Fen Qiu （邱芬）

个人简介：邱芬，女，1983 年 9 月生于湖北武汉，2015 年获得美国罗切斯特大学化学博士学位。毕业后在美国能源部隶属劳伦斯伯克利国家实验室从事博士后研究。主要研究方向为无机纳米材料，金属有机框架，碳支架材料的分子自组装，以及光催化作用，在国际高水平期刊如 Science, Nano Letters, Small 等杂志发表科学论文 13 篇，引用 450 余次。多次主导以及参与能源部关于太阳能转化储能的重大项目。
Email:fqiu@lbl.gov

EDUCATION （教育经历）

University of Rochester （罗切斯特大学） **Rochester, NY, USA**
Ph.D. in Physical Chemistry **Advisor: Todd. D. Krauss** *February 2015*

Wuhan University （武汉大学） **Wuhan, Hubei, China**
M.S. in Polymer Physics and Chemistry （高分子科学） *June 2008*
B.S. with Honors in Applied Chemistry （应用化学） *June 2006*

WORKING/RESEARCH EXPERIENCE （研究工作经历）

Lawrence Berkeley National Laboratory （劳伦兹伯克利国家实验室） **Berkeley, CA, USA**
Postdoctoral Fellow （博士后） *March 2015-Current*

- Understanding the photochemical processes of hybrid MOF/Polymer encapsulant materials for photovoltaics.
- Developing hybrid nanocomposites/superlattices for solar energy storage and conversion *in Collaboration with Joint Center of Artificial Photosynthesis at Lawrence Berkeley National Laboratory*.
- Developing hetero-nanostructures for plasmon-enhanced catalysis *in Collaboration with Eindhoven University of Technology in Netherlands*.

University of Rochester Department of Chemistry （罗切斯特大学化学系） **Rochester, NY, USA**
Graduate Research Assistant *August 2008-Feburary 2015*

- Semiconductor nanocrystals for photocatalytic hydrogen generation.
- Quantum dot-antibody conjugates for biological labeling (Performed in collaboration with a group from Department of Biomedical Engineering).

Wuhan University Department of Chemistry （武汉大学化学系） **Wuhan, Hubei, China**
Independent Masters Researcher in Polymer Physics and Chemistry *September 2006-August 2008*

- Development of nano-sized micelles self-assembled from amphiphilic copolymers for drug delivery. (In the Key Laboratory of Biomedical Polymers of Ministry of Education)

Undergraduate Research Assistant *September 2002-August 2006*

- Synthesis and purification of beta-substituted porphyrins and metaloporphyrins to determine their bioactivity.
- Study of exterior conformation of cellular membrane of Escherichia coli cell.

SELECTED HONORS & AWARDS （获奖情况）

- Chinese Government Award for Outstanding Self-Financed Students Abroad, 2014 （中国政府留学生奖学金）
- Chinese Academy of Sciences Scholarship (1/170), Wuhan University （中科院奖学金）
- President of Student Association of School of Chemistry at Wuhan University

PUBLICATIONS （发表论文）

- **Fen Qiu**, Youngsang Kim, Erin Creel, Ageeth A. Bol, Jeffrey J. Urban. "Selective Deposition of Pt on Iron Oxide Superlattices for Plasmon Enhanced CO Oxidation" *In Preparation 2017*
- **Fen Qiu**, Guo Li, Tracy M. Mattox, Jeffrey J. Urban. "Ligand-Mediated Self-assembly of Iron Oxide and Metal Organic Framework into 2D Double-Layered Film Using Superlattice Template" *Submitted to J. Am. Chem. Soc. 2017*
- Zhuonan Song, **Fen Qiu**, Zhongying Wang, Baoxi Mi, and Jeffrey J. Urban "Core/shell Metal Organic Frameworks and Their Use as Fillers in Hybrid Membranes for Significantly Enhanced CO_2 Capture" *Submitted to Angew. Chem. 2017*

1. Zhiji Han*, **Fen Qiu***, Richard Eisenberg, Patrick L. Holland, Todd D. Krauss. "Robust Photogeneration of H_2 in Water Using Semiconductor Nanocrystals and a Nickel Catalyst" ***Science* 2012, 338, 6112, 1321-1324 (* equally contributed)**
2. **Fen Qiu**, Zhiji Han, Jeffrey J. Peterson, Michael Y. Odoi, Kelly L. Sower, Todd D. Krauss. "Photocatalytic Hydrogen Generation by CdSe/CdS Nanoparticles" *Nano Lett.* **2016**, 9, 5347-5352
3. Cunming Liu, **Fen Qiu**, Jeffrey Peterson, Todd D. Krauss. "Aqueous Photogeneration of H_2 with CdSe Nanocrystals and Nickel Catalysts: Electron Transfer Dynamics" *J. Phys. Chem. B* **2015**, 119, 7349-7357
4. Eun Seon Cho, **Fen Qiu**, Jeffrey J. Urban "Polymer Size and Solvent Effects on Mg Nanocrystal Growth in the Composite" *Small* **2017**, 13, 1602572
5. **Fen Qiu**, Jun Feng, Dequn Wu, Xianzheng Zhang, Renxi Zhuo. "Nanosized Micelles Self-Assembled from amphiphilic dextran-graft-methoxypolyethylene glycol/poly(ε -caprolactone) copolymer" *Eur. Polym. J.* **2009**, 45, 4, 1024-1031
6. Gregory Pilgrim, Joanne Leadbetter, **Fen Qiu**, Anni Siitonen, Steven Pilgrim, Todd D. Krauss. "Electron Conductive and Proton Permeable Vertically Aligned Carbon Nanotube Membranes" *Nano Lett.* **2014**, 14, 4, 1728-1733
7. Gregory A Pilgrim, Amanda R Amori, Zhentao Hou, **Fen Qiu**, Sanela Lampa-Pastirk, Todd D Krauss "Carbon Nanotube Based Membrane for Light-Driven, Simultaneous Proton and Electron Transport" *ACS Energy Lett.* **2017**, *2*, 129-133
8. Youn Jue Bae, Eun Seon Cho, **Fen Qiu**, Daniel T. Sun, Teresa E. Williams, Jeffrey J. Urban, Wendy L. Queen "Transparent Metal-Organic Framework/Polymer Films as Water Vapor Barriers" *ACS Appl. Mater. Interfaces* **2016**, 8, 10098-10103
9. Gregory Pilgrim, Joanne Leadbetter, **Fen Qiu**, Anni Siitonen, Steven Pilgrim, Todd D. Krauss. "Electron Conductive and Proton Permeable Vertically Aligned Carbon Nanotube Membranes" *Nano Lett.* **2014**, 14, 4, 1728-1733
10. Todd Krauss, Sanela Lampa-Pastirk, Cunming Liu and **Fen Qiu**. "Ultrafast dynamics of semiconductor nanocrystals" *SPIE Newsroom 10.1117/2.1201605.006467*
11. Dequn Wu, **Fen Qiu**, Tao Wang, Xuejun Jiang, Xianzheng Zhang, Renxi Zhuo. "Toward the Development of Partially Biodegradable and Injectable Thermoresponsive Hydrogels for Potential Biomedical Applications" *ACS Appl. Mater. Interfaces* **2009**, 1, 2, 319-327
12. Qi Zheng, **Fen Qiu**, Zhihong Liu, Ruxiu Cai. "Highly Sensitive Catalytic Spectrofluorimetric Determination of Peroxynitrite" *Chin. J. Anal. Chem.* **2006**, 34, 1, 26-30
13. Ju Liang, **Fen Qiu**, Jianfa Zhu, Zhihong Liu, Ruxiu Cai, Ping Shen. "Sodium Selenite-Induced HeLa Cells Apoptosis" *Wuhan University Journal(Natural Science Edition)* **2005**, 51, 6, 663-667

PRESENTATIONS （学术报告）

1. Fen Qiu. "Transparent Metal–Organic Framework/Polymer Mixed Matrix Membranes as Water Vapor Barriers for Photovoltaic Cells", Invited Oral Presentation, *Bay Area Photovoltaic Consortium,* Stanford University, CA. May 16-17, 2016
2. Todd D. Krauss, Sanela Lampa-Pastirk, Cunming Liu, Fen Qiu. "Ultrafast dynamics of charge transfer in semiconductor quantum dots relevant to solar hydrogen production", SPIE, Baltimore Convention Center, Baltimore, Maryland, 2016
3. Eun Seon Cho, Fen Qiu, YounJue Bae, Wendy Queen and Jeffrey J. Urban "Hybrid Polymer/Metal–Organic Framework Films for Scalable Barrier Coatings on Photovoltaic Cells ", Poster presentation, *Bay Area Photovoltaic Consortium,* Stanford University, CA. May 7-8, 2015
4. Fen Qiu. "Semiconductor Nanocrystals for Photocatalytic Hydrogen Production" Oral Presentation. Argonne National Laboratory, 2014 Seminars
5. Fen Qiu, Zhiji Han, Richard Eisenberg, Patrick L. Holland, Todd D. Krauss, "Robust photogeneration of H2 in water using semiconductor nanocrystals and a nickel catalyst" 246th ACS National Meeting and Exposition, Indianapolis, Indiana, September 8-12, 2013
6. Fen Qiu, Zhiji Han, Richard Eisenberg, Patrick L Holland, Todd D Krauss "Semiconductor Nanocrystals for Photocatalytic Hydrogen Production", Poster presentation, *Gordon Research Conference on Clusters, Nanocrystals & Nanostructures,* Mount Holyoke College in South Hadley, MA. August 4-9, 2013.
7. Zhiji Han, William R. McNamara, Luxi Shen, Min-Sik Eum, Richard Eisenberg, Fen Qiu, Todd D. Krauss. Oral Presentation "Nickel-based catalysts for H2 generation using Earth-abundant catalysts" at 245th ACS National Meeting and Exposition April 7-11, 2013
8. Fen Qiu, Zhiji Han, Richard Eisenberg, Patrick L Holland, Todd D Krauss "Semiconductor Quantum Dots for Solar Hydrogen Production", Poster presentation, 244th ACS National Meeting, Philadelphia, PA. August 19-23, 2012.
9. Fen Qiu, Zhiji Han, Richard Eisenberg, Patrick L Holland, Todd D Krauss "Semiconductor Quantum Dots for Solar Hydrogen Production", Poster presentation, 2011 MRS Fall Meeting, Boston, MA. November 28-December 2, 2011. (Nominated as the best poster)

PROFESSIONAL SERVICES （学术兼职）

- Reviewer for top journals and conferences, including Chemical Communications, RSC Advances, New Journal of Chemistry and Journal of Colloid and Interface

PATENT （专利）

- Todd D. Krauss, Richard Eisenberg, Patrick L. Holland, **Fen Qiu**, Zhiji Han, "Method for Producing Hydrogen using Nanoparticle-Catalyst Mixtures," patent filed (2012)