李娟

女 硕导 中国科学院高能物理研究所

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研究领域

纳米颗粒的生物效应及安全性评价，靶向药物输送场控微纳机器人的药物输运、智能纳米药物的安全性研究于临床前评价，纳米载药系统的制备与表面改性，纳米药物分子探针同位素示踪、同步辐射技术的应用，以及纳米生物效应及纳米材料的生物应用。

招生信息

化学工程与工艺 硕士研究生

招生专业

081704-应用化学

0703J1-纳米科学与技术

080502-材料学

招生方向

纳米药物代谢

纳米材料同位素示踪

纳米化药物的生物效应与安全性评价

教育背景

2006-09--2009-06 北京理工大学 博士

工作经历

2009年7月-2011年7月 中国科学院高能物理研究所 核化学 博士后

2011年7月至今 中国科学院高能物理研究所 纳米生物收效应重点实验室 自然科学研究岗

工作简历

2018-04~2019-04,加州大学洛杉矶分校, 高级访问学者

2012-07~2017-06,中国科学院高能物理研究所, 副研究员

2011-07~2012-07,中国科学院高能物理研究所, 助理研究员

2009-07~2011-07,中国科学院高能物理研究所, 博士后

社会兼职

2024-01-01-今,“赛先生说”苏州科学文化讲坛, 苏州科普大使

2023-12-05-今,玉泉小学科技协会, 玉泉小学科技协会辅导员

2021-12-01-2023-12-31,“挑战杯”全国大学生课外学术科技作品竞赛网络评审评委, 评审评委

2021-07-09-2026-07-08,中国微米纳米技术学会微纳机器人分会第二届理事会理事, 理事会理事

2021-02-17-2025-02-20,《Diseases & Research》, 主编

2017-10-28-2022-10-27,中国抗癌协会纳米肿瘤学专业委员会, 第二届委员会委员

科研活动

科研项目

（ 1 ） 肝癌早期诊断用新型功能性纳米材料, 参与, 国家级, 2011-01--2016-08

（ 2 ） 钆基多功能荧光上转换纳米材料, 参与, 国家级, 2011-10--2014-12

（ 3 ） 等电聚焦电泳系统的高效毛细管电泳联用设备的改造, 主持, 市地级, 2012-01--2013-12

（ 4 ） 利用核技术分析并构建金属标记富勒烯多功能纳米材料 , 主持, 国家级, 2015-01--2017-12

（ 5 ） 难溶性药物口服纳米制剂的转运机制及临床转化研究, 参与, 国家级, 2015-01--2019-08

（ 6 ） 体外、离体和在体肠上皮细胞模型中纳米金属富勒烯的转运过程研究, 主持, 国家级, 2016-01--2019-12

（ 7 ） 难溶性药物口服纳米制剂的代谢机制的代谢机制与安全性研究, 参与, 国家级, 2015-01--2019-08

（ 8 ） 生物医用纳米材料的代谢过程及其分析方法研究, 参与, 国家级, 2013-01--2017-08

（ 9 ） 应用纳米技术解决新型抗艾滋病药物的若干关键科学问题, 参与, 国家级, 2009-01--2012-08

（ 10 ） 高效低毒抗肿瘤纳米药物, 参与, 部委级, 2014-01--2017-12

（ 11 ） 利用同步辐射和核技术分析PM2.5颗粒物的体内转运过程, 主持, 省级, 2018-01--2020-12

（ 12 ） 毛细管电泳色谱与MALDI-TOF-MS联用的开发, 参与, 市地级, 2017-01--2018-12

（ 13 ） 纳米富勒醇诱导肌动蛋白成束结构变化的机理研究, 主持, 研究所（学校）, 2017-01--2018-12

（ 14 ） 靶向药物输送场控微纳机器人, 主持, 国家级, 2020-01--2023-12

（ 15 ） 构建新型硼纳米药物用于脑胶质瘤、骨肉瘤的BNCT治疗, 参与, 市地级, 2021-01--2023-12

（ 16 ） 靶向肿瘤的微纳米机器人的可控制造和智能释放, 主持, 市地级, 2020-08--2021-09

（ 17 ） 构建富勒烯基MRI-荧光双模态纳米诊疗探针, 主持, 研究所（学校）, 2019-07--2020-06

参与会议

（1）含硼纳米药物用于脑胶质瘤的BNCT 硼药及BNCT研讨会 2024-03-20

（2）The uniqueness of safety evaluation for boron-containing nanocarriers for boron neutron capture therapy 纳米药物2023 Juan Li, Haoyang Hao, Zhijie Wang, Zhicai Liu, Xianwei Luo, Hongyu Tang, Mengyao Li, Jingru Yang, Mingxin Yang, Kui Chen, Yannan Chang, Hui Yuan, Jinafei Tong, Huafu Ouyang, Tianjiao Liang and Gengmei Xing 2023-11-04

（3）同步辐射技术在硼中子俘获治疗纳米药物临床转化重的应用 北京同步辐射装置2023年用户学术年会 2023-08-24

（4）含硼量子点用于脑胶质瘤模型的中子俘获治疗 功能化碳量子点制备及应用学术研讨会 2022-11-20

（5）等温滴定微量热技术分析富勒醇纳米颗粒与血浆蛋白的相互作用 中国毒理学会第八次全国毒理学大会 李娟, 崔荣丽, 邢更妹, 孙宝云 2017-10-15

（6）The High-Relaxivity of GO-Gd@C82 Nanohybrids as Magnetic Resonance Imaging Contrast Agents 2017-04-16

（7）The High-Relaxivity of GO-Gd@C82 Nanohybrids as Magnetic Resonance Imaging Contrast Agents 2016-05-17

（8）separation and purification of fullerenols by Capillary zone electrophoresis ]. Honghui Xin, Yanan Chang, Mingyi Zhang, Kui Chen, Ying Wang, Weihong Gu, Juan Li, Gengmei. Xing 2015-04-07

（9）The Cytotoxicology of Water-soluble Fullerene Derivatives with Different Surface Covalent Modification Juan Li, Rui He, Yanan Chang, Mingyi Zhang, Kui Chen,Lin Xia, Ying Wang, Weiwei Sang, Weihong Gu, Gengmei Xing 2015-04-07

（10）The Differential Cytotoxicity of Water-soluble Fullerene Derivatives by Improved Nitrene Chemistry 中国微米纳米技术学会纳米科学技术分会第三届年会暨2014全国纳米生物与医学学术会议 Juan Li, Rui. He, WeiWei Sang,YaNan Chang, Gengmei Xing 2014-11-05

（11）The scavenging of reactive oxygen species and the potential for cell protection by fullerenols with different isoelectric points 第三届全国纳米生物效应与毒理学会议 Juan Li1, Wenyan Yin1, Rui He1, Rongli Cui1, Yanan Chang1, Mingyi Zhang1, Junjiang Jin1, Baoyun Sun1, Yuliang Zhao1,2, Gengmei Xing1 2013-11-11

（12）The Effects of C60(C(COOH)2)2-FITC on Proliferation and Differentiation of Human Mesenchymal Stem Cells In Vitro Juan Li, Baijing An, Xiaoxiao Liu, Mingyi Zhang, Yanan Chang, Geng-Mei Xing, Jun Zhang, 2012-09-03

指导学生

已指导学生

古伟宏 博士研究生 0703Z2-生物无机化学

张佳欣 博士研究生 0703Z2-生物无机化学

现指导学生

陈紫腾 博士研究生 0703Z2-生物无机化学

王志杰 博士研究生 0703Z2-生物无机化学

Li Juan

Gender: Female

Position: Master's Supervisor

Affiliation: Institute of High Energy Physics, Chinese Academy of Sciences

E-mail: lijuan@ihep.ac.cn

Mailing Address: Room 405, Building B, Material Building, No. 19, Yuquan Road, Shijingshan District, Beijing, 100049, China

Research Fields:

Biological effects and safety evaluation of nanoparticles

Drug delivery by field-controlled micro-nano robots for targeted drug delivery

Safety studies and preclinical evaluation of intelligent nanomedicines

Preparation and surface modification of nano drug delivery systems

Isotopic tracing of nanomedicine molecular probes

Application of synchrotron radiation technology

Biological effects of nanomaterials and their biological applications

Admissions Information:

Master’s Program in Chemical Engineering and Technology

Fields of Study:

081704 - Applied Chemistry

0703J1 - Nanoscience and Technology

080502 - Materials Science

Research Directions:

Metabolism of nanomedicines

Isotopic tracing of nanomaterials

Biological effects and safety evaluation of nanomedicines

Educational Background:

2006.09 - 2009.06: Ph.D., Beijing Institute of Technology

Work Experience:

2009.07 - 2011.07: Postdoctoral Fellow of Nuclear Chemistry of the Institute of High Energy Physics, Chinese Academy of Sciences

2011.07 - Present: Natural Science Researcher of the Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety of the Institute of High Energy Physics, Chinese Academy of Sciences

2018.04 - 2019.04: Senior Visiting Scholar of University of California, Los Angeles

2012.07 - 2017.06: Associate Researcher of the Institute of High Energy Physics, Chinese Academy of Sciences

2011.07 - 2012.07: Assistant Researcher of the Institute of High Energy Physics, Chinese Academy of Sciences

2009.07 - 2011.07: Postdoctoral Fellow of the Institute of High Energy Physics, Chinese Academy of Sciences

Social Positions:

2024.01.01 - Present: Suzhou Ambassador of "Mr. Sai" Science Communication Suzhou Forum

2023.12.05 - Present: Science Association Counselor of Yuquan Primary School

2021.12.01 - 2023.12.31: Online Reviewer of "Challenge Cup" National College Students' Extracurricular Academic and Technological Works Competition

2021.07.09 - 2026.07.08: Member of the Second Board of Directors of Micro-Nano Robot Branch, Chinese Society of Micro-Nano Technology

2021.02.17 - 2025.02.20: Editor-in-Chief of "Diseases & Research"

2017.10.28 - 2022.10.27: Member of the Second Committee of Nano-Oncology of Chinese Anti-Cancer Association

Scientific Research Activities:

Scientific Research Projects:

(1) New functional nanomaterials for early diagnosis of liver cancer, Participant, National Level, 2011.01 - 2016.08

(2) Gadolinium-based multifunctional fluorescent upconversion nanomaterials, Participant, National Level, 2011.10 - 2014.12

(3) Modification of efficient capillary electrophoresis equipment for isoelectric focusing electrophoresis system, Principal Investigator, Municipal Level, 2012.01 - 2013.12

(4) Analysis and construction of multifunctional fullerene nanomaterials with metal labels using nuclear technology, Principal Investigator, National Level, 2015.01 - 2017.12

(5) Research on the transport mechanism and clinical translation of oral nano-formulations for poorly soluble drugs, Participant, National Level, 2015.01 - 2019.08

(6) Study on the transport process of nano-metal fullerenes in vitro, ex vivo, and in vivo intestinal epithelial cell models, Principal Investigator, National Level, 2016.01 - 2019.12

(7) Research on the metabolic mechanism and safety of oral nano-formulations for poorly soluble drugs, Participant, National Level, 2015.01 - 2019.08

(8) Research on the metabolic process and analytical methods of biomedical nanomaterials, Participant, National Level, 2013.01 - 2017.08

(9) Application of nanotechnology to solve key scientific problems in new anti-HIV drugs, Participant, National Level, 2009.01 - 2012.08

(10) High-efficiency low-toxicity anti-cancer nanomedicines, Participant, Ministerial Level, 2014.01 - 2017.12

(11) Analysis of PM2.5 particle transport process in vivo using synchrotron radiation and nuclear technology, Principal Investigator, Provincial Level, 2018.01 - 2020.12

(12) Development of capillary electrochromatophoresis and MALDI-TOF-MS combined technology, Participant, Municipal Level, 2017.01 - 2018.12

(13) Study on the mechanism of actin bundle structure changes induced by fullerene nanoparticles, Principal Investigator, Institutional Level, 2017.01 - 2018.12

(14) Field-controlled micro-nano robots for targeted drug delivery, Principal Investigator, National Level, 2020.01 - 2023.12

(15) Construction of new boron nanomedicines for BNCT treatment of gliomas and osteosarcomas, Participant, Municipal Level, 2021.01 - 2023.12

(16) Controllable manufacturing and intelligent release of micro-nano robots targeting tumors, Principal Investigator, Municipal Level, 2020.08 - 2021.09

(17) Construction of fullerene-based MRI-fluorescence dual-modal nano-diagnostic probes, Principal Investigator, Institutional Level, 2019.07 - 2020.06

Conference Participation:

(1) BNCT using boron nanomedicines for glioma treatment, Boron Drugs and BNCT Symposium, 2024.03.20

(2) The uniqueness of safety evaluation for boron-containing nanocarriers for BNCT, Nanomedicine 2023, Juan Li, Haoyang Hao, Zhijie Wang, Zhicai Liu, Xianwei Luo, Hongyu Tang, Mengyao Li, Jingru Yang, Mingxin Yang, Kui Chen, Yannan Chang, Hui Yuan, Jinafei Tong, Huafu Ouyang, Tianjiao Liang, Gengmei Xing, 2023.11.04

(3) Application of synchrotron radiation technology in the clinical translation of nanomedicines for BNCT, Beijing Synchrotron Radiation Facility 2023 User Academic Conference, 2023.08.24

(4) Boron quantum dots for BNCT in glioma models, Academic Symposium on the Preparation and Application of Functionalized Carbon Quantum Dots, 2022.11.20

(5) Analysis of the interaction between fullerene nanoparticles and plasma proteins using isothermal titration calorimetry, The 8th National Congress of Toxicology of Chinese Society of Toxicology, Juan Li, Rongli Cui, Gengmei Xing, Baoyun Sun, 2017.10.15

(6) The High-Relaxivity of GO-Gd@C82 Nanohybrids as Magnetic Resonance Imaging Contrast Agents, 2017.04.16

(7) The High-Relaxivity of GO-Gd@C82 Nanohybrids as Magnetic Resonance Imaging Contrast Agents, 2016.05.17

(8) Separation and purification of fullerenols by capillary zone electrophoresis, Honghui Xin, Yanan Chang, Mingyi Zhang, Kui Chen, Ying Wang, Weihong Gu, Juan Li, Gengmei Xing, 2015.04.07

(9) The Cytotoxicology of Water-soluble Fullerene Derivatives with Different Surface Covalent Modification, Juan Li, Rui He, Yanan Chang, Mingyi Zhang, Kui Chen, Lin Xia, Ying Wang, Weiwei Sang, Weihong Gu, Gengmei Xing, 2015.04.07

(10) The Differential Cytotoxicity of Water-soluble Fullerene Derivatives by Improved Nitrene Chemistry, 3