

Jinsong Huang

Louis D. Rubin Jr. Distinguished Professor
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EDUCATION

Ph.D. Materials Science & Engineering, University of California-Los Angeles, 2007

M.S. Semiconductors Physics, Chinese Academy of Sciences, 2003

B.E. Materials and Photoelectronic Physics, Xiangtan University, 2000

PROFESSIONAL EXPERIENCE

Louis D. Rubin Jr. Distinguished Professor, Department of Applied Physical Science, University of North Carolina Chapel Hill, 2020-present

Founder and CEO, Perotech Inc, 2018-present

Professor, Department of Applied Physical Science, University of North Carolina Chapel Hill, 2017-present

Susan J. Rosowski University Professor, University of Nebraska Lincoln, 2015-2017

Professor, Department of Mechanical Engineering, University of Nebraska Lincoln, 2016-2017

Associate Professor, Department of Mechanical Engineering, University of Nebraska Lincoln, 2014-2016

Assistant Professor, Department of Mechanical Engineering, University of Nebraska Lincoln, 2009-2014

Senior Research Scientist, Department of Material Technologies, Agiltron Inc. 2008-2009

Research Scientist, Department of Material Technologies, Agiltron Inc. 2007-2008

RESEARCH CENTERS

2018- present Associate Director of *Center for Hybrid Organic Inorganic Semiconductors for Energy (CHOISE)*- An EFRC center funded by DOE

2018-2021 Director of Center of Hybrid Materials Enabled Electronic Technology (CH-MEET), a University of North Carolina's Research Opportunities Initiative (UNC ROI) center

HONORS AND AWARDS

2025 Highly Cited Researchers™ list from Clarivate™

2024 Highly Cited Researchers™ list from Clarivate™

2023 Highly Cited Researchers™ list from Clarivate™

2022 Highly Cited Researchers™ list from Clarivate™

2021 Highly Cited Researchers™ list from Clarivate™

2020 Highly Cited Researchers™ in both Materials and Chemistry from Clarivate™

2020 Louis D. Rubin Jr. Distinguished Professor

2019 Highly Cited Researchers, by Web of Science

2019 MRS symposium Oral award

- 2018 Top five researchers in the world in perovskite solar cell research, by Times Higher Education (THE)
- 2018 Highly Cited Researchers by Clarivate Analytics
- 2017 Highly Cited Researchers by Clarivate Analytics
- 2016 Highly Cited Researchers by Thomson Reuters
- 2016 NUtech Ventures Innovator Award, University of Nebraska, Lincoln
- 2015 Highly Cited Researchers by Thomson Reuters
- 2015 Postdoc Mentor Award, University of Nebraska, Lincoln,
- 2015 College Faculty Research and Creative Activity Award
- 2015 Susan J. Rosowski University Professorship
- 2015 Lecture in National Academies, Condensed Matter and Materials Research Committee Spring Meeting
- 2014 William E. Brooks Engineering Leadership Fellow
- 2013 NSF CAREER Award
- 2013 Honorable Speaker for the Polymer Science Lecture, Chinese Academy of Science
- 2012 Edgerton Innovation Award
- 2012 Research Fellow, University of Nebraska Lincoln
- 2011 College Faculty Research and Creative Activity Award
- 2011 Faculty Research Award, UNL Department of Mechanical Engineering
- 2010 DoD Young Investigator Award
- 2009 FIRST award, National Science Foundation
- 2007 Society for Information Display Student Scholarship Award
- 2006 Materials Research Society Graduate Student Awards, MRS Fall

SERVICE TO MATERIAL SOCIETY

Editor Board Member

- 2025-present Associate editor, Science Advances
- 2022-present Member of Editorial Advisory Board (EAB) for ACS Energy Letters
- 2020-present Editorial Board Member for Advanced Photonic Materials
- 2019-present Editorial Board Member for International Journal of Extreme Manufacturing
- 2019-present Editorial Board Member for Cell Reports Physical Science
- 2018 “Perovskite solar cells themed issue of *Sustainable Energy & Fuels*.” *Sustainable Energy & Fuels*, Guest editors, Jinsong Huang, Nam-Gyu Park, Yabing Qi, Editor: Katie Lim
- 2017-2022 Editorial Board Member for *Materials Today Physics*
- 2014-2019 Editorial Board Member for *Scientific Reports*

Conference and Symposium Organizer

- 2023 Symposium EL20-Photo and Radiation Detection with Organic, Perovskite and Nano-crystalline Semiconductors, Ardalan Armin, Pelayo Garcia de Arquer, Nicola Gasparini and Jinsong Huang, MRS spring 2023, San Francisco
- 2023 Symposium V for the 11th International Conference on Materials for Advanced Technologies (ICMAT 2023), Xiaogang Liu, Qiushui Chen, Osman Bakr, Jinsong Huang
- 2022 Gordon Research Conference, every two years, “Unconventional Semiconductors and Their Applications” Organizers: Matthew Beard, Jinsong Huang, Hanwei Gao and Iván Mora Seró

- 2022 EMRS 2021, Symposium on “Novel Materials for Radiation Detection” Jinsong Huang, Paul Sellin, Laura Basiricò
- 2021 11th International Conference on Materials for Advanced Technologies, Symposium Advanced Materials for X-ray Scintillation, Singapore,
- 2018 “ACS Nanostructured Materials for Energy Harvesting & Storage” symposium at the 256th ACS National Meeting (August 19-23, in Boston), Organizers: Jinsong Huang, Marina S. Leite, Matthew T. McDowell,
- 2017 “Symposium ES01—Perovskite Materials and Devices—Progress and Challenges”, **MRS** Fall 2017, Boston, MA, (Nov.26-Dec 1), Organizers: Yabing Qi, Jinsong Huang, Annamaria Petrozza, Huanping Zhou
- 2016 “Symposium EP3: Perovskite-Based Photovoltaics and Optoelectronic Devices”, **MRS** Spring, Phoenix, AZ (March 28-April 1), Organizers: Kai Zhu, Jinsong Huang, Maria Antonietta Loi, Tsutomu Miyasaka
- 2015 PolyChar 23, Jinsong Huang , Local Organizing Committee:, Lincoln NE
- 2015 EMN Meeting/Quantum Technology Energy Materials Nanotechnology, Beijing, China, April 14 to 17, International Advisory Committee
- 2013 “Symposium B: Organic and Hybrid Photovoltaic Materials and Devices”, **MRS** spring, San Francisco, CA, (April 1 - April 5), Organizer: Jinsong Huang (leading), Maria Antonietta Loi , Wallace Choy, Yan Shao
- 2005 Symposium assistant, **MRS** Fall, Boston, MA (2005)

Other society services

- Conference Session Chair: MRS Spring 2021, Spring 2018, MRS Fall 2017, MRS Spring 2017, MRS Fall 2016, MRS Spring 2015, E-MRS 2014
- Tutorial lecture in 2015 MRS fall meeting
- Outreach to Nebraskans in Nebraska Museum on “*Sunday with a Scientist*” (>400 attendee), and “*Nebraska Citizens for Science*” for a seminar.
- Reviewer for various journals (*Nature*, *Science*, *Nature Materials*, *Nature Photonics*, *Nature Nanotechnology*, *Nature Energy*, *Nature Communications*, *Science Advances*, *Advanced Materials*, *Energy and Environmental Science*, *ACS Nano*, *Nano Letters* etc)
- Panelist and proposal reviewer for grant agencies (*DOE*, *DOD*, *NSF*, etc).

PUBLICATIONS (Total Google Scholar citation >100,000, H index: 144)

Highlight of the **Science** and **Nature** Publications:

1. Perovskite Solar Modules Toward 30-Year Operational Lifetime, Luigi A. Castriotta, Mengru Wang, Xiaoqiang Shi, Benjia Dak Dou, Laura T. Schelhas, Jinsong Huang*, **Nature Energy**, Invited review (2025)
2. Double-Sided Annealing to Reverse the Crystallization Direction for Efficient and Stable Flexible FACs-Perovskite Solar Module, Yuqin Zou, Kyoungwon Choi, Haoliang Wang, He Liu, Haoyang Jiao, Chuanhang Guo, Jinsong Huang*, **Science Advances** (2025)
3. Limiting Phosphonic Acid Interlayer-Perovskite Reactivity to Stabilize Perovskite Solar Modules Chengbin Fei, Yadong Zhang, Mengru Wang, Yuqian Yang, Xiaoqiang Shi, Shaojie Wang, Huanxin Guo, Chuanhang Guo, He Liu, Mingze Li, Hangyu Gu, Stephen Barlow, Wei You, Mengen Wang, Seth R. Marder, Jinsong Huang*, **Science**, (2025)

4. Particle decoration enables solution-processed perovskite integration with fully-textured silicon for efficient tandem solar cells, Naihe Liu, Gao Zhang, Meng Wei, Lirong Zeng, Chengxia Shen, Lijun Yang, Yuwei Geng, Ying Zhu, Yongyi Wu, Tao Li, Wei Wang, Xiaolei Li, Kaifu Qiu, Peicheng Wei, Guanjun Yang, Jinsong Huang, and Bo Chen, **Nature Communications**, 16, Article number: 9435 (2025)
5. Toward efficient, scalable, and stable perovskite/silicon tandem solar cell, Guang Yang, Chunyan Deng, Chongwen Li, Tao Zhu, Dachang Liu, Yang Bai, Qi Chen, Jinsong Huang, Gang Li, **Nature Photonics**, 10.1038/s41566-025-01732-y (2025)
6. Defect Repairing in Lead Bromide Perovskite Single Crystals with Biasing and Bromine for X-ray Photon-counting Detectors, Mingze Li, Shaojie Wang, Allen Wood, Jason D. Yeager, Sergei P. Stepanoff, Jackson C. Adler, Zhifang Shi, Jian Wang, Zhijun Li, Douglas E. Wolfe and Jinsong Huang*, **Nature Materials**, <https://doi.org/10.1038/s41563-025-02310-x> (2025)
7. Tunable coherent mixed-dimensional perovskite heterojunctions and quantum wells grown from solution, Zhifang Shi, Yeming Xian, Xiaoming Wang, Haoyang Jiao, Hua Zhou, Yugang Zhang, Zhenyi Ni, and Jinsong Huang*, **Nature Photonics**, <https://www.nature.com/articles/s41566-025-01723-z> (2025)
8. Self-regulated facet stability during solution growth of perovskite crystals, Zhifang Shi, He Liu, Haoyang Jiao, Mingze Li, Zhenyi Ni, Liang Zhao, and Jinsong Huang*, **Nature Synthesis**, 10.1038/s44160-025-00786-8 (2025)
9. Reductive cation for scalable wide-bandgap perovskite solar cells in ambient air, Guang Yang, Hangyu Gu, Jun Yin, Chengbin Fei, Zhifang Shi, Xiaoqiang Shi, Xingjian Ying, Jinsong Huang*, **Nature Sustainability**, <https://doi.org/10.1038/s41893-025-01529-5> (2025)
10. Barrier reinforcement for enhanced perovskite solar cell stability under reverse bias, Nengxu Li, Zhifang Shi, Chengbin Fei, Haoyang Jiao, Mingze Li, Hangyu Gu, Steven P. Harvey, Yifan Dong, Matthew C. Beard & Jinsong Huang, **Nature Energy**, 2024
11. Organic photodetectors to monitor water contaminants, Jinsong Huang, **Nature Water**, 2024
12. Strong-bonding hole-transport layers reduce ultraviolet degradation of perovskite solar cells, Chengbin Fei, Anastasia Kuvayskaya, Xiaoqiang Shi, Mengru Wang, Zhifang Shi, Haoyang Jiao, Timothy J. Silverman, Michael Owen-Bellini, Yifan Dong, Yeming Xian, Rebecca Scheidt, Xiaoming Wang, Guang Yang, Hangyu Gu, Nengxu Li, Connor J. Dolan, Zhewen JD Deng, Deniz N. Cakan, David P. Fenning, Yanfa Yan, Matthew C. Beard, Laura T. Schelhas, Alan Sellinger, and Jinsong Huang*, **Science**, Vol 384, Issue 6700, pp. 1126-1134 (2024)
13. Mobile iodides capture for highly photolysis-and reverse-bias-stable perovskite solar cells, Xiaoxue Ren, Jifei Wang, Yun Lin, Yingwei Wang, Haipeng Xie, Han Huang, Bin Yang, Yanfa Yan, Yongli Gao, Jun He, Jinsong Huang, Yongbo Yuan, **Nature Materials**, 2024
14. Iodide manipulation using zinc additives for efficient perovskite solar minimodules, Md Aslam Uddin, Prem Jyoti Singh Rana, Zhenyi Ni, Guang Yang, Mingze Li, Mengru Wang, Hangyu Gu, Hengkai Zhang, Benjia Dak Dou, and Jinsong Huang*, **Nature Communications**, 10.1038/s41467-024-45649-6
15. Unraveling radiation damage and healing mechanisms in halide perovskites using energy-tuned dual irradiation dosing, Ahmad R Kirmani, Todd A Byers, Zhenyi Ni, Kaitlyn VanSant, Darshpreet K Saini, Rebecca Scheidt, Xiaopeng Zheng, Tatchen Buh Kum, Ian R Sellers,

- Lyndsey McMillon-Brown, Jinsong Huang, Bibhudutta Rout, Joseph M Luther, **Nature Communications**, 15, 696, 2024
16. Multifunctional Entinostat Enhances the Mechanical Robustness and Efficiency of Flexible Perovskite Solar Cells and Minimodules, Wenzhan Xu, Bo Chen, Zhao Zhang, Ye Liu, Yeming Xian, Xiaoming Wang, Zhifang Shi, Hangyu Gu, Chengbin Fei, Nengxu Li, Md Aslam Uddin, Hengkai Zhang, Letian Dou, Yanfa Yan, Jinsong Huang*, **Nature Photonics**, 10.1038/s41566-023-01373-z
 17. Surface-defect-passivation-enabled near-unity charge collection efficiency in bromide-based perovskite gamma-ray spectrum devices, Liang Zhao, Zhifang Shi, Ying Zhou, Xiaoming Wang, Yeming Xian, Yifan Dong, Obadiah Reid, Zhenyi Ni, Matthew C. Beard, Yanfa Yan*, and Jinsong Huang*, **Nature Photonics**, <https://www.nature.com/articles/s41566-023-01356-0>
 18. How spin relaxes and dephases in bulk halide perovskites, Junqing Xu, Kejun Li, Uyen N. Huynh, Mayada Fadel, Jinsong Huang, Ravishankar Sundararaman, Valy Vardeny, and Yuan Ping, **Nature Communications**, 15, Article number: 188 (2024)
 19. Ammonium Cations with High pKa in Perovskite Solar Cells for Improved High Temperature Photostability, Mengru Wang, Zhifang Shi, Chengbin Fei, Zhewen JD Deng, Guang Yang, Sean P. Dunfield, David P. Fenning, Jinsong Huang*, **Nature Energy**, 2023
 20. Suppressed phase segregation for triple-junction perovskite solar cells, Zaiwei Wang, Lewei Zeng, Tong Zhu, Hao Chen, Bin Chen, Dominik J Kubicki, Adam Balvanz, Chongwen Li, Aidan Maxwell, Esma Ugur, Roberto Dos Reis, Matthew Cheng, Guang Yang, Biwas Subedi, Deying Luo, Juntao Hu, Junke Wang, Sam Teale, Suhas Mahesh, Sasa Wang, Shuangyan Hu, Eui Dae Jung, Mingyang Wei, So Min Park, Luke Grater, Erkan Aydin, Zhaoning Song, Nikolas J Podraza, Zheng-Hong Lu, Jinsong Huang, Vinayak P Dravid, Stefaan De Wolf, Yanfa Yan, Michael Grätzel, Merx G Kanatzidis, Edward H Sargent*, **Nature** 618, 74–79 (2023)
 21. Lead-chelating hole-transport layers for efficient and stable perovskite minimodules, Chengbin Fei, Nengxu Li, Mengru Wang, Xiaoming Wang, Hangyu Gu, Bo Chen, Zhao Zhang, Zhenyi Ni, Haoyang Jiao, Wenzhan Xu, Zhifang Shi, Yanfa Yan and Jinsong Huang*, **Science**, 380, 6647, 823-829 DOI: 10.1126/science.ade9463
 22. Hangyu Gu, Chengbin Fei, Guang Yang, Bo Chen, Md Aslam Uddin, Hengkai Zhang, Zhenyi Ni, Haoyang Jiao, Wenzhan Xu, Zijie Yan, Jinsong Huang*, Design Optimization of Bifacial Perovskite Minimodules for Improved Efficiency and Stability, **Nature Energy**, 2023,
 23. Ying Zhou, Chengbin Fei, Md Aslam Uddin, Liang Zhao, Zhenyi Ni & Jinsong Huang*, Self-powered perovskite photon-counting detectors, **Nature**, (2023).
 24. Wenjing Chen, Zongming Huang, Haitao Yao, Yan Liu, Yihan Zhang, Zhijian Li, Hongmin Zhou, Peng Xiao, Tao Chen, Haiding Sun, Jinsong Huang & Zhengguo Xiao*, Highly bright and stable single-crystal perovskite light-emitting diodes, **Nature Photonics**, 2023
 25. Liang Zhao, Ying Zhou, Zhifang Shi, Zhenyi Ni, Mengru Wang, Ye Liu, and Jinsong Huang*, High-yield growth of FACsPbBr₃ single crystals with low defect density from mixed solvents for gamma-ray spectroscopy, **Nature Photonics**, 2023
 26. Perovskite Grain Wrapping by Converting Interfaces and Grain Boundaries into Robust and Water-Insoluble Low Dimensional Perovskites, Haoyang Jiao, Zhenyi Ni, Zhifang Shi,

- Chengbin Fei, Ye Liu, Xuezheng Dai, and Jinsong Huang*, **Sci. Adv.** Dec 2022, Vol 8, Issue 48, DOI: 10.1126/sciadv.abq4524
27. Bifacial all-perovskite tandem solar cells, Bo Chen, Zhenhua Yu, Arthur Onno, Zhengshan Yu, Shangshang Chen, Jiantao Wang, Zachary C. Holman, Jinsong Huang* , **Sci. Adv.**8, eadd0377 (2022)
 28. Influence of voids on the thermal and light stability of perovskite solar cells, , M Wang, C Fei, MA Uddin, J Huang, **Science Advances** 8 (38), eabo5977, 2022
 29. High grain boundary recombination velocity in polycrystalline metal halide perovskites, Z Ni, S Xu, H Jiao, H Gu, C Fei, J Huang, **Science Advances** 8 (36), eabq8345, 2022
 30. Efficient Monolithic All-Perovskite Tandem Solar Modules with Small Cell-to-Module Derate, Xuezheng Dai, Shangshang Chen, Haoyang Jiao, Liang Zhao, Ke Wang, Zhenyi Ni, Zhenhua Yu, Bo Chen, Yongli Gao, Jinsong Huang*, **Nature Energy**, <https://doi.org/10.1038/s41560-022-01102-w>
 31. Defect engineering in wide-bandgap perovskites for efficient perovskite–silicon tandem solar cells, Guang Yang, Zhenyi Ni, Zhengshan J. Yu, Bryon W. Larson, Zhenhua Yu, Bo Chen, Abdulwahab Alasfour, Xun Xiao, Joseph M. Luther, Zachary C. Holman,, Jinsong Huang*, **Nature Photonics**, published online
 32. Transient quantum beatings of trions in hybrid organic tri-iodine perovskite single crystal, Uyen N. Huynh, Ye Liu, Ashish Chanana, Dipak R. Khanal, Peter C. Sercel, Jinsong Huang & Z. Valy Vardeny, **Nature Communications** volume 13, Article number: 1428 (2022)
 33. Evolution of defects during the Degradation of Metal Halide Perovskite Solar Cells under Reverse-Bias and Illumination, Zhenyi Ni, Haoyang Jiao, Chengbin Fei, Hangyu Gu, Shuang Xu, Zhenhua Yu, Guang Yang, Yehao Deng, Qi Jiang, Ye Liu, Yanfa Yan and Jinsong Huang*, **Nature Energy**, volume 7, pages65–73 (2022)
 34. Lead Adsorbing Ionogel-based Encapsulation for Impact-Resistant, Stable and Lead-Safe Perovskite Modules, Xun Xiao, Meixiang Wang, Shangshang Chen, Yihang Zhang, Hangyu Gu, Yehao Deng, Guang Yang, Chengbin Fei, Bo Chen, Yuze Lin, Michael D. Dickey, Jinsong Huang, **Science Advances** 2021; 7 : eabi8249
 35. Recycling lead and transparent conductors from perovskite solar modules, Bo Chen, Chengbin Fei, Shangshang Chen, Hangyu Gu, Xun Xiao & Jinsong Huang, **Nature Communications** volume 12, Article number: 5859 (2021)
 36. Lead Adsorbing Ionogel-based Encapsulation for Impact-Resistant, Stable and Lead-Safe Perovskite Modules, Xun Xiao, Meixiang Wang, Shangshang Chen, Yihang Zhang, Hangyu Gu, Yehao Deng, Guang Yang, Chengbin Fei, Bo Chen, Yuze Lin, Michael D. Dickey, Jinsong Huang, **Science Advances** 2021; 7 : eabi8249
 37. Recycling lead and transparent conductors from perovskite solar modules, Bo Chen, Chengbin Fei, Shangshang Chen, Hangyu Gu, Xun Xiao & Jinsong Huang, **Nature Communications** volume 12, Article number: 5859 (2021)
 38. Heterojunction Structures for Reduced Noise in Large Area and Sensitive Perovskite X-ray Detectors, Ying Zhou, Liang Zhao, Zhenyi Ni, Shuang Xu, Jingjing Zhao, Xun Xiao and Jinsong Huang*, **Science Advances**, 7, 36, abg6716 (2021) DOI: 10.1126/sciadv.abg6716
 39. Stabilizing perovskite-substrate interfaces for high-performance perovskite modules, Shangshang Chen, Xuezheng Dai, Shuang Xu, Haoyang Jiao, Liang Zhao, Jinsong Huang*, **Science**, 20 Aug 2021, Vol. 373, Issue 6557, pp. 902-907 DOI: 10.1126/science.abi6323

40. Defect Compensation in Formamidinium-Cesium Perovskites for Highly Efficient and Stable Solar Modules, Yehao Deng, Shuang Xu, Shangshang Chen, Xun Xiao, Jingjing Zhao, and Jinsong Huang*, **Nature Energy**, accepted (2021)
41. Perovskites in Mesoporous Lead Adsorbents for Non-Toxic Solar Modules, Shangshang Chen, Yehao Deng, Xun Xiao, Shuang Xu, Peter N. Rudd and Jinsong Huang*, **Nature Sustainability**, <https://doi.org/10.1038/s41893-021-00701-x> (2021)
42. Ligand Assisted Growth of Perovskite Single Crystals with Low Defect Density, Ye Liu, Xiaopeng Zheng, Yanjun Fang, Ying Zhou, Zhenyi Ni, Xun Xiao, Shangshang Chen, Jinsong Huang*, **Nature Communications**, 12, Article number: 1686 (2021)
43. Iodine Reduction for Reproducible and High Performance Perovskite Solar Cells and Modules, Shangshang Chen, Xun Xiao, Hangyu Gu, Jinsong Huang*, **Science Advances**, 7, eabe8130, DOI: 10.1126/sciadv.abe8130 (2021).
44. Layer Number Dependent Ferroelasticity in 2D Ruddlesden-Popper Organic-inorganic Hybrid Perovskites, Xun Xiao, Jian Zhou, Kepeng Song, Jingjing Zhao, Yu Zhou, Peter Neil Rudd, Yu Han, Ju Li,* and Jinsong Huang*, **Nature Communications**, 12, 1332 (2021)
45. Response to Comment on 'Resolving spatial and energetic distributions of trap states in metal halide perovskite solar cells.', Zhenyi Ni, Shuang Xu, and Jinsong Huang, **Science**, Vol. 371, Issue 6532, eabd8598 (2021)
46. Crystallization in one-step solution deposition of perovskite films: Upward or downward?, Shangshang Chen, Xun Xiao, Bo Chen, Leah L. Kelly, Jingjing Zhao, Yuze Lin, Michael F. Toney, Jinsong Huang* **Science Advances**, Vol. 7, no. 4, eabb2412 (2021)
47. Large-area and efficient perovskite light-emitting diodes via low temperature blade-coating, Shenglong Chu, Wenjing Chen, Zhibin Fang, Xun Xiao, Yan Liu, Jia Chen, Jinsong Huang, and Zhengguo Xiao*, **Nature Communications**, 12, Article number: 147 (2021)
48. Metallic Surface Doping of Metal Halide Perovskites, Yuze Lin, Yuchuan Shao, Jun Dai, Tao Li, Ye Liu, Xuezheng Dai, Xun Xiao, Yehao Deng, Alexei Gruverman, Xiao Cheng Zeng, Jinsong Huang, **Nature Communications**, 12, Article number: 7 (2021)
49. Trapping Lead in Perovskite Solar Modules with Abundant, Low-cost and Stable Cation Exchange Resins, Shangshang Chen, Yehao Deng, Hangyu Gu, Shuang Xu, Shen Wang, Zhenhua Yu, Volker Blum, and Jinsong Huang*, **Nature Energy**. 5(12):1-9, DOI: 10.1038/s41560-020-00716-2 (2020)
50. Perovskite-Filled Membranes for Flexible and Large Area Direct Conversion X-ray Detector Arrays, Jingjing Zhao, Liang Zhao, Yehao Deng, Xun Xiao, Zhenyi Ni, Shuang Xu, Jinsong Huang*, **Nature Photonics**, DOI:10.1038/s41566-020-0678-x (2020)
51. Simplified Interconnection Structure based on C60/SnO₂-x for All-Perovskite Tandem Solar Cells, Zhenhua Yu, Zhibin Yang, Zhenyi Ni, Yuchuan Shao, Bo Chen, Yuze Lin, Haotong Wei, Zhengshan J. Yu, Zachary Holman and Jinsong Huang*, **Nature Energy**, (2020)
52. Benign Ferroelastic Twin Boundaries in Halide Perovskites for Charge Carrier Transport and Recombination, Xun Xiao, Wenhao Li, Yanjun Fang, Ye Liu, Yuchuan Shao, Shuang Yang, Jingjing Zhao, Xuezheng Dai, Rashid Zia, and Jinsong Huang*, **Nature Communications**, 11, Article number: 2215 (2020)
53. Resolving spatial and energetic distributions of trap states in metal halide perovskite solar cells, Zhenyi Ni, Chunxiong Bao, Ye Liu, Qi Jiang, Wu-Qiang Wu, Shangshang Chen,

- Xuezeng Dai, Bo Chen, Barry Hartweg, Zhengshan Yu, Zachary Holman, Jinsong Huang*, **Science**, Vol. 367, Issue 6484, pp. 1352-135. (2020)
54. Templated Growth of Oriented Layered Hybrid Perovskites on Quasi-3D perovskites, Jifei Wang, Shiqiang Luo, Yun Lin, Yifu Chen, Yehao Deng, Zhimin Li, Ke Meng, Gang Chen, Tiantian Huang, Si Xiao, Han Huang, Conghua Zhou, Liming Ding, Jun He, Jinsong Huang* and Yongbo Yuan*, **Nature Communications**, 11, 582 (2020)
 55. Efficient Sky-blue Perovskite Light-emitting Diodes via Potoluminescence Enhancement, Qi Wang, Xiaoming Wang, Zhi Yang, Ninghao Zhou, Yehao Deng, Jingjing Zhao, Xun Xiao, Peter Rudd, Andrew Moran, Yanfa Yan and Jinsong Huang*, **Nature Communications**, published online
 56. Tailoring Solvent Coordination for High-Speed, Room-Temperature Blading of Perovskite Photovoltaic Films, Yehao Deng, Charles H. Van Brackle, Xuezeng Dai, Jingjing Zhao, Bo Chen & Jinsong Huang*, **Science Advances**, published online
 57. Enhancing electron diffusion length in narrow-bandgap perovskites for efficient monolithic perovskite tandem solar cells , Zhibin Yang, Zhenhua Yu, Haotong Wei, Xun Xiao, Zhenyi Ni, Bo Chen, Yehao Deng, Severin N. Habisreutinger, Xihan Chen, Kang Wang, Jingjing Zhao, Peter N. Rudd, Joseph J. Berry, Matthew C. Beard & Jinsong Huang*, **Nature Communication**, Vol. 10, Issue 4498, 2019.
 58. Stabilizing halide perovskite surfaces for solar cell operation with wide-bandgap lead oxysalts, Shuang Yang, Shangshang Chen, Edoardo Mosconi, Yanjun Fang, Xun Xiao, Congcong Wang, Yu Zhou, Zhenhua Yu, Jingjing Zhao, Yongli Gao, Filippo De Angelis, Jinsong Huang†, **Science**, Vol. 365, Issue 6452, pp. 473-478, 2019.
 59. Synthetic Control over Orientational Degeneracy of Spacer Cations Enhances Solar Cell Efficiency in Two-Dimensional Perovskites, Jun Hu, Iain Oswald, Samuel Stuard, Masrur Morshed Nahid, Ninghao Zhou, Olivia Williams, Zhenkun Guo, Liang Yan, Huamin Hu, Zheng Chen, Xun Xiao, Yun Lin, Zhibin Yang, Jinsong Huang, Andrew Moran, Harald Ade, James Neilson, and Wei You*, **Nature Communications**, In press
 60. Unveiling the Operation Mechanism of Layered Perovskite Solar Cells , Yun Lin, Yanjun Fang, Jingjing Zhao, Yuchuan Shao, Samuel J. Stuard, Masrur Morshed Nahid, Harald Ade, Qi Wang, Jeffrey E. Shield, Ninghao Zhou, Andrew M. Moran, and Jinsong Huang*, **Nature Communications**, 10, 1008 (2019)
 61. Bilateral alkylamine for suppressing charge recombination and improving stability in blade-coated perovskite solar cells, Wu-Qiang Wu, Zhibin Yang, Peter N. Rudd, Yuchuan Shao, Xuezeng Dai, Haotong Wei, Jingjing Zhao, Yanjun Fang, Qi Wang, Ye Liu, Yehao Deng, Xun Xiao, Yuanxiang Feng, Jinsong Huang*, **Science Advances**, 2019, 5, eaav8925.
 62. Halide Lead Perovskites for Ionization Radiation Detection, Haotong Wei, Jinsong Huang*, Invited Review, **Nature Communications**, In press
 63. Y. Fang, A. Armin, P. Meredith and J. Huang*, Accurate characterization of next generation thin film photodetectors, **Nature Photonics**, 13,1 (2019)
 64. B. Chen, T. Li, Q. Dong, E. Mosconi, J. Song, Z. Chen, Y. Deng, Y. Liu, S. Ducharme, A. Gruverman, F.D. Angelis, and J. Huang*, Giant Electrostrictive Response in Lead Halide Perovskites” **Nature Materials**, 2018, 17, 1020–1026.

65. Y. Lin, B. Chen, Y. Fang, J. Zhao, C. Bao, Z. Yu, Y. Deng, P. N. Rudd, Y. Yan, and J. Huang*, Excess Charge-Carrier Induced Instability of Hybrid Perovskites, *Nature Communications*, (2018)9:4981
66. Y. Deng, X. Zheng, Y. Bai, Q. Wang, J. Zhao and J. Huang*, Surfactant-controlled ink drying enables high-speed deposition of perovskite films for efficient photovoltaic modules, *Nature Energy*, 2018, published online doi: 10.1038/s41560-018-0153-9
67. W.-Q. Wu, Q. Wang, Y. Fang, Y. Shao, S. Tang, Y. Deng, H. Lu, Y. Liu, T. Li, Z. Yang, A. Gruverman, J. Huang *, Molecular Doping Enabled Scalable Blading of Efficient Hole-Transport-Layer-free Perovskite Solar Cells, *Nature Communications*, 9, 1625 (2018), doi:10.1038/s41467-018-04028-8
68. J. Zhao, Y. Deng, H. Wei, X. Zheng, Z. Yu, Y. Shao, J. E. Shield, J. Huang *, Strained Hybrid Perovskite Thin Films and Its Impact to Intrinsic Stability of Perovskite Solar Cells, *Science Advances*, 17 Nov 2017: Vol. 3, no. 11, eaao5616, DOI: 10.1126/sciadv.aao5616
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15. Perovskite/silicon tandem photovoltaic device with a rough interface, Jinsong Huang, Bo Chen, Jason Yu, Zak Holman
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GRANTSMANSHIP

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2. Scalable stable perovskite solar cells for soldier, DoD, 09/25/2024 - 01/31/2027, \$450,000 PI Huang
3. Understanding Unique Shallow-trap Physics in Metal Halide Perovskites, DOE/BES, 7/1/2024-6/30/2027, \$525,000, PI Huang
4. Scaling Perovskite-Silicon Tandems Toward Reliable Commercial Product, DOE/CubicPV, 10/1/2024-3/31/2026, total \$7 Million, UNC share \$500,000, co-PI Huang

5. Ultra-High Efficiency Perovskite Tandem Solar Cells, Research Opportunities Initiative, 7/1/2024-6/30/2027, \$1,500,000, PI Huang with co-PIs You, Li and Alterovitz
6. Electrochemical-Based Portable Power Source: High speed manufacturable process of perovskite thin film solar power for military use., ARMY/Delaware, 1/29/24-7/29/25, \$1,170,136, PI Huang
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8. Low-cost, High Efficiency, and Flexible Perovskite Solar Modules by Fast Blade Coating, Office of Navy Research, 1/1/2024-1/15/2027, Total award \$1,999,935, co-PI Jinsong Huang,
9. PV PACT: PV Perovskite Accelerator for Commercial Technologies, Department of Energy, co-PI Jinsong Huang, 9/01/2023 – 8/30/2025, \$129,000 PI Huang
10. “Efficient and Stable Perovskite Solar Modules Fabricated by High Throughput Process” W 911NF24P0005) , ARMY/Perotech, 3/1/2024-8/31/2024, \$60,000, co-PI Huang
11. EFRC Center for Hybrid Organic-Inorganic Semiconductors for Energy (CHOISE), renew, DOE, 8/01/2022 – 7/30/2026, \$755,000 PI Huang
12. Perovskite Based Foldable and Sensitive X-ray Imaging Detectors for Trauma Care, NIH RO1, 07/01/2022 – 03/31/2026, \$1,355,560, PI Huang
13. SBIR: Large-area Hard X-ray Imager Based on Perovskite Nanocrystal Films, 01/2022-07/2022, Perotech Inc./DARPA, \$67,500, co-PI Huang
14. REU SITE: Collaborative Research: Nanoscale Detectives -- Elucidating the Structure and Dynamics of Hybrid Perovskite Systems Award Number: 2050764; Principal Investigator: James Cahoon; Co-Principal Investigator: Jinsong Huang; 09/15/2021-8/31/2024 ; Award Amount:\$161,232;
15. Stabilizing Formamidinium-Cesium Mixed Cation Perovskites, Department of Energy, PI Jinsong Huang with two co-PIs, 07/01/2021 – 6/30/2024, \$1,250,000
16. Tandem PV Perovskite FOA Manufacturing, Department of Energy, co-PI Jinsong Huang, 07/01/2021 – 6/30/2024, Total award \$2 M, UNC share \$450,000
17. Slot-Die Fabrication of Lead-Safe, Robust and Stable Metal Halide Perovskite Modules, Department of Energy, 07/01/2021 – 6/30/2024, Total award \$2.5 M, UNC share \$750,000
18. PV PACT: PV Perovskite Accelerator for Commercial Technologies, Department of Energy, co-PI Jinsong Huang, 07/01/2021 – 6/30/2024, Total award \$9 M, UNC share \$348,000
19. Bifacial all-perovskite tandem solar cells for a sustained energy future, National Science Foundation, PI Jinsong Huang and co-PI Bo Chen , 07/01/2021 – 6/30/2024, \$389,998
20. Fabrication of perovskite solar cells, Sponsored by Tandem PV, \$60,000
21. Interaction of Ionizing Radiation with Matter (IIRM) University Research Alliance (URA) DTRA: Defense Threat Reduction Agency through PSU: Penn State University, co-PI Jinsong Huang, 7/1/01/2020–6/30/2025, Total \$25 Million, Huang share: \$1,375,000
22. Fabrication of Perovskite Solar Modules, Navy SBIR, PI Yehao Deng and co-PI Jinsong Huang, 7/8/2020- 9/13/2021, \$72,000,

23. Scalable Manufacturing of Efficient Perovskite/Silicon Tandem Modules, DOE: Department of Energy, Jinsong Huang, PI, co-PI Zak Holman, and Joey Luther, 1.00 Summer Months, 8/01/2019 – 07/30/2022, \$1,875,000
24. Collaborative Research: Surface analytical investigation on stability of organometal trihalide perovskite, PI: Yongli Gao, co-PI Jinsong Huang, National Science Foundation, 07/01/2019 – 06/30/2022, \$608,900
25. The Consortium for Enabling Technologies & Innovation, The Department of Energy's National Nuclear Security Administration (DOE/NNSA), PI Anna Erickson with ~30 co-PIs, \$25,000,000, Huang share \$640,000, 4/1/2019-3/31/2024
26. Solar Panel for Prompt Detection and Identification of Nuclear Detonations, PI Raymond Cao, co-PIs Jinsong Huang, and John McClory, \$1,050,000, Huang share \$330,000, 08/01/2018 – 07/31/2021
27. Center for Hybrid Organic-Inorganic Semiconductors for Energy (CHOISE) EFRC, \$11,750,000, Director Matt Beard, Associate Director Jinsong Huang, and 16 co-PI, 8/1/2018-7/30/2022
28. "Radiation detectors" \$135,000, a contract from a company, 10/1/2018-9/30/2019
29. DURIP: Carrier Dynamics in Perovskite Energy Harvesters, \$373,100.00, PI Jinsong Huang, 10/1/2018-9/30/2019
30. ROI: Center of Hybrid Materials Enabled Electronic Technologies (CH-MEET), Total and Direct \$2,100,000, PI: Jinsong Huang, and six other co-PIs 07/01/2017-06/30/2020
31. "Manufacturing of Solar Cells", Energy Materials Corporation (Prime: Department of Energy (DOE)), Total \$400,000
32. "Understanding Grain-Morphology-Dependent Grain Degradation for Improved Stability in Perovskite Solar Cells", Office of Naval Research (ONR), Total \$480,000, 09/01/2017-08/31/2020
33. "ARI-MA: Trap-Triggered Organic Field Effect Transistor as Low-Cost, Uncooled, Highly Sensitive Solid-State Photodetectors for Radiation Sensing", Department of Homeland Security (DHS), Total: \$750,000, (10/1/2014-09/30/2018) no-cost extension
34. "Collaborative Research: Perovskite Photodetectors with Microcavity Organic Light Emitting Diodes for Sensing Applications" National Science Foundation, Total \$186,428, 6/1/2016-5/30/2019, (PI J. Huang). no-cost extension
35. "Trap Engineering for High Efficiency Planar Heterojunction Hybrid Perovskite Solar Cells" \$450,000, Direct \$317,378, 5/15/2016-5/14/2019, AFOSR (PI J. Huang). no-cost extension
36. "Perovskite Solar Cells", \$150,000, A research contract from EMC, 10/1/2015-9/30/2019, 0 (PI J. Huang) no-cost extension
37. "Understanding the Grain Formation in Doctor-Bladed Perovskite Films for Scalable Fabrication of Efficient Hybrid Solar Cells" Office of Naval Research, Total \$480,000, 7/1/2015/-6/30/2018, (PI J. Huang with co-PI J. Shield). no-cost extension
38. "Combined Macroscopic and Nanoscopic Studies of the Photovoltaic Behavior of Organic Perovskite Solar Cells" National Science Foundation, Total \$480,000, 7/1/2015/-6/30/2018, 0.5 month, (PI J. Huang with co-PI A. Gruverman). no-cost extension

39. “RII Track-2 FEC: Low-Cost, Efficient Next-Generation Solar Cells for the Coming Clean Energy Revolution” National Science Foundation, Total \$4,000,000, 10/1/2015-7/30/2019, (PI N. P Padture with co-PI J. Huang and 8 other senior personals)
40. “Materials Research Science and Engineering Center: Polarization and Spin Phenomena in Nanoferroic Structures”, National Science Foundation, \$9,500,000, 11/1/2014-10/30/2020 (PI: Evgeny Tsymbal with 16 co-PIs, including J. Huang)
41. “Perovskite/Silicon Tandem Solar Cell”, Department of Energy, Total \$1,350,000, 10/1/2014-9/30/18 (PI J. Huang with co-PI Zak Holman) no-cost extension
42. “High Efficiency Low-cost Nanocomposite for Radiation Detection Enabled by Charge Triggered Secondary Charge Injection”, Defense Threat Reduction Agency, Total \$1,750,000, (1/1/2014-9/30/2019 (PI J. Huang with co-PI L. Cao)
43. “Increasing charge separation and extraction by ferroelectric polymer induced persisting electric-field for efficient organic solar cell”, National Science Foundation CAREER, Total \$400,000, 7/1/2013-6/30/2018, (PI. J. Huang) no-cost extension
44. “STTR: Scalable Fabrication of Efficient Flexible Perovskite”, Energy Materials Corporation (Prime: Department of Defense (DOD)), Total \$90,000 (10/1/2017-3/31/2018),
45. “Design and Development of High-Efficiency, Low-Cost Perovskite Solar Cells” Nebraska Center for Energy Science and Research, Total and Direct \$150,000, 1/1/2015-12/31/2016 (PI J. Huang with X. Zeng and Y. Lu)
46. “Organic PV Technology Brief” Electric Power Research Inst (EPRI), Total \$29,614, 7/1/2015-8/30/2015, 0 month, University of Nebraska-Lincoln (PI J. Huang)
47. Supplement: Research Experience for Undergraduate (REU) Amount: \$6000 (2013)
48. “Room-temperature Operation Single-Photon Detectors Based on Nanoparticle Supergated Organic Field Effect Transistors”, National Science Foundation, Total \$300,000, Direct \$230,937 (No cost share, all contributed to Dr. Huang) 4/15/2013-3/31/2016, (PI. J. Huang)
49. Supplement: Research Experience for Undergraduate (REU) Amount: \$5000 (2015)
50. “Scalable and Facile Production of Conformal Graphene as Low-Cost Transparent Electrodes for Organic Photovoltaics” Nebraska Center for Energy Science Research, Direct \$190,000 (No cost share, \$85,000 to Dr. Huang) 1/1/2014 - 12/31/2015, (PI. J. Huang)
51. “A Novel High Quantum Efficiency Mechanism in Organic Photodetector for Sensing the Radiation from Weapons of Mass Destruction”, DTRA Young Investigator Award, Total \$500,000, Direct \$392,287 (No cost share, all contributed to Dr. Huang) 10/1/2010 - 2/15/2016, (PI. J. Huang)
52. “Developing Efficient Pyrite Photovoltaic Cells” Nebraska Center for Energy Science Research, Direct \$150,000 (No cost share, \$85,000 contributed to Dr. Huang), 1/1/2013-12/31/2014, (PI J. Huang with Co-PIs N. Ianno)
53. “Extremely Sensitive Solid-State Ultraviolet Photodetector by Fabricated Low-Cost Solution Process”, Office of Naval Research, Total \$628,183, Direct \$469,899 (No cost share, all contributed to Dr. Huang) 4/1/2012-4/30/2016 (PI. J. Huang)

54. “Tailoring the Energy Levels of Donor and Acceptor in Organic Photovoltaics for Increased Photovoltage with Ferroelectric Dipole Layer”, National Science Foundation, Total \$416,000, Direct \$301,874, (No cost share, \$276,000 contributed to Dr. Huang), 6/1/2012-5/31/2016 (PI. J. Huang and Co-PI S. Ducharme)
55. “Ferroelectric-enhanced Organic Electronics”, NSF EPSCoR Trans-disciplinary, Multi-Institutional Research Clusters Program, Total and Direct \$300,000 (Cost share amount \$75,000, \$81,750 contributed to Dr. Huang), 5/1/2012-12/31/2013, (PI S. Ducharme with Co-PIs J. Huang, A. Gruverman, C. L. Cheung, and T. J. Reece)
56. “High-Performance Organic Solar Cells” Nebraska Center for Energy Science Research, Total and Direct \$140,000 (No cost share, \$50,000 contributed to Dr. Huang), 1/1/2012-12/31/2013, (PI S. Ducharme with Co-PIs J. Huang, K. Cole)
57. “Room-Temperature Ferromagnetic Polymers with Nanoscale Phase Separation and Spin Transport in the Nanodomains”, NSF MRSEC Seeds, Total \$76,744 (No cost share, all contributed to Dr. Huang), 5/1/2010 - 4/30/2012, (PI J. Huang)
58. “Solution printed OTFT-driven infrared detectors”, Air Force Office of Scientific Research, Total \$100,000 (No cost share, \$30,000 contributed to Dr. Huang), 2/1/2012-10/31/2012, (Agiltron PI S. Jae Ryu with UNL PI J. Huang,)
59. “Printed Transparent Backplane for Displays and Spatial Light Modulators Based on Organic Thin Film Transistors”, DARPA STTR Phase II, Total \$750,000 (No cost share, \$149,949 contributed to Dr. Huang) 6/23/2010 – 4/30/2012, (Agiltron PI Jae Ryu with UNL PI J. Huang and Stanford PI Z. Bao)
60. “Nanoantenna-Enhanced Photo Detector (NEOPD)”, Office of Naval Research (ONR) SBIR, Total \$150,000 (\$45,000 contributed to Dr. Huang), 11/15/2011-4/1/2012, (Hitron PI H. Zhang with UNL PI J. Huang)
61. “Nano-particle Loaded Polymer X-Ray Detector”, Office of the Secretary of Defense (OSD) SBIR, Total \$150,000 (\$45,000 contributed to Dr. Huang), 1/1/2012-6/30/2012, (Agiltron PI A. Greenwald with UNL PI J. Huang)
62. “Non-restricted research fund support from Industry”, \$40,000 (PI J. Huang)
63. “Bridge organic/metal interface for high performance organic electronic devices”, Nebraska EPSCoR FIRST Award, Total \$20,000, 4/1/2010 - 3/31/2011 (PI J. Huang)
64. “Edgerton Innovation Award” \$22,500, (PI. J. Huang)
65. “Formation of Tandem Plastic Solar Cells by Low-cost Lamination” UNL Layman Award, 6/1/2010-5/31/2011, (PI. J. Huang), Total and Direct \$10,000,
66. “Proposal Revision Award”, Total and Direct \$50,000, PI Y. Lu and with co-PIs J. Huang, S. Ducharme, X. Zeng. Huang’s share \$12,500, 2014
67. “Development of High Efficiency, Low-Cost Thin Film Solar Cell Based on Naturally Abundant and Non-toxic Materials”, Nebraska Research Initiative, Total and Direct \$100,000 (No cost share, \$70,000 contributed to Dr. Huang), 7/1/2012-6/30/2014 (PI. J. Huang and Co-PIs C. Exstrom and S. Darveau)
68. “Printed transparent backplane for displays and spatial light modulators based on organic thin film transistors”, DARPA, STTR, Phase I, \$98,990, 09/05/2008 - 08/30/2009
69. “Printed transparent backplane for displays and spatial light modulators based on organic thin film transistors”, DARPA, STTR, Phase II, \$749,922, 06/23/2010 - 05/31/2012

70. “Advanced nanocomposite scintillator for gamma ray detection” DTRA, SBIR, Phase I, \$99,951, 05/08/2008 - 11/07/2008
71. “Advanced nanocomposite scintillator for gamma ray detection” DTRA, SBIR, Phase II, \$749,227, 10/28/2009 - 10/27/2011,
72. “Single Wall Carbon Nanotube Printed Integrated Circuits”, DARPA SBIR, Phase I, \$100,000, 03/17/2009 - 11/09/2009
73. “High energy efficient polymer light-emitting diodes by *p-i-n* structure for solid state lighting”, NSF SBIR IIP, Phase I, \$100,000, 2008

INVITED LECTURES AND KEYNOTE SPEECHES

1. Center for Organic Photonics and Electronics (COPE) workshop on “Emerging Light-Matter Interactions in Organic and Hybrid Semiconductors for Energy Harvesting and Light Detection”, GIT, Apr 3-5, 2024
2. ACS Spring 2024, Material chemistry at the imbedded interface of perovskite solar cells, Keynote talk. March 17-21, 2024.
3. Perovskite Photon Counting Detectors for Visible Light and Gamma-ray Detection, Seminar to Mirion Technologies, Inc, Feb. 28, 2024,
4. The Materials for Sustainable Development Conference (MATSUS24) will take place from the 4th to the 8th of March 2024, in Barcelona, Spain.
5. Jinsong Huang, Defects in Perovskites- a Key Differentiator from other Semiconductors, UNC Physics Department COLLOQUIUM, Sep 18, 2023, Chapel Hill, NC
6. New Generation Photovoltaics for Space (PVSPACE-2023) in-person conference in Rome, Italy. 5-7 July 2023
7. 50th IEEE Photovoltaic Specialists Conference (PVSC-50). San Juan, Puerto Rico. June 11-16
8. 2023 Symposium on Radiation Measurements and Applications (SORMA XIX), Solution-Grown Metal Halide Perovskite Crystals for Gamma-Ray Spectroscopy, May 23 - 25, 2023
9. Light Energy Conversion with Metal Halide Perovskites, Semiconductor and Organic Nanostructures, Inorganic/Organic Hybrid Materials, and Dynamic Exciton symposium to be held during 243rd Meeting of the Electrochemical Society, Boston, USA, May 28-June 2, 2023
10. March 29 Department Seminar, RPI , Defects in Perovskites,
11. MRS spring 2023, Symposium EL15-Radiation—Hard and Lightweight Next-Generation Semiconductor Electronics, April 10-14, 2023
12. MRS Fall, 2022, Nov.27- Dec.2, 2022
Sn-Pb Perovskite Solar Cells and Modules with Enhanced Efficiency and Stability
13. RAPID 2022, Sep. 12-14, 2022 Florida. IEEE Research and Applications of Photonics in Defense (RAPID) Conference; (Invited) Perovskite Materials and Devices for Detection of Quanta
14. ACS Fall 2022, August 21 - 25, 2022: “Synthesis controlling of defects of different dimensionality in perovskites”
15. International Conference on the Physics of Semiconductors 2022. Perovskites/Organic Semiconductors, Sydney, June 27-30, 2022
16. Understanding the Influence of Defects, Light and Ion Conduction in Metal Halide

- Perovskites for Stability, MRS Spring, Hawaii, May 12, 2022
17. Detecting Defects Evolution in Operational Perovskite Solar Cells, MRS Spring, Hawaii, May 10, 2022
 18. Perovskite-based Multi-junction Solar Cells, nanoGe Spring Meeting 2022, 7th-9th March, 2022
 19. American Physics Society (APS), session on Energy & Sustainability, Understanding physical properties of metal halide perovskites for photovoltaic application” Keynote talk. Oct. 23 - 24. 2021
 20. Interplaying of Defects, Light, Ion Conduction in Metal Halide Perovskites for New Functionality and Stability, nanoGe Fall Meeting 2021, Perovskites III: Emerging Materials and Phenomena, 17-22 October 2021.
 21. "Perovskite based photodetectors- sensitivity, color selectivity and stability" at symposium Next Generation Photodetectors". nanoGe Fall Meeting 17-22 October 2021
 22. Lead management in perovskite solar cells, "Organic, Perovskite & Hybrid Solar Cells" at 2021 ACS fall meeting in Atlanta, GA, USA, August 22, 2021 to August 26, 2021.
 23. Perovskites for direct and indirect ionization radiation detection, 8/1-8/5 SPIE 21 in San Diego
 24. Addressing Lead Toxicity Issue of Perovskite Modules, 8/1-8/5 SPIE 21 in San Diego
 25. Understanding Function of Extrinsic Metal Ions in Perovskites, April 24, 2021 MRS spring conference, online
 26. Toward Large Area Perovskite/Silicon and Perovskite/Perovskite Tandem Cells/Modules, April. 13 2021, tandemPV 2021 Workshop
 27. “Progress of p-i-n structure solar cells and minimodules development, nanoGe Spring Meeting 2021 on the Mar 9th – 12th.
 28. Scientific Points of View to Commercial Readiness of Perovskite Solar Cell Technologies, Seminar at Materials Science and Engineering Department at Texas A&M University, March 1, 2021
 29. Defects in Metal Halide Perovskite Solar Cells, Seminar in Chemical Engineering Department of Wake Forest University, Feb. 3, 2021
 30. Perovskite Solar Panels on Your Roof-Are They Ready?, Colloquium in the Department of Material Science and Engineering at Stanford University, January 29, 2021,
 31. Defects in Perovskites, International Conference on Advances and Challenges in Perovskite and Organic Solar Cells, Jan 21, 2021
 32. “Metal Halide Perovskite Semiconductors for Energy Harvesting-Current Progress and Challenges”, Triangle Hard Matter Workshop, December 7 and concluding on December 8, 2020. online
 33. Defect Related Charge Traps and Doping in Perovskites, Solar Cells and Tandem Devices, MRS fall, Dec 3rd 2020, online
 34. Addressing Upscaling Issues of Perovskite Technologies, “Innovative Materials for Energy” IME 2020 will take place on December 2nd , 2020 (CET 15.00), online
 35. Progress in Understanding Perovskite Materials and Manufacturing of Efficient and Stable Solar Cells and Modules , University of Massachusetts Amherst, Feb. 27, 2020
 36. Understand the Stability Limitation of Perovskites and Strategies to Enhance the Stability, MRS fall 2019, Boston, Dec. 6th, 2019

37. High throughput Fabrication of Efficient Perovskite Solar Modules and Tandem Solar Cells, MRS fall 2019, Boston, Dec. 4th, 2019
38. Scalable fabrication of perovskite modules, First Solar, Nov. 19, 2019
39. Photodetectors for radiation sensing, seminar, Georgia Institute of Technology, Nov.5, 2019
40. Multiple Facets Stability Issues of Metal Halide Perovskites and Mitigation Strategies ,PSCO 2019 Lausanne, Switzerland from 30 September to 2 October 2019
41. Growth of Perovskite Single Crystal and Defect Characterization, CHOISE meeting, Duke University, Sep 30, 2019
42. HALIDE PEROVSKITES FOR SENSITIVE, FAST WEAK LIGHT DETECTION, 2019 IEEE Research and Applications of Photonics in Defense Conference (RAPID), 8/19/19, Florida, USA
43. Progress in understanding perovskite materials and manufacturing of efficient and stable solar cells and modules, The 2019 Nankai International Symposium on Solar Energy Conversion, June 18, Tianjin, China
44. HALIDE PEROVSKITES FOR SENSITIVE, FAST WEAK LIGHT DETECTION, 2019 IEEE Research and Applications of Photonics in Defense Conference (RAPID), Aug 19-21, 2019, Miramar Beach FL, USA
45. Defect Passivation in Halide Perovskites, International Conference on Hybrid and Organic Photovoltaics , Roma, Italy, from 2019 May 12th to 2019 May 15th
46. Perovskite materials for radiation detectors, OSU Material week, May 8th, 2019
47. Beyond Solar Cells—Perovskite Radiation Detectors and Light Emitting Diodes, April 22, 2019, MRS spring 2019
48. Unique properties of halide perovskites for applications beyond solar cells, Seminar in NCSU, Nov. 17, 2018
49. Advance in Understanding Defects and Passivation in Perovskite Materials and Devices, MRS fall 2018, November 26, 2018
50. “Halide perovskites: Understanding and Technology Development” Seminar in Duke University, Oct 31, 2018,
51. Perovskite materials and technology, fundamentals and upscaling, Seminar in Florida State University, Oct 17, 2018
52. “Halide perovskites: what do we know and where they will go?” Molecular Foundry Review Meeting, Invited nonuser presentation, Aug.15-16, 2018
53. “Layered perovskites for solar cells, is it really good?”, Institute of Chemistry, Chinese Academy of Science, July 10, 2018
54. “Perovskite solar cells, from lab cells to modules”, National Center for Nanoscience and Technology, China, July 7, 2018
55. “Halide Perovskites, Detectors and Solar Cells”, The 7th Sungkyun International Solar Forum 2018, June 27-29, SKKU, Seoul, Korea
56. “Perovskite materials and devices, 2nd WUT International Symposium on Advanced Optoelectronic Materials and Devices (June 23-25, 2018)
57. “Perovskite solar cells, from lab cells to modules”, Central South University, China, June 22, 2018

58. "Perovskite Solar Cells: From Fundamental Understanding to Commercialization", Gordon Research Conference, June 17-22, Hong Kong, CN, 2018
59. "Scalable fabrication of perovskite modules", South China University of Technology, June 20th, 2018
60. "Scalable fabrication of perovskite modules", Shanghai Jiaotong University, June 8th, 2018
61. Advance in Understanding Perovskite Materials for Solar Cell Applications, ACS-China, Hangzhou, China May 5-8, 2018
62. Perovskite Materials and Solar Cells, Seminar in Suzhou University, Su Zhou, China, May 4, 2018
63. Halide Perovskites –Solar Energy, Detector Development and Fundamental Understanding, Seminar at University of Tennessee, Knoxville, TN , 4/24/2018
64. Matching the Perovskite Subcell with Silicon Cells for Efficient Tandem Solar Cells, MRS Spring 2018, Phoenix, AZ, April 2018
65. Stability enhancement of perovskite solar cells, MRS Spring 2018, Phoenix, AZ, April 2018
66. Halide Perovskites –Promising Materials for Radiation Detection beyond Solar, Seminar University of Michigan, Oct. 6, 2017
67. Understanding the properties of perovskite for high performance devices, Sep 18-20, PCSO 2017 Oxford, UK
68. Understanding the upper efficiency limit and stability in perovskite solar cells , SPIE Organic Photonics + Electronics , 6 - 10 August 2017, San Diego, California United States , Organic, Hybrid, and Perovskite Photovoltaics XVIII
69. Pushing the detection limit of organic and hybrid perovskites detectors to light and x-ray , SPIE Organic Photonics + Electronics, San Diego, California United States, Organic Sensors and Bioelectronics X , 6 August 2017
70. Continuing to explore the unusual properties of hybrid perovskites," Meeting: SPIE Organic Photonics + Electronics, 6 - 10 August 2017 , San Diego, California United States, Organic Light Emitting Materials and Devices XXI
71. Understanding Fundamental Properties of Hybrid Perovskites, Telluride Workshop on Solar Solutions to Energy and Environmental Problems, 2017 Telluride, Colorado,
72. How Much Do We Know about Perovskite, April 17-20 MRS Spring 2017, Symposium: ES1: Perovskite Solar Cells—Towards Commercialization, April 18, Phoenix, Arizona, USA
73. Surfaces and Grain Boundaries in Perovskites-Ion Migration and Stability, MRS Fall 2016, 11/27-12/2, Boston, MA
74. Efficiency and Stability of Perovskite Solar Cells, 11th International Conference on Electroluminescence and Organic Electronics which is scheduled to be held in Raleigh, NC, USA on October 2-Oct 6, 2016.
75. Enhancing the Moisture Stability of Perovskite Solar Cells with Modified Electron Transport Layers, September 26th –28th 2016 Genova, Italy. the second annual conference on Perovskite Solar Cells and Optoelectronics (PSCO-16),
76. "Perovskite based high performance photodetectors and radiation detectors," SPIE Organic Photonics + Electronics , 28 August - 1 September 2016 , San Diego, California United States

77. Achieving high performance Perovskite solar cells: materials, morphology, interface, and energy disorder, SPIE Nanoscience + Engineering , 28 August - 1 September 2016, San Diego, California United States
78. Achieving high performance Perovskite solar cells: materials, morphology, interface, and energy disorder, SPIE Nanoscience + Engineering , 28 August - 1 September 2016, San Diego, California United States
79. August 21-25, ACS meeting Symposium of “Polymer and Polymer Hybrid Electronics and Biosensors” Philadelphia, Pennsylvania. 2D Materials: Graphene and Beyond, and Their Device Applications,
80. The Birth and Death of Perovskite Grains, Office of Naval Research, Workshop on Perovskite Solar Cell Stability , University of Washington, Kane Hall Room 110, August 11 & 12, 2016
81. Hybrid Perovskite Solar Cell Progress-Materials and Device Physics, 2016 Hybrid Electronic & Photonic Materials and Phenomena" Gordon Research Conference. June 19 - 24, 2016 Hong Kong
82. Why Do Hybrid Perovskites Work So Well For Solar Cells and Applications Beyond?, June 11-14, 2016, Nature Conference on Materials for Energy 2016, in Wuhan, China
83. Ion Migration in Hybrid Perovskite Materials and Influence to Photovoltaic, May 25 (Wed) to May 27 (Fri), 2016, The 5th Sungkyun International Solar Forum 2016, Seoul, Korea
84. May 23, 2016, Brown workshop Microstructural Evolution in Organic-Inorganic Hybrid Perovskite Thin Films
85. “Grain Morphology Engineering in Perovskite Solar Cells for High Efficiency and Long Stability” March 28-April 1, 2016, MRS, Phoenix,
86. Understanding of perovskite properties using single crystals, MARCH 17, 2016 BALTIMORE, APS meeting,
87. Perovskite single crystals and application, March 13-16, 2016 San Diego, Invited talk at the Applications of Polymer Surfaces & Interfaces Symposium, ACS National Meeting in San Diego, March 13-17, 2016
88. “Understanding of perovskite materials”, Feb. 26, 2016, Seminar at University of Houston
89. “Perovskite solar cells, status and the future,” Feb. 15, 2016, Seminar at NCSU
90. “Perovskite electronics”, Feb 11, 2016, Seminar at University of North Carolina Chapel Hill
91. “*Perovskite materials solar cells*,” Seminar at Huazhong Science and Technology University, Wuhan, China, Dec. 23th, 2015.
92. “*What do we know about perovskite*,” Department seminar at South Central University, Dec 22, 2015
93. “*What do we know about perovskite*,” Department seminar at Beijing JiaoTong University, Dec. 18th, 2015
94. “*Influence of Low Cost Solution Process on Electronic Properties and Device Performances of Organic and Hybrid Perovskite Materials* ”, Symposium BB, MRS2015 Fall meeting (November 29 - December 4, 2015, Boston, Massachusetts, USA
95. “*Hybrid Perovskite Single Crystals- A New Platform for High Performance Devices and Fundamental Understanding*” Symposium NN, MRS2015 Fall meeting (November 29 - December 4, 2015 Boston, Massachusetts, USA

96. “*Tutorial NN: New Developments in Perovskite Solar Cells—From Fundamentals to Applications*” MRS2015 Fall meeting MRS invited Tutorial talk
97. “*Why Perovskites Work So Well for Photovoltaic Cells*” Department seminar at University of Florida, Oct. 26, 2015
98. “*Material Morphology and Defects in Hybrid Perovskite Solar Cells*” Department seminar at University of Wisconsin-Madison, Oct. 15, 2015
99. “*Morphology dependent carrier diffusion length in hybrid perovskite materials*”, The 26th. International Conference on Amorphous and Nanocrystalline Semiconductors, Aachen, Germany Sep 13.-18th, 2015
100. “*Perovskite Solar Cell Progress at UNL*”, Invited Talk at Brown University, Sep 11, 2015
101. “*High grain, low noise organic and nanoelectronic photodetectors*”, SPIE Optics + Photonics 2015, San Diego, Aug. 13, 2015
102. 8:35 am: *Sensitive organometal trihalide perovskite photodetectors with high gain and low noise for sub pW/cm² light detection at room temperature*, Jinsong Huang, Yanjun Fang, Univ. of Nebraska-Lincoln (USA) [9568-217] SPIE Optics + Photonics 2015, San Diego, Aug. 10, 2015
103. “*Hybrid Perovskites Material for Energy Harvesting and Sensing*” UNL Materials for Energy Systems Symposium, July 21, 2015
104. “*Engineering Crystalline Grain of Hybrid Perovskites for High Efficiency Solar Cells and Beyond*”, The International Photonics and OptoElectronics Meetings 2015 (POEM 2015), June 16th to 19th, 2015 at Wuhan China.
105. “*Ion Transport in Hybrid Organic-Inorganic Hybrid Perovskite*”, the 20th international conference on Solid State Ionics (SSI-20), Keystone, Colorado, USA from June 17th, 2015
106. “*Hybrid Perovskite Solar Cells-Material Process, Device, and Understanding of the Unique Properties*”, National Academies, Condensed Matter and Materials Research Committee Meeting, June 16th, 2015, Washington DC
107. “*Progress of pervskite materials and understanding*” Department seminar at Shenzhen University, June 8th, 2015
108. “*Perovskite solar cell research status*” Department seminar at South Central University, June 1st, 2015
109. “*Understand the fundamental electronic processes in hybrid perovskite solar cells* ” Seminar at Huazhong Science and Technology University, Wuhan, China, June 1st, 2015.
110. “*Diffusion Length in Organometal Trihalide Perovskites*”, Seminar in the Department of Physics, Peking University, China, May 27, 2015
111. “*Understanding Fundamental Properties of Organometal Trihalide Perovskites for Solar Cell Application*”, Department Seminar in the Department of Material Science and Engineering, NCSU, Feb 19, 2015
112. “*Scaling of Diffusion Length in Organometal Trihalide Perovskites for Solar Cell Application and Beyond*”, Department Seminar in the Department of Material Science and Engineering, Purdue University, Feb. 12, 2015
113. “*Perovskite Solar Cells Progress*”, Department Seminar in the Department of Material Science and Engineering, UCLA, Oct. 31st, 2014

114. *“Charge Traps Enabled High Gain Photodetectors”*, Department Seminar in the Department of Mechanical Engineering, Ohio State University, Sep 3rd, 2014
115. *“Highly efficient perovskite solar cells by a low temperature solution process and its working principle”*, Aug. 20, 2014 SPIE Optics and Photonics, San Diego, CA, USA
116. *“Charge trap engineering for highly sensitive photodetectors”* Aug. 19, 2014 SPIE Optics and Photonics, San Diego, CA, USA
117. *“Improving Perovskite Crystal Quality for High Device Performance”*, E-MRS, May 27, 2014, Lille, France
118. *“Improving Perovskite Crystal Quality for High Device Performance and Its Operation Principle”*, Seminar in Central South University, Changsha, Hunan, China, May 13, 2014
119. *“The development of organic ferroelectric photovoltaic”* Seminar in Institute of Semiconductor, Chinese Academy of Science, Beijing, China, May 5, 2014
120. *“Ferroelectric polymer solar cells”*, University of North Carolina at Chapel Hill, March 24, 2014
121. *“Universal formation of compositionally graded bulk heterojunction for efficiency enhancement in organic photovoltaics”* 247th ACS National Meeting and Exposition, March 16-20, 2014, Dallas, Texas
122. *“High Gain, Low Noise, Large Linear Dynamic Range UV Hybrid Photodetectors”* 50th Annual AOC International Symposium & Convention. 29 October 2013 Washington, DC
123. *“High gain, low noise and low cost nanocomposite photodetectors”*, SPIE Optics & Photonics, San Diego, California, United States, 25 - 29 August 2013
124. *“Organic bulk ferroelectric photovoltaic”* International Symposium on Integrated Functionalities ISIF 2013, July 30, Dallas, TX 2013
125. *“Organic Ferroelectronics”*, Invited seminar in Institute of Semiconductor, Chinese Academy of Sciences, Beijing, China June 25, 2013
126. *“Application of Ferroelectrics in Photovoltaic Application”*, Honorable speaker for the Polymer Science Lecture Series, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, June 24, 2013 Changchun, China
127. *“Organic Electronics”* Invited department seminar in South Central University, Changsha, China, May 28, 2013
128. *“Organic ferroelectric photovoltaics”* Invited seminar in Xiangtan, Xiangtan, China, May 30, 2013
129. *“Ferroelectric-organic hybrid photovoltaic”*, MRS 2012 Fall meeting, Boston, USA 2012
130. *“Switchable and high efficiency organic ferroelectric solar cell”* International Symposium on Integrated Functionalities ISIF 2012, June 18-21, Hong Kong, China, 2012
131. *“Ferroelectric Organic Photovoltaic-for Higher Efficiency and New Functionalities”*, UNL Department of Mechanical and Materials Engineering Seminar, Nov. 8, 2011, Lincoln, NE
132. *“Introduce an Electric Field into Polymer Solar Cell for Increased Efficiency”*, Fifth International Conference on Nanophotonics, May 22-25, Shanghai China 2011
133. *“Ferro-organic electronics”*, UCLA Department of Material Science and Engineering Seminar, Los Angeles, CA, March 20 2011

134. “Dipole layer in organic electronic devices-a unique application opportunity for ferroelectric” , International Symposium on Integrated Functionalities ISIF 2010, San Juan, Puerto Rico, Jun. 2010
135. “Organic electronic materials and devices” Seminar in J.A. Woollam Co, Lincoln NE Jun.5 2010
136. “High efficiency polymer solar cell and polymer light emitting diodes”, College of Material and Optoelectronic Physics, Xiangtan University, Hunan, China, June 2009
137. “Interface engineering for high performance organic optoelectronic devices”, Institute of Chemistry, Chinese Academy of Science, Beijing, China, November 2009
138. “Achieving high efficiency and low cost polymer solar cells”, Institute of Semiconductor, Chinese Academy of Science, Beijing, China, November 2009

GRADUATE ADVISEES

PhD Students

	Name	Co-supervisors	Supervise time	Dissertation title	Fund the student	Graduation date
37	Ziyuan Huang		8/2025		Yes, RA	TBD
36	Chunting Wu		8/2025		Yes, RA	TBD
35	Yin Lyu	NA	8/2024	TBD	Yes, RA	TBD
34	Zhijun Li	NA	8/2023	TBD	Yes, RA	TBD
33	Xinyi Fang	NA	8/2023	TBD	Yes, RA	TBD
32	Xiaoqiang Shi	NA	1/2023	TBD	Yes, RA	TBD
31	Xingjian Ying	NA	8/2022	TBD	Yes, RA	TBD
30	Allen Wood	NA	8/2021	TBD	Yes, RA	TBD
29	Mengze Li	NA	1/2021	TBD	Yes, RA	TBD
28	Hangyu Gu	NA	8/2019-	TBD	Yes, RA	2024
27	Mengru Wang	NA	8/2019-	TBD	Yes, RA	2024
26	Nicholas Lauersdorf	NA	8/2019-	TBD	Yes, RA	2023
25	Haoyang Jiao	NA	8/2018-	TBD	Yes, RA	2024
24	Liang Zhao	NA	8/2018	TBD	Yes, RA	2023
23	Charles Henry Van Brackle	NA	7/2017-present	Perovskite solar cell	Yes(RA)	8/16/2020
22	Derrek Spronk	NA	7/2017-present	Nanocomposite radiation detector	Yes(RA)	2022
21	Peter Neil Rudd	NA	7/2017-present	Perovskite solar cell	Yes (RA)	2023
20	Xuezeng Dai	NA	7/2017-2022	Perovskite solar cell	Yes(RA)	2022

18	Xun Xiao	NA	7/2017-present	Perovskite solar cell	Yes(RA)	2022
17	Ye Liu	Jeffrey Shield	1/2016-present	Perovskite solar cell	Yes(RA)	8/31/2020
16	Jingjing Zhao	Jeffrey Shield	1/2016-present	Perovskite	Yes(RA)	8/31/2019
15	Yun Lin	Jeffrey Shield	8/2015-present	Perovskite solar cell	Yes (RA, CSC)	8/31/2019
14	Yehao Deng	NA	8/2014-present	Perovskite solar cell	Yes(RA)	5/31/2019
13	Qi Wang	NA	8/2013-present	Polymer Solar Cell	Yes(RA)	5/31/2019
12	Yuchuan Shao	NA	8/2012-present	Ferroelectrics	Yes(RA)	5/31/2016
11	Jeremy VanDerslice	Zhaoyan Zhang	1/2012-present	Ellipsometry	No	5/31/2018
10	Bi Cheng	NA	8/2012-present	Nanoparticle Photodetector	Yes(RA)	5/31/2016
9	Dong Wang	NA	8/2015-8/2016	Perovskite solar cell	Yes(RA)	NA
8	Qingfeng Dong	Wenjing Tian	9/2009-8/2014	Organic solar cells	Yes	8/2014
7	Yu Bi	Tianfu	9/2009-8/2014	Organic solar cells	No	8/2014
6	Yunzhang Lu	Zhang	8/2012/-7/2017	Organic solar cell	No	7/2017
5	Zhengguo Xiao	NA	8/2011-8/2015	Ferroelectric Organic Solar Cells	Yes(RA)	8/14/2015
4	Edwin Peng	Jeffrey Shield	5/2014-12/2014	Perovskite solar cell	Yes(RA)	NA
3	Fawen Guo	NA	1/2011-8/2014	Photodetector	Yes(RA)	5/31/2014
2	Bin Yang	NA	8/2010-12/2013	Bilayer Organic Solar cells	Yes(RA)	12/31/2013
1	Shumin Li	Li Tan	8/2013-12/2013	Nanoparticle synthesis	Yes (RA and CSC)	6/30/2018

Master Students

6	Teddy Feng	NA	7/2017-2019	Perovskite solar cell	Yes (RA)	5/8/2020
5	Charles Henry Van Brackle		2017-2020	PL study	Yes (RA)	8/16/2020
4	Yuanxiang Feng		2017-2020	Radiation Detectors	Yes (RA)	5/8/2020

3	Tomas Tong	Jeffrey Shield	2016-present	LED	Yes(RA)	8/31/2019
2	Miao Hu	NA	1/2014-2016	Perovskite solar cell	Yes(RA)	5/31/2016
1	Xiaopeng Zheng	Jeffrey Shield	8/2015-present	Perovskite solar cell	Yes(RA)	8/31/2019

Postdoc

	Name	Starting	Research Projects
56	Brian Cole	10/2025	
55	Zhiyu Wang	10/2025	
54	Sherry Shen	10/2025	
53	Bo Zhang	07/2025	
52	Chuanhang Guo	9/2024	
51	Yuqian Yang	6/2024	
50	He Liu	7/2024	
49	Jian Wang	6/2024	
48	Haoliang Wang	3/2024	
47	Tulja Korukonda	2/2024	
46	Huanxin Guo	1/2024	
45	Shaojie Wang	10/2023	
44	Yuqin zou	2/2024	
43	Hongki Kim	7/2023	
42	Nengxu Li	8/2022	
41	Kyoungwon Choi,	8/2022	
40	Xinwen Zhang	5/2023	
39	Marise G. Batlle	1/2023	
38	Wenzhan Xu	11/2021	
37	Hengkai Zhang	11/2021	
36	Prem Rana	8/2021	
35	Jiantao Wang	9/2021	
34	Zhifang Shi	5/2021	
33	Ye Liu	2/1/2021	
32	Matthew Davenport	1/4/2021	
31		1/4/2021	
30	Chengbin Fei	7/1/2020	
29	Ying Zhou	12/1/2019	New
28	Fei Ye	9/1/2019	New
27	Shen Wang	8/1/2019	New
26	Yehao Deng	7/15/2019	New
25	Guang Yang	8/1/2019	Perovskite solar cells
24	Zhenyi Ni	11/15/2018	Detectors
23	Shangshang Chen	10/1/2018	Perovskite solar cells
22	Qi Jiang	8/1/2018	Perovskite solar cells

21	Zhibin Yang	8/1/2017	Perovskite solar cells
20	Yu Zhou	9/1/2017	Perovskite solar cells
19	Wuqiang Wu	5/1/2017	Perovskite solar cells
18	Yuze Lin	7/1/2017	Perovskite solar cells
17	Yuchuan Shao	11/1/2017	Perovskite solar cells
16	Shuang Yang	7/1/2017	Perovskite solar cells
15	Yanjun Fang	9/2013-	Ferroelectrics
14	Haotong Wei	8/1/2014-	Nanocomposite radiation detector
13	Bo Chen	11/1/2015-	Perovskite solar cells
12	Zhenhua Yu	3/1/2017-	Perovskite solar cells
11	Tianyou Zhang	10/1/2015-	Perovskite solar cells
10	Wei Wei	8/15/2015-	Perovskite single crystals
9	Yang Zhang	6/1/2015-	Photodetector
8	Yang Bai	2/1/2015-	Perovskite solar cells
7	Liang Shen	6/1/2014-	Photodetector
6	Qingfeng Dong	7/2013-	Ferroelectrics
5	Yongbo Yuan	12/2009-	Solar cell, transistor, detector
4	Chieu Nguyen	10/1/2014-	Photodetector
3	Qingfeng Zhang	2/1/2014 –	Ferroelectrics
2	Roy Dong	2/2013-	Photodetector
1	Baodong Mao	5/2012-	Nanocrystal solar cells

Undergraduate Student Researcher

1. Angelina Stein, 2025
2. Michael Hopfinger, 2025
3. Aidan Wensel , 2024
4. Alex Allred, REU, 2023
5. John Mark Page, REU, 2022
6. Kosuri, Saipranav, 2022
7. Toole, Jimmy Francis, 2021
8. Allen Wood, 2021
9. Billingsley, Alex Joe , 2018-2020
10. Jared Goldman, 2018
11. Philip Weibe, 2016-2017
12. Brian Cronin, 2015-2016
13. Alan Akil, Jan 2015-Dec. 2015
14. Runyu Zhang, Jan.2010-Dec 2012, UCARE student
15. Katie McDaniel, Lei Zhang, May 2015-Aug. 2015, MRSEC REU-Teacher Pair
16. Mitch Sanchez, May 2015-Aug. 2015, NSF REU
17. Michel Dawson, May 2015-Aug. 2015, NCMN High school researcher
18. William Ferreira, May 2014-May 2015
19. Mitchell Faltin, May 2013-May 2014, NSF REU student, UCARE student
20. Jennifer Mark, June 2013-Sep 2013, UCARE student
21. Stephanie Paustian, May 2012-Aug.2012, MRSEC REU student
22. William Smith, May 2012-Aug.2012, MRSEC RET teacher

23. Beatriz Dumont Defendi, May 2012-Aug.2012, MRSEC REU student
24. James L. Cox , Sep.2009-May,2011, UCARE student
25. Alexander Clement, May 2011-Aug 2011, MRSEC REU student

Honors/Awards Received by Advisees

1. Postdoc fellow Dr. Zhenyi Ni received the 2021 Postdoctoral Award for Research Excellence,
2. Graduate student Xun Xiao received Dean's Distinguished Dissertation Award, 'the highest level of graduate student scholarship at UNC-Chapel Hill', 2021
3. Graduate student Xun Xiao received Dissertation Finishing Scholarship. 2020
4. Graduate student Qi Wang received the BEST POSTER AWARD in International Symposium on Energy Science and Technology, 2018
5. Graduate student Qi Wang is awarded College of Engineering graduate research assistant award of the year 2016
6. Graduate student Qi Wang is awarded Mechanical and Materials Engineering department graduate research assistant award of the year 2016
7. Graduate student Yuchuan Shao is award MRS graduate student award, gold medal, in the Spring MRS 2016 conference. This is the 3rd time UNL material graduate students (All of them are from Huang group) broke into the prestigious award lists.
8. Graduate student Cheng Bi received the competitive NCMN Graduate Research Fellowship for excellence in research in 2015 (total two awards per year in the campus).
9. Graduate student Zhengguo Xiao received received 2015 MRS Fall Meeting Graduate Student Silver Medal Award. It is the second time a UNL graduate student received this award in the history.
10. Graduate student Yuchuan Shao received the 2015 "Outstanding Graduate Research Assistant Shao Award" This award recognizes excellence in graduate student research at UNL. Yuchuan is the only recipient for this award in 2015.
11. Postdoc Yongbo Yuan received the university 2014 Outstanding Postdoc Award
12. Graduate student Yuchuan Shao has been awarded the 2014 Nebraska Center for Materials & Nanoscience (NCMN) Fellowship.
13. Graduate student Bin Yang received 2013 MRS Fall Meeting Graduate Student Gold Medal Award. This is the highest award for graduate student in material research field. It is the first time a UNL graduate student received this award in the history.
14. Graduate student Zhengguo Xiao won the 2014 Department Graduate Student Research Award
15. Postdoc Qingfeng Dong won Spring 2013 Science Art Competition Award.
16. Undergraduate student researcher Runyu Zhang is awarded the Ralph & Martha Siemens Scholarship from the UNL