XIAOFENG FENG

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Education

2014−2016	Stanford University, Stanford, CA Advisor: Prof. Matthew Kanan	Postdoctoral Scholar in Chemistry
2009−2013	University of California, Berkeley, CA Advisor: Prof. Miquel Salmeron	Ph.D. in Materials Science and Engineering
2007−2009	Tsinghua University, Beijing, China	M.S. in Physics
2003−2007	Peking University, Beijing, China	B.S. in Physics

Experience

2016−Present	Assistant Professor, Department of Physics and a Joint Appointment with Chemistry and Materials Science and Engineering, University of Central Florida

Honors and Awards

Honorable Speaker for the Inorganic Chemistry Lecture Series, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences	2017
American Vacuum Society (AVS) Morton M. Traum Surface Science Award	2013
American Vacuum Society (AVS) Graduate Research Award	2013
Materials Research Society (MRS) Graduate Student Silver Award	2013
Chinese Government Award for Outstanding Self-Financed Students Abroad	2012
Chih-Kung Jen Prize, Tsinghua University	2009
Starlight International Media Fellowship, Peking University	2006
Chinese Academy of Sciences Fellowship, Peking University	2005
Dean's Award for Studying Excellence, Peking University	2004

Teaching

- Fall 2016: PHY 3802L − Intermediate Physics Laboratory
- Fall 2017: PHY 3802L − Intermediate Physics Laboratory
- Spring 2018: PHY 3802L − Intermediate Physics Laboratory
- Fall 2018: PHY 2053C − College Physics I
- **Current Advisees:** Jun Wang, Lin Hu, Zackary Parsons, Amy Schwandes, Ryan Schale

Publications (* indicates corresponding author)

(1) Wang, J.; Yu, L.; Hu, L.; Chen, G.; Xin, H.;* **Feng, X.*** Ambient ammonia synthesis via palladium-catalyzed electrohydrogenation of dinitrogen at low overpotential. *Nat. Commun.* **2018**, *9*, 1795.
(2) Hu, L.; Khaniya, A.; Wang, J.; Chen, G.; Kaden, W. E.; **Feng, X.*** Ambient electrochemical ammonia synthesis with high selectivity on Fe/Fe oxide catalyst. *ACS Catal.* **2018**, *8*, 9312−9319.
(3) Wang, J.; Khaniya, A.; Hu, L.; Beazley, M.; Kaden, W. E.; **Feng, X.*** A bifunctional catalyst for efficient dehydrogenation and electro-oxidation of hydrazine. *J. Mater. Chem. A* **2018**, DOI: 10.1039/C8TA06219F.
(4) Lechner, B. A. J.; **Feng, X.**; Feibelman, P. J.; Cerda, J. I.; Salmeron, M.* Scanning tunneling microscopy study of the structure and interaction between carbon monoxide and hydrogen on the Ru(0001) surface. *J. Phys. Chem. B* **2018**, *122*, 649−656.

(5) Beh, E. S.; Basun, S. A.; **Feng, X.**; Idehenre, I. U.; Evans, D. R.; Kanan, M. W.* Molecular catalysis at polarized interfaces created by ferroelectric $BaTiO_3$. *Chem. Sci.* **2017**, *8*, 2790−2794.

Prior to Joining UCF:

(6) **Feng, X.**; Jiang, K.; Fan, S.; Kanan, M. W.* A direct grain-boundary-activity correlation for CO electroreduction on Cu nanoparticles. *ACS Cent. Sci.* **2016**, *2*, 169−174. (Journal Cover)
(7) **Feng, X.**; Jiang, K.; Fan, S.; Kanan, M. W.* Grain-boundary-dependent CO_2 electroreduction activity. *J. Am. Chem. Soc.* **2015**, *137*, 4606−4609.
(8) **Feng, X.**; Cerdá, J. I.; Salmeron, M.* Orientation-dependent interaction between CO_2 molecules adsorbed on Ru(0001). *J. Phys. Chem. Lett.* **2015**, *6*, 1780−1784.
(9) Maier, S.; Stass, I.; **Feng, X.**; Sisto, A.; Zayak, A.; Neaton, J.; Salmeron, M.* Dehydrogenation of ammonia on Ru(0001) by electronic excitations. *J. Phys. Chem. C* **2015**, *119*, 10520−10525.
(10) **Feng, X.**; Wu, J.; Bell, A. T.; Salmeron, M.* An atomic-scale view of the nucleation and growth of graphene islands on Pt surfaces. *J. Phys. Chem. C* **2015**, *119*, 7124−7129.
(11) **Feng, X.**; Salmeron, M.* Electronic screening in stacked graphene flakes revealed by scanning tunneling microscopy. *Appl. Phys. Lett.* **2013**, *102*, 053116.
(12) **Feng, X.**; Kwon, S.; Park, J. Y.; Salmeron, M.* Superlubric sliding of graphene nanoflakes on graphene. *ACS Nano* **2013**, *7*, 1718−1724.
(13) **Feng, X.**; Maier, S.; Salmeron, M.* Water splits epitaxial graphene and intercalates. *J. Am. Chem. Soc.* **2012**, *134*, 5662−5668.
(14) **Feng, X.**; Chee, S. W.; Sharma, R.; Liu, K.; Xie, X.; Li, Q.; Fan, S.; Jiang, K.* In situ TEM observation of the gasification and growth of carbon nanotubes using iron catalysts. *Nano Research* **2011**, *4*, 767−779.
(15) **Feng, X.**; Liu, K.; Xie, X.; Zhou, R.; Zhang, L.; Li, Q.; Fan, S.; Jiang, K.* Thermal analysis study of the growth kinetics of carbon nanotubes and epitaxial graphene layers on them. *J. Phys. Chem. C* **2009**, *113*, 9623−9631.
(16) Xie, X.; Ju, L.; **Feng, X.**; Sun, Y.; Zhou, R.; Liu, K.; Fan, S.; Li, Q.; Jiang, K.* Controlled fabrication of high-quality carbon nanoscrolls from monolayer graphene. *Nano Lett.* **2009**, *9*, 2565−2570.
(17) Liu, K.; Sun, Y.; Chen, L.; Feng, C.; **Feng, X.**; Jiang, K.;* Zhao, Y.;* Fan, S. Controlled growth of super-aligned carbon nanotube arrays for spinning continuous unidirectional sheets with tunable physical properties. *Nano Lett.* **2008**, *8*, 700−705.
(18) Xiao, L.;* Liu, P.; Liu, L.;* Jiang, K.;* **Feng, X.**; Wei, Y.; Qian, L.; Fan, S.; Zhang, T. Barium-functionalized multiwalled carbon nanotube yarns as low-work-function thermionic cathodes. *Appl. Phys. Lett.* **2008**, *92*, 153108.
(19) Wei, Y.; Jiang, K.;* **Feng, X.**; Liu, P.; Liu, L.;* Fan, S. Comparative studies of multiwalled carbon nanotube sheets before and after shrinking. *Phys. Rev. B* **2007**, *76*, 045423.

Total citations = 1355 (Google Scholar, as of 09/15/2018).

Presentations

(1) **Feng, X.** Developing metal catalysts for efficient electroreduction of nitrogen to ammonia. *256th ACS National Meeting*, **Aug. 2018**, Boston, MA.
(2) **Feng, X.** (***Invited***) Rational design of metal electrocatalysts for renewable energy conversion. *Lawrence Berkeley National Laboratory*, **June 2018**, Berkeley, CA.
(3) **Feng, X.** (***Invited***) Rational design of metal electrocatalysts for renewable energy conversion. *UCF Chemistry Department Seminar*, **Apr. 2018**, Orlando, FL.
(4) **Feng, X.** (***Invited***) Producing oxygen and fuels from carbon dioxide on Mars: A chemical view. *Florida Space Institute − CLASS Seminar*, **Feb. 2018**, Orlando, FL.
(5) **Feng, X.** Grain-boundary-supported active sites for electrochemical catalysis. *AVS 64th International Symposium & Exhibition*, **Nov. 2017**, Tampa, FL.
(6) **Feng, X.** Grain boundary effect in electroreduction catalysis for renewable energy conversion. *232nd ECS Meeting*, **Oct. 2017**, National Harbor, MD.

(7) **Feng, X.** (***Invited***) Grain boundary effect in electrochemical catalysis. *Changchun Institute of Applied Chemistry, Chinese Academy of Sciences,* **Sept. 2017**, Changchun, China.
(8) **Feng, X.** (***Invited***) Grain boundary effect in electrochemical catalysis. *Dalian Institute of Chemical Physics, Chinese Academy of Sciences*, **Aug. 2017**, Dalian, China.
(9) **Feng, X.** (***Invited***) Defect-Rich Metal Nanocatalysts for Electroreduction of CO_2 to Liquid Fuel. *Florida Solar Energy Center*, **Jan. 2017**, Cocoa, FL.

Prior to Joining UCF:

(10) **Feng, X.** (***Invited***) Chemistry at Grain Boundaries: From Surface Science to Electrocatalysis. *University of Central Florida*, **Mar. 2016**, Orlando, FL.
(11) **Feng, X.** (***Invited***) Chemistry at Grain Boundaries: From Surface Science to Electrocatalysis. *North Carolina State University*, **Mar. 2016**, Raleigh, NC.
(12) **Feng, X.**; Kanan, M. W. Electroreduction catalysis with defect-rich metal nanoparticles. *AVS 62nd International Symposium & Exhibition*, **Oct. 2015**, San Jose, CA.
(13) **Feng, X.**; Kanan, M. W. Grain boundary-supported active sites for CO_2 and CO electroreduction on metal nanoparticles. *Global Climate and Energy Project Energy Lectures*, **July 2015**, Stanford, CA.
(14) **Feng, X.**; Kanan, M. W. **(*Invited*)** Defect-rich CO_2 reduction catalysts. *227th ECS Meeting*, **May 2015**, Chicago, IL.
(15) **Feng, X.**; Kanan, M. W. Efficient electroreduction of CO_2 on vapor-deposited Au nanoparticles: Enhanced activity at grain boundaries. *2015 MRS Spring Meeting*, **Apr. 2015**, San Francisco, CA.
(16) Lechner, B.; **Feng, X.**; Salmeron, M. Mixed structures of CO and H on Ru(0001) as precursor states for Fischer-Tropsch synthesis. *248th ACS National Meeting*, **Aug. 2014**, San Francisco, CA.
(17) Wu, J.; Helveg, S.; **Feng, X.**; Salmeron, M.; Bell, A. T. Understanding coking on Platinum catalysts by in situ TEM. *248th ACS National Meeting*, **Aug. 2014**, San Francisco, CA.
(18) **Feng, X.**; Salmeron, M. Water-induced splitting of epitaxial graphene and resulting graphene flakes. *AVS 60th International Symposium & Exhibition*, **Nov. 2013**, Long Beach, CA.
(19) **Feng, X.**; Salmeron, M. Water-induced splitting of epitaxial graphene and resulting graphene flakes. *International Conference on Nanoscience & Technology, China*, **Sept. 2013**, Beijing, China.
(20) **Feng, X.**; Salmeron, M. Water adsorption on epitaxial graphene: Unexpected strong reactivity of line defects. *2013 MRS Spring Meeting*, **Apr. 2013**, San Francisco, CA.
(21) **Feng, X.**; Maier, S.; Salmeron, M. Water splits epitaxial graphene on Ru(0001) along grain boundaries. *AVS 58th International Symposium & Exhibition*, **Nov. 2011**, Nashville, TN.

Grants and Contracts Awarded

- 2018−2019: UCF VPR Advancement of Early Career Researchers, PI: Xiaofeng Feng
  $7,500 for research

Professional Service

- Served in the UCF Physics Outreach Committee (2016−present) by co-organizing, presenting, and demonstrating in a series of high-impact outreach activities, including the UCF STEM Day, Physics Career Exploration Day, UCF Faculty and Family Fun Sundays, and the Central Florida Scouting Jamboree, which impact more than 500 K−12 students in Central Florida each year.
- Co-organized and served as Session Chair of the AVS Florida Chapter (2017, 2018).
- Served as Moderator/Session Chair at the AVS 64th International Symposium and Exhibition and the 227th Electrochemical Society (ECS) Meeting.
- Served as National Science Foundation (NSF) Panel Reviewer (2017, 2018).
- Served as peer reviewers for journals including Nature Catalysis, Nature Communications, Physical Review Letters, Physical Review B, Applied Physics Letters, Journal of the American Chemical Society, Angewandte Chemie, Chemical Communications, Applied Catalysis B, ACS Energy Letters, Langmuir, Inorganic Chemistry, Nano Research, Carbon, ChemSusChem, Scientific Reports, etc.