净化纳米碳材料(定向、高效去除水中特定有机物与重金属);</p> <p>4. 智能碳纤维电暖材料与系统(智能温室、现代农业、家居碳纤维电暖材料, 通过红外取暖, 节能高效);</p> <p>5. 新型雾霾空气洁净专用炭质口罩(有效隔离雾霾空气中的重金属与有机物, 并具杀菌作用)。</p>
<p>奖励荣誉</p>	<p>南京农业大学钟山学术新秀; 江苏省创新创业二等奖; Chemosphere 杰出审稿人; 江苏省教学成果二等奖; 江苏省科技镇长团优秀团员; 南京农业大学优秀共产党员; 南京农业大学教学成果特等奖; 南京农业大学 2019 年度最美教师; 南京农业大学工学院优秀教师; 南京农业大学工学院求精奖教金; 全国大学生“挑战杯”金奖指导教师; 全国大学生节能减排大赛三等奖指导教师; 全国大学生创业基金优秀奖指导教师; 江苏省大学生创业竞赛金奖指导教师; 硕士生国家与南农大校长奖学金指导教师; 南京农业大学工学院教学评估先进个人; 南京农业大学工学院教育管理工作先进工作者; 南京农业大学社会实践优秀指导教师; 南京农业大学毕业设计优秀指导教师等。</p>

Kunquan Li

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Research field	Intelligent Material and Application, Biomass Environmental Materials and Energy			
Social appointments	Agricultural technology association member of Jiangsu province; Energy association member of Jiangsu province			
Research projects	<p>Jan. 2018–Dec. 2022 Directional control of nitrogen-containing functional active binding sites of straw-based porous biochar with high stability and its selective mechanism for Pb, Cd and Hg immobilization from contaminated soil, Sponsored by National Natural Science Fund of P.R.China, Project Leader</p> <p>Jan. 2018–Dec. 2021 Directional control of nitrogen, phosphorus - containing active binding sites of biochar with high stability and its selective adsorption for Pb from contaminated soil, Sponsored by National Natural Science Fund of P.R.China, Project Leader</p> <p>Jan. 2013–Dec. 2015 Transformation and Demonstration of Biomass carbon green agriculture technology (No. 2013GB23600666)</p> <p>Jan. 2014–Dec. 2016 Controlled Synthesis of Dual-functional Composite Oxide Based Order Mesoporous Carbon and Its Adsorption Characteristics of Microcystins (No. 97120021), Sponsored by The Ministry of Education of P.R.China, Project Leader</p> <p>Jan. 2012–Dec. 2014 Controllable Preparation and Catalytic Regeneration of Pyrochlore-type Composite Oxide based Mesoporous Carbon for the Removal of Microcystins (No. 51102136), Sponsored by National Natural Science Fund of P.R.China, Project Leader</p> <p>Jan. 2012–Dec. 2014 Controlled Synthesis of Dual-functional Composite Oxide Based Order Mesoporous Carbon and Its Adsorption Characteristics of Microcystins (No. 97120021), Sponsored by The</p>			

	<p>Ministry of Education of P.R.China, Project Leader Jan. 2011–Dec. 2012 Porosity Adjustment and Molecular Modification of Magnetic Carbon Absorption Material and Its Removal of Microcystins (No. 51102136), Sponsored by Municipal Science and Technology Bureau of Shanghai of P.R.China, Project Leader Jan. 2009–Dec. 2010 Study on Non-thermal Plasma Technology Combined with ACF Modified by Titania Film for Trace Organic Compounds Removal (No. 2009-G002), Sponsored by Agricultural Bureau of Jiangsu Province of P.R.China, Project Leader Jan. 2008–Dec. 2010 Reduction Technology of Nitrogen and Phosphorus in Rural Sewage in Wujin Reservoir Areas and Engineering Demonstration (No. 2008ZX07101-004-01), Sponsored by Ministry of Environmental Protection of China, Main Participator</p>
<p>Academic achievement s</p>	<p>SELECTED PUBLICATIONS: 21. K. Q. Li*, Y. Zhou, J. Li, Soft-templating synthesis of partially graphitic Fe-embedded ordered mesoporous carbon with rich micropores from bayberry kernel and its adsorption for Pb(II) and Cr(III), Journal of the Taiwan Institute of Chemical Engineers, 82 (2018) 312–321. JCR 1 \square, 3. 728 TOP20% 22. K. Q. Li*, J.M. Liu, J. Li, Z.Q. Wan, Effects of N mono- and N/P dual-doping on H₂O₂, center dot OH generation, and MB electrochemical degradation efficiency of activated carbon fiber electrodes, Chemosphere, 193 (2018) 800–810. JCR 1 \square, 4. 551 TOP20% 23. Z. Q. Wan, K. Q. Li*, Effect of pre-pyrolysis mode on simultaneous introduction of nitrogen/oxygen-containing functional groups into the structure of bagasse-based mesoporous carbon and its influence on Cu(II) adsorption, Chemosphere, 194 (2018) 370–380. JCR1 \square, 4. 551 TOP20% 24. K. Q. Li*, Z. Q. Wan, J. Li, M. Z. Lu, X.H. Wang, Amino-functionalized bimodal ordered mesoporous carbon with high surface area for efficient adsorption of lead (II) ions, Desalination and Water Treatment, 60 (2017) 200–211. JCR2 \square, 1. 643 25. Li KQ*, Tao SY, Li J, Wang XH. Controllable Fe introduction into ordered mesoporous carbon with interconnected small pores for investigating Fe doping effect on hydrogen adsorption. International Journal of Hydrogen Energy 2017;42:4733–4740. JCR2 \square, 3. 647 26. H. Li, X. Li, L. Liu, KQ. Li*, X. Wang, H. Li, Experimental study of microwave-assisted pyrolysis of rice straw for hydrogen production, International Journal of Hydrogen Energy, 41 (2016) 2263–2267. JCR2 \square, 3. 419 27. K. Q. Li, Z. Rong, Y. Li, C. Li, Z. Zheng, Preparation of nitrogen-doped cotton stalk microporous activated carbon fiber electrodes with different surface area from</p>

hexamethylenetetramine-modified cotton stalk for electrochemical degradation of methylene blue, *Results in Physics*, 7 (2017) 656–664. **JCR2** **☒**, **1. 259**

28. **K. Q. Li***, J. Li, M. Z. Lu, H. Li, X. H. Wang, Preparation and amino modification of mesoporous carbon from bagasse via microwave activation and ethylenediamine polymerization for Pb(II) adsorption, *Desalination and Water Treatment*, 57 (2016) 24004–24018. **JCR2** **☒**, **1. 643**

29. **K. Q. Li***, Y. Jiang, X. H. Wang, D. Bai, H. Li, Z. Zheng, Effect of nitric acid modification on the lead(II) adsorption of mesoporous biochars with different mesopore size distributions, *Clean Technologies and Environmental Policy*, 18 (2016) 797–805. **JCR2** **☒**, **2. 374**

30. **K. Q. Li***, J. F. Cao, H. Li, J. M. Liu, M. Z. Lu, D. Y. Tang, Nitrogen functionalized hierarchical microporous/mesoporous carbon with a high surface area and controllable nitrogen content for enhanced lead(II) adsorption, *Rsc Advances*, 6 (2016) 92186–92196. **JCR2** **☒**, **3. 485**

31. Ma HW, **Li KQ***, Chai QF. Chemical modification of bagasse-based mesoporous carbons for chromium(III) ion adsorption. *Journal of Applied Biomaterials & Functional Materials* 2017;15:S52–S61. **JCR4** **☒**, **1. 363**

32. Li B. Y. ; **Li K. Q***, Effect of nitric acid pre-oxidation concentration on pore structure and nitrogen/oxygen active decoration sites of ethylenediamine -modified biochar for mercury(II) adsorption and the possible mechanism. *Chemosphere* 2019, 220, 28–39. **JCR1** **☒**, **4. 551 TOP20%**

33. **Li K. Q***; Wan Z. Q.; Liu J. M.; Guliyeva G., Bayberry–Kernel–Derived Wormlike Micro/Mesoporous Carbon Decorated with Human Blood Vessel–Like Structures and Active Nitrogen Sites as Highly Sensitive Electrochemical Sensors for Efficient Lead–Ion Detection. *Acs Omega* 2019, 4 (1), 1191–1200.

34. **Li K. Q***; Wan Z. Q., Preparation of Biomass-based Mesoporous Carbon with Higher Nitrogen-/Oxygen-chelating Adsorption for Cu(II) Through Microwave Pre-Pyrolysis. *Jove–Journal of Visualized Experiments* 2019, (144). **JCR2** **☒**, **1. 677**

35. Li X. H. ; **Li K. Q.** ; Li H. ; El-Mashad H. ; Jenkins B. M. ; Yin W. Q. , White Poplar Microwave Pyrolysis: Heating Rate and Optimization of Biochar Yield. *Bioresources* 2018, 13 (1), 1107–1121. **JCR2** **☒**, **1. 526**

36. Li J. ; Li X. B. ; **Li K. Q.** ; Tao T. , Plasmas ozone inactivation of Legionella in deionized water and wastewater. *Environmental Science and Pollution Research* 2018, 25 (10), 9697–9707. **JCR2** **☒**, **2. 989**

37. Wang X. H. ; **Li K. Q.** ; Li H. ; Bai D. ; Liu J. R. , Research on China’s rural household energy consumption – Household investigation of

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<p>Reward & honor</p>	<ol style="list-style-type: none"> 1. Nanjing Agricultural University Young Teacher Award 2012-2016 2. Most Beautiful Teacher of Nanjing Agricultural University, 2019. 3. Excellent Communist Party Member of Nanjing Agricultural University, 2018. 4. Outstanding reviewer of Chemosphere, 2018. 5. Nanjing University Excellent graduate 2009 6. Teaching achievement second award of Jiangsu Province 2009