

<b><u>基本信息</u></b>	
姓 名	张加涛
职 务	院长
职 称	教授
学术兼职	英国皇家化学会会士， <b>Energy Materials Advances</b> 期刊副主编，中国化学会高级会员，中国化工学会化学工程专业委员会委员，纳米材料与器件分会副秘书长，中国材料研究学会理事
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<b><u>教育背景</u></b>	
2003.09-2006.07	清华大学，化学专业，无机化学理学博士
2000.09-2003.04	北京理工大学，应用化学专业，工学硕士
1996.09-2000.07	济南大学，应用化学专业，理学学士
<b><u>工作经历</u></b>	
2019.06-至今	北京理工大学化学与化工学院，院长，教授
2011.03-至今	北京理工大学材料学院，教授
2008.01-2011.01	美国马里兰大学，物理系，博士后
2006.09-2007.12	德国卡尔斯鲁厄大学无机化学研究所，博士后
<b><u>研究方向</u></b>	
1.	半导体掺杂量子点化学合成及光电新能源器件应用
2.	半导体复合纳米材料化学合成及光催化应用研究
3.	半导体复合纳米材料化学合成及生物医用研究
4.	

<u>荣誉奖励</u>	
1.	2013 年国家优秀青年基金获得者
2.	2018 年中国高校材料联盟 IFAM 青年科学家奖
3.	2019 年 IUPAC 新材料及合成 Distinguished Awards 奖
<u>承担项目</u>	
1.	国家自然科学基金面上项目, 异价掺杂量子点的合成、聚合物基复合块体 3D 打印制造与性能研究
2.	国家自然科学基金优秀青年科学基金, 金属/半导体异质纳米结构及光电性能研究
3.	国家自然科学基金面上项目, 液相法调控 II-VI 族半导体纳米晶的异价掺杂及光电性能应用研究
4.	北京市港澳台联合专项, 生物相容性半导体纳米晶的可控合成及肿瘤精确诊疗应用研究
5.	国家自然科学基金重点项目, 低维异质纳米结构的构建及其磁学与电催化性能调控
<u>研究成果</u>	
<p>主持国家自然科学基金项目、北京市、教育部等省部级项目 8 项; 参与国家自然科学基金重点、重大集成项目等 2 项。迄今在国内外学术刊物及会议上发表学术论文 70 余篇, 其中 SCI 收录 60 余篇, EI 收录 2 篇, 获授权专利 7 项。</p>	
1.	张加涛等, 一种 Au@Cu <sub>2</sub> -δX 纳米晶体、其制备方法和应用,
2.	张加涛等, 一种具有中空微反应腔结构的半导体基异质纳米晶及其制备方法
3.	张加涛等, 一种新型高效光解水复合催化剂的制备方法
4.	张加涛等, 一种基于发光掺杂量子点的多模防伪方法
5.	张加涛等, 一种半导体中异价金属离子掺杂的方法
<u>代表性论文</u>	
1.	V. Pinchetti, Q. M. Di, M. Lorenzon, A. Camellini, M. Fasoli, M. Zavelani-Rossi, F. Meinardi, <b>J. T. Zhang*</b> , S. A. Crooker and S. Brovelli*, Excitonic Pathway to Photoinduced Magnetism in Colloidal Nanocrystals with Nonmagnetic Dopants, <i>Nature Nanotechnology</i> 2018, 13, 145–151.
2.	J. Liu, <b>J. T. Zhang*</b> , Nanointerface Chemistry: Lattice-Mismatch-Directed Synthesis and Application of Hybrid Nanocrystals, <i>Chemical Reviews</i> 2020, 120(4), 2123-2170.

3.	X. Li, M. Ji, H. B. Li*, H. Wang, M. Xu, <sup>1,2</sup> H. Rong, J. Wei, J. Liu, J. Liu, W. Chen, C. Zhu, J. Wang, and <b>J.T. Zhang*</b> , Cation/Anion Exchange Reactions toward the Syntheses of Upgraded Nanostructures: Principles and Applications, <i>Matter</i> 2020, 2, 554–586.
4.	B. Bai, C. Zhao, M. Xu*, J. Ma, Y. Du, H. Chen, J. Liu, J. Liu, H. Rong, W. Chen, Y. Weng, S. Brovelli, <b>J. T. Zhang*</b> , Unique Cation Exchange in Nanocrystal Matrix via Surface Vacancy Engineering Overcoming Chemical Kinetic Energy Barriers, <i>Chem</i> 2020, DOI: 10.1016/J.chempr.2020.08.020.
5.	E. Zhang, T. Wang, K. Yu, J. Liu, W. Chen, A. Li, H. P. Rong*, R. Lin, S. Ji, X. S. Zheng, Y. Wang, L. Zheng, C. Chen, D. S. Wang*, <b>J. T. Zhang*</b> , and Y. D. Li*, Bismuth Single Atoms Resulting from Transformation of Metal-Organic Frameworks and Their Use as Electrocatalysts for CO <sub>2</sub> Reduction, <i>J. Am. Chem. Soc.</i> 2019, 141, 42, 16569-16573.
6.	Z. Jiang, W. Sun, H. Shang, W. X. Chen*, T. Sun, H. Li, J. Dong, J. Zhou, Z. Li, Y. Wang, R. Cao, R. Sarangi, Z. Yang, D. S. Wang*, <b>J. T. Zhang*</b> , and Y. D. Li*, Atomic interface effect of a single atom copper catalyst for enhanced oxygen reduction reactions, <i>Energy Environ. Sci.</i> DOI: 10.1039/c9ee0297e.
7.	Bing Bai, <sup>+</sup> Meng Xu, <sup>+</sup> Nan Li, Wenxing Chen, Jiajia Liu, Jia Liu, Hongpan Rong, Dieter Fenske, Jiatao Zhang*, Thiols and Solvents Coordinated Cation Exchange Kinetics for Novel Semiconductor Nanocrystal Engineering, <i>Angew. Chem. Int. Ed.</i> 2019, 58(15), 4852-4857.
8.	Jia Liu, Jingwen Feng, Jing Gui, Tao Chen, Meng Xu, Hongzhi Wang, Hui Fang Dong; Hailong Chen; Xiaowei Li; Liang Wang; Zhuo Chen; Zhenzhong Yang; Jiajia Liu; Weichang Hao; Yuan Yao; Lin Gu; Yuxiang Weng; Yu Huang; Xiangfeng Duan; <b>Jiatao Zhang*</b> ; Yadong Li, Semiconductor Core-Shell Nanocrystals with Atomically Organized Interfaces for Efficient Hot Electron-Mediated Photocatalysis, <i>Nano Energy</i> 2018, 48, 44-52.
9.	Xinyuan Li, Muhammad Ahsan Iqbal, Meng Xu, Yi-Chi Wang, Hongzhi Wang, Muwei Ji, Xiaodong Wan, Thomas J. A. Slater, Jia Liu, Jiajia Liu, Hongpan Rong, Wenxing Chen, Stephen V. Kershaw, Sarah J. Haigh, Andrey L. Rogach, Liming Xie*, Jiatao Zhang*, Au@HgxCd <sub>1-x</sub> Te core@shell nanorods by sequential aqueous cation exchange for near-infrared photodetectors, <i>Nano Energy</i> 2019, 57, 57-65.
10.	Q. Zhao, M. Ji, H. Qian, B. Dai, L. Weng, J. Gui, <b>J. T. Zhang*</b> , M. Ouyang, H. S. Zhu, Controlling Structural Symmetry of a Hybrid Nanostructure and its Effect on

	Efficient Photocatalytic Hydrogen Evolution, <i>Adv. Mater.</i> 2014, 26, 1387–1392.
11.	J. Gui, M. Ji, J. Liu, M. Xu, <b>J. T. Zhang*</b> , H. S. Zhu, Phosphine-Initiated Cation Exchange for Precisely Tailoring Composition and Properties of Semiconductor Nanostructures: Old Concept, New Applications. <i>Angew. Chem. Int. Ed.</i> 2015, 54, 3683-3687.
12.	J. Liu, Q. Zhao, J. Liu, Y. Wu, Y. Cheng, M. Ji, H. Qian, W. C. Hao, L. Zhang, X. J. Wei, S. G. Wang*, <b>J.T. Zhang*</b> , Y. Du, S. X. Dou, and H. S. Zhu, Heterovalent-Doping-Enabled Efficient Dopant Luminescence and Controllable Electronic Impurity Via a New Strategy of Preparing II–VI Nanocrystals. <i>Adv. Mater.</i> 2015, 27, 2753-2761.
13.	M. Ji, M. Xu, W. Zhang, Z. Z. Yang, L. Huang, J. Liu, Y. Zhang, L. Gu, Y. X. Yu, W.C. Hao, P. An, L. Zheng, H.S. Zhu, Jiatao Zhang*, Structurally well-defined Au@Cu <sub>2-x</sub> S Core–Shell Nanocrystals for Improved Cancer Treatment Based on Enhanced Photothermal Efficiency, <i>Adv. Mater.</i> 2016, 28, 3094–3101. 27次
14.	W.Y. Huang, M. Xu, J.J. Liu, J.Y. Wang, Y.B. Zhu, J. Liu, H.P. Rong, <b>J.T. Zhang*</b> , Hydrophilic Doped Quantum Dots “Ink” and Their Inkjet-Printed Patterns for Dual Mode Anti-Counterfeiting by Reversible Cation Exchange Mechanism, <i>Adv. Funct. Mater.</i> 2019, 29, 1808762.
15.	Hongzhi Wang#, Yuying Gao#, Jia Liu, Xinyuan Li, Muwei Ji, Erhuan Zhang, Xiaoyan Cheng, Meng Xu, Jiajia Liu, Hongpan Rong, Wenxing Chen, Fengtao Fan, Can Li, and Jiatao Zhang*, Efficient Plasmonic Au/CdSe Nanodumbbell for Photoelectrochemical Hydrogen Generation beyond Visible Region, <i>Adv. Energy Mater.</i> 2019, 9(15) 1803889.
16.	Erhuan Zhang, Jia Liu, * Muwei Ji, Hongzhi Wang, Xiaodong Wan, Hongpan Rong, Wenxing Chen, Jiajia Liu, Meng Xu and <b>Jiatao Zhang*</b> , Hollow anisotropic semiconductor nanoprisms with highly crystalline frameworks for high-efficiency photoelectrochemical water splitting, <i>Journal of Materials Chemistry A</i> , 2019, 7, 8061 – 8072.
17.	Rongrong Pan, Jia Liu, * Yuemei Li, Xinyuan Li, Erhuan Zhang, Qiumei Di, Mengyao Su and <b>Jiatao Zhang*</b> , Electronic doping-enabled transition from n- to p-type conductivity over Au@CdS core-shell nanocrystals toward unassisted photoelectrochemical water splitting, <i>Journal of Materials Chemistry A</i> , 2019, 7, 23038 – 23045.

18.	Liu Huang, Jiaojiao Zheng, Lingling Huang, Jia Liu, Muwei Ji, Yuan Yao, Meng Xu, Jiajia Liu, <b>Jiatao Zhang*</b> , and Yadong Li. Controlled synthesis and flexible self-assembly of monodisperse Au@semiconductor core/shell hetero-nanocrystals into diverse superstructures. <i>Chemistry of Materials</i> , 2017, 29 (5), 2355-2363.
19.	Liu Huang, Xiaodong Wan, Hongpan Rong, Yuan Yao, Meng Xu, Jia Liu, Muwei Ji, Jiajia Liu, Lan Jiang, and <b>Jiatao Zhang*</b> , Colloid Interfaces Assisted Laser Irradiation of Nanocrystals Superlattices to be Scalable Plasmonic Superstructures with Novel Activities, <i>Small</i> 2018, 14, 1703501: 1-10.
20.	Xiyue Zhu,, Hongpan Rong*, Xiaobin Zhang,, Qiumei Di, Huishan Shang,, Bing Bai,, Jiajia Liu,, Jia Liu,, Meng Xu, Wenxing Chen, and <b>Jiatao Zhang*</b> , Compressive surface strained atomic-layer Cu <sub>2</sub> O on Cu@Ag nanoparticles, <i>Nano Research</i> 2019, 12(5): 1187–1192.
21.	Meng Xu, Guopeng Tu, Muwei Ji, Xiaodong Wan, Jiajia Liu, Jia Liu, Hongpan Rong, Yanlian Yang, Chen Wang, <b>Jiatao Zhang*</b> , Vacuum-tuned-atmosphere induced assembly of Au@Ag core/shell nanocubes into multi-dimensional superstructures and the ultrasensitive IAPP proteins SERS detection, <i>Nano Research</i> 2019, 12(6), 1375–1379.
22.	Rongrong Pan, Jia Liu, * Yuemei Li, Xinyuan Li, Erhuan Zhang, Qiumei Di, Mengyao Su and Jiatao Zhang*, Electronic doping-enabled transition from n- to p-type conductivity over Au@CdS core–shell nanocrystals toward unassisted photoelectrochemical water splitting, <i>J. Mater. Chem. A</i> , 2019, 7, 23038–23045.
23.	Qiumei Di, Xiyue Zhu, Jia Liu, Xiaobin Zhang, Huishan Shang, Wenxing Chen, Jiajia Liu, Hongpan Rong, Meng Xu, and Jiatao Zhang*, High-Performance Quantum Dots with Synergistic Doping and Oxide Shell Protection Synthesized by Cation Exchange Conversion of Ternary-Composition Nanoparticles, <i>J. Phys. Chem. Lett.</i> 2019, 10, 2606–2615.
24.	Jiatao Zhang, * Q.M. Di, J. Liu, B. Bai, J. Liu, M. Xu, and J.J. Liu, Heterovalent doping in Colloidal Semiconductor Nanocrystals: Cation Exchange-Enabled New Accesses to Tuning Dopant Luminescence and Electronic Impurities, <i>J. Phys. Chem. Lett.</i> 2017, 8, 4943–4953.
25.	Jingwen Feng, Jia Liu, Xiaoyan Cheng, Jiajia Liu, Meng Xu, and Jiatao Zhang*, Hydrothermal Cation Exchange Enabled Gradual Evolution of Au@ZnS - AgAuS Yolk - Shell Nanocrystals and Their Visible Light Photocatalytic Applications, <i>Advanced Science</i> 2017, 1700376: 1-7, DOI: 10.1002/advs.201700376.

26.	Xiaoyan Cheng, Jia Liu,* Jingwen Feng, Erhuan Zhang, Hongzhi Wang, Xiangyu Liu, Jiajia Liu, Hongpan Rong, Meng Xu and <b>Jiatao Zhang*</b> ,Metal@I <sub>2</sub> -II-IV-VI <sub>4</sub> core-shell nanocrystals: controlled synthesis by aqueous cation exchange for efficient photoelectrochemical hydrogen generation, <i>J. Mater. Chem. A</i> 2018, 6, 11898- 11908.
27.	E.H. Zhang, F.F. Ma, J. Liu,* J. Sun, W.X. Chen, H.P. Rong, X.Y. Zhu, J.J. Liu, M. Xu, Z.B. Zhuang, S. L. Chen, Z. H. Wen and <b>J.T. Zhang*</b> , Porous platinum-silver bimetallic alloys: surface composition and strain tunability toward enhanced electrocatalysis , <i>Nanoscale</i> 2018, 10, 21703-21711.
28.	Xiaoyan Cheng, Jia Liu, * Xiaodong Wan, Hongzhi Wang, Yuemei Li, Jiajia Liu, Hongpan Rong, Meng Xu, Wenxing Chen and Jiatao Zhang*, Phosphine ligands-mediated kinetics manipulation of aqueous cation exchange: a case study on synthesis of Au@SnS <sub>x</sub> core-shell nanocrystals for photoelectrochemical water splitting, <i>Chemical Communications</i> 2018, 54, 9993 – 9996.
29.	Anwer Shoaib, Yongxin Huang, Jia Liu, Jiajia Liu, Meng Xu, Ziheng Wang, Renjie Chen*, Jiatao Zhang*, Feng Wu. Nature Inspired Na <sub>2</sub> Ti <sub>3</sub> O <sub>7</sub> Nanosheets Formed Three-Dimensional Micro-Flowers Architecture as a High-Performance Anode Material for Rechargeable Sodium Ion Batteries, <i>ACS Appl. Mater. Interfaces</i> , 2017, 9, 11669-11677.
30.	Anwer Shoaib, Yongxin Huang, Jia Liu, Jiajia Liu, Meng Xu, Ziheng Wang, Renjie Chen, Jiatao Zhang*, Feng Wu. Ultrathin single-crystalline TiO <sub>2</sub> nanosheets anchored on graphene to be hybrid network for high-rate and long cycle-life sodium battery electrode application, <i>Journal of Power Sources</i> 2017, 342, 405-413.