

# Song Jin

Professor, Department of Chemistry, University of Wisconsin-Madison  
1101 University Avenue, Madison, Wisconsin 53706  
Phone: (608)262-1562, FAX: (608)262-0453, E-mail: jin@chem.wisc.edu  
homepage: <http://www.chem.wisc.edu/users/jin>  
research group webpage: <http://jin.chem.wisc.edu/>

## Academic Appointments:

9/13 to present Professor, Department of Chemistry, University of Wisconsin-Madison  
7/10 to 8/13 Associate Professor, Department of Chemistry, University of Wisconsin-Madison  
8/04 to 6/10 Assistant Professor, Department of Chemistry, University of Wisconsin-Madison  
1/05 to present Faculty member of Materials Science Program (MSP), UW-Madison

## Education:

2002-2004 Postdoctoral Fellow Harvard University, Cambridge, MA. Advisor: Charles M. Lieber  
2002 PhD in Chemistry Cornell University, Ithaca, NY. Advisor: Francis J. DiSalvo.  
1997 B.S. in Chemistry Peking (Beijing) University, Beijing, China.

## Awards and Honors:

ACS Inorganic Nanoscience Award (2014)  
H. I. Romnes Faculty Fellowship, U. of Wisconsin-Madison (2013)  
Research Corporation SciaLog Collaborative Innovation Award for Solar Energy Conversion (2012)  
Vilas Associate Award, U. of Wisconsin-Madison (2012)  
Research Corporation Scialog Award for Solar Energy Conversion (2011)  
Sloan Research Fellowship (2009)  
ACS ExxonMobil Solid State Chemistry Fellowship Award (2008)  
Research Corporation Cottrell Scholar Award (2007)  
DuPont Young Professor (2007)  
MIT Technology Review TR35 Award (Top 35 Young Innovators under the age of 35) (2006)  
NSF CAREER Award (2006)  
3M Nontenured Faculty Award (2006)  
Cornell University Graduate School Travel Grants (2001)  
Peking University Student Research Scholarship (1996)  
Excellent Student in Honors Science Program (1996)  
Outstanding Student Scholarship, Peking University (1995&1994)  
Gold Medal in Chinese National Chemistry Olympiad (1992)

## Teaching and Educational Outreach:

### *Courses taught:*

- Chemistry of Nanoscale Materials (Chem 630&653) Spring 2019, Spring 2017, Spring 2015, Fall 2013, Fall 2011, Spring 2010, Spring 2008, Fall 2005  
(*new course*)
- Chemistry of Inorganic Materials (Chem 630) Fall 2008, Fall 2010 (*partially redeveloped course*)
- Fundamentals of Analytical Sciences (Chem 329) Fall 2007, Spring 2007, Fall 2006, Spring 2006, Spring 2011, Spring 2013, Spring 2014, Fall 2015, Spring 2016, Fall 2017, Spring 2018
- Fundamentals of Analytical Sciences (Chem 327) Fall 2016, Fall 2014, Fall 2012, Fall 2009, Spring 2005, Fall 2004

### *Curriculum development and educational outreach activities:*

- Developed a new graduate course (Chem 630: Chemistry of Nanoscale Materials)
- Developed a web course on nanoscience and nanotechnology for high school teachers in collaboration with Prof. John Moore and graduate student Janice Hall
- Discovering Nanoscience (“Nano BootCamp”) Workshop for high school students (Jan 2008 & Feb 2009)
- Open-house, lab tour, and on-line chats for high school teachers participating in the on-line course for nanoscience and nanotechnology
- Lab tour and interactions with students with disability from Midwest Alliance for Science and Technology (Oct 2006 & Jan 2007)
- Guest lectures on nanoscience and nanomaterials in Chem 104 and Chem 511 (Feb and May 2008)
- Guest lectures to REU students in chemistry and nanoscience (2009-2016)

*Public outreach activities:*

- Invited to write a perspective on nanoelectronics for Technology Review magazine (September 2006)
- Interacted and interviewed with popular media (McClatchy News Group) to discuss nanomaterials for solar energy (Oct 2008)
- Interacted and provided images for science-as-art exhibit (TINY Art) at Madison airport and Madison science café (2009, 2008)
- Interacted and provided images to national and international magazines, such as *Scientific American*, *New York Times* Syndicate, SEED, Nano, *DeIngenieur* (2008)
- Provided image for the cover of the text book, *The Science and Engineering of Materials*, 6<sup>th</sup> edition, the SI edition, by Cengage Learning (2010).
- Exhibit on thermal science and thermoelectric energy conversion at the Wisconsin State Fair (2012)
- Exhibits and activities on nanomaterials and crystals at Wisconsin Science Festival (Oct 2014, Oct 2015, Oct 2016)
- Participated in the Cool Science Image Art Exhibit at the Mandelbaum & Albert Family Vision Gallery at the Wisconsin Institutes for Medical Research McPherson Eye Research Institute (2014).
- Gave interview with Wisconsin Public Radio about our research work on new earth-abundant catalysts (Sept 2015)

**Professional Affiliation and Synergistic Activities:**

1. Senior Editor, *ACS Energy Letters* (May 2017 - )
2. Conference organizers and program committees:
  - US Co-Chair for the 12<sup>th</sup> Sino-US Nano Forum 2017 in Beijing, China
  - Lead organizer for a symposium on “Materials and Nanostructures for Magnetic Skyrmions” for the 2016 MRS Fall meeting
  - Lead organizer for a symposium on Nanotechnology for Renewable Energy Applications for PacifiChem 2015
  - Lead organizer for a symposium on “Mesoscale Architectures: Synthesis, Assembly, Properties, and Applications” for the 2014 MRS Fall meeting
  - Co-organizer for a symposium on “Materials for Photoelectrochemical and Photocatalytic Energy Harvesting and Storage” for the 2014 MRS Spring meeting
  - Co-organizer for the 1<sup>st</sup> National Academy of Sciences US-Israel Kavli Frontiers of Science Symposium (June 2013)
  - Lead organizer for a symposium on “Sustainable solar energy conversion using earth-abundant materials” for the 2013 MRS Fall meeting
  - Co-organizer for the symposia on Low-Dimensional Electronic and Photonic Devices at the 216<sup>th</sup> (2009), 218<sup>th</sup> (2010), 222<sup>nd</sup> (2012), 224<sup>th</sup> (2013), 226<sup>th</sup> (2014), 228<sup>th</sup> (2015), 230<sup>th</sup> (2016), 232<sup>th</sup> (2017), Electrochemical Society (ECS) Meetings.
  - Organized a symposium on 1-D nanomaterials in 233<sup>rd</sup> ACS National meeting (2007);

- Program organizing committee for SPIE Optics East 2007: Nanomaterials Synthesis, Interfacing, and Integrating in Devices, Circuits, and Systems II;
- Local program committee for 65<sup>th</sup> Physical Electronic Conference (PEC) in 2005.
- 3. NSF Materials by Design Workshop (March 2011); DoD Defense Threat Reduction Agency (DTRA) Workshop “Toward a Strategic Vision for Chemical and Biological Defense”, Participant and White Paper reviewer, Aug 2008, Atlanta, Georgia.
- 4. Proposal Reviewers: NSF (DMR & CHE), NSF CAREER, NSF CREST/HBCU-RISE, DOE BES, DOE EERE, DOE ARPA-E, PRF, Research Corporation, German DFG Priority Program, Austrian Science Fund, Belgian Science Policy Office (BELSPO), Molecular Foundry of DOE LBNL.
- 5. On-site scientific reviewer for DOE Joint Center for Energy Storage Research (JCESR) Batteries and Energy Storage Energy Innovation Hub, July 2014.
- 6. Journal Advisory/Editorial Board: *Nanoscale*, *Nanoscale Advance*.
- 7. Journal referees: *Science* (7 papers), *Nature* (4), *Nature Materials* (4), *Nature Chemistry* (4), *Nature Nanotechnology* (3), *Nature Photonics* (2), *Nature Physics*, *Nature Energy*, *Nature Communications* (10), *Nature Rev. Materials*, *Proc. Natl. Acad. Sci. (PNAS)* (5), *Science Advances*, *J. Am. Chem. Soc.* (63), *Nano Lett.* (58), *Chem. Mater.* (21), *J. Phys. Chem.* (25), *ACS Nano* (15), *ACS Energy Letters*, *Inorg. Chem.* (4), *ACS Catalysis*, *ACS Appl. Mater. Interface*, *Langmuir*(2), *Crys. Growth. Design* (9), *Angew. Chem.*(4); *Adv. Mater.* (5), *Adv. Funct. Mater.*(2), *Adv. Energy Mater.*, *Small* (6), *Chem. Comm.* (6), *Chemical Sciences*, *Chem. Rev.*, *Chem. Soc. Rev.*, *Acct. Chem. Res.*, *Energy Environ. Sci.* (8); *J. Mater. Chem.*(7), *Phys. Rev. Lett.*, *J. Chem. Phys.*, *Appl. Phys. Lett.* (3), *J. Appl. Phys.*, *Materials Today*, *Nanotechnology* (3), *J. Solid State Chem.*(3), *J. Mater. Res.*, *J. Cryst. Growth.*, *J. Electrochem. Soc.*, *Electrochem. Solid-State Lett.*, *J. Nanosci. and Nanotech.*, *Mater. Sci. Eng.*, *Thin Solid Films*, *Solid State Sci.*, *J. Vac. Sci. Tech.*
- 8. Memberships: American Chemical Society (ACS), Materials Research Society (MRS), The Electrochemical Society (ECS), The American Association for the Advancement of Science (AAAS).

### Departmental and University Service:

- Material chemistry steering committee (2006- 2013), chair (2006 - August 2011, July 2017 - ),
- Member of Chemistry Department Finance Committee (September 2015 – June 2017)
- Member of Materials Science Center Advisory Board (June 2015 -)
- Member of the China Task Force for the Provost (Fall 2014)
- Member of Chemistry Department Faculty Award Committee (2014 -)
- Member of Physical Science Division Committee (September 2013 – May 2016)
- Member of the Campus planning Committee for Wisconsin Energy Institute Phase II (2012)
- Member of the review committee of Department of Geoscience at UW-Madison (Spring 2010)
- Faculty member of University of Wisconsin Advanced Materials Industrial Consortium (2005-).
- Graduate recruiting committee (Fall 2006-2011, 2012-)
- Instrument Task Force (March 2009 – Nov 2009)
- Faculty search committee (Fall 2005, Fall 2010)
- Graduate Curriculum and Carnegie Initiative Committee (Fall 2004 – Spring 2006)
- Graduate Curriculum Committee (Fall 2008 – 2010, 2012-)
- Web committee (Fall 2004 - Spring 2005)
- Represented the department at 36<sup>th</sup> Annual Black Chemists & Chemical Engineers (NOBCCChE) Conference in St. Louis to promote the recruitment of minority students (April 2009)

### Publications:

#### at UW-Madison

191. Fu, Y.; Zhu, H.; Chen, J.; Hautzinger, M. P.; Zhu, X. Y.; Jin, S., Metal Halide Perovskite Nanostructures for Optoelectronic Applications and the Study of Physical Properties. *Nature Reviews Materials* **2019**, published online. DOI: 10.1038/s41578-019-0080-9.

190. Stolt, M. J.; Schneider, S.; Mathur, N.; Shearer, M. J.; Rellinghaus, B.; Nielsch, K.; Jin, S., Electrical Detection and Magnetic Imaging of Stabilized Magnetic Skyrmions in  $\text{Fe}_{1-x}\text{Co}_x\text{Ge}$  ( $x < 0.1$ ) Microplates. *Adv. Funct. Mater.* **2019**, *29*, 1805418. DOI: 10.1002/adfm.201805418.
189. Shearer, M. J.; Li, W.; Foster, J. G.; Stolt, M. J.; Hamers, R. J.; Jin, S., Removing Defects in  $\text{WSe}_2$  Via Surface Oxidation and Etching to Improve Solar Conversion Performance. *ACS Energy Letters* **2019**, *4*, 102-109. DOI: 10.1021/acsenergylett.8b01922.
- 2019**
188. Fu, Y.; Zheng, W.; Wang, X.; Hautzinger, M. P.; Pan, D.; Dang, L.; Wright, J. C.; Pan, A.; Jin, S., Multicolor Heterostructures of Two-Dimensional Layered Halide Perovskites That Show Interlayer Energy Transfer. *J. Am. Chem. Soc.* **2018**, *140*, 15675-15683. DOI: 10.1021/jacs.8b07843.
187. Schneider, S.; Negi, D.; Stolt, M. J.; Jin, S.; Spiegelberg, J.; Pohl, D.; Rellinghaus, B.; Goennenwein, S. T. B.; Nielsch, K.; Ruzs, J., Simple Method for Optimization of Classical Electron Magnetic Circular Dichroism Measurements: The Role of Structure Factor and Extinction Distances. *Phys. Rev. Mater.* **2018**, *2*, 113801. DOI: 10.1103/PhysRevMaterials.2.113801.
186. Leroux, M.; Stolt, M. J.; Jin, S.; Pete, D. V.; Reichhardt, C.; Maiorov, B., Skyrmion Lattice Topological Hall Effect near Room Temperature. *Scientific Reports* **2018**, *8*, 15510. DOI: 10.1038/s41598-018-33560-2.
185. Jin, S., What Else Can Photoelectrochemical Solar Energy Conversion Do Besides Water Splitting and  $\text{CO}_2$  Reduction? *ACS Energy Letters* **2018**, *3*, 2610-2612. DOI: 10.1021/acsenergylett.8b01800. (Editorial as a Senior Editor)
184. Li, W.; Fu, H.-C.; Zhao, Y.; He, J.-H.; Jin, S.; 14.1%-Efficient Monolithically Integrated Solar Flow Battery. *Chem* **2018**, *4*, 2644-2657. DOI: 10.1016/j.chempr.2018.08.023.
183. Leng, M.; Yang, Y.; Chen, Z.; Gao, W.; Zhang, J.; Niu, G.; Li, D.; Song, H.; Zhang, J.; Jin, S.; Tang, J.: Surface passivation of bismuth-based perovskite variant quantum dots to achieve efficient blue emission. *Nano Letters* **2018**, *18*, 6076 - 6083. DOI: 10.1021/acs.nanolett.8b03090.
182. Cai, L.; Shearer, M. J.; Zhao, Y.; Hu, Z.; Wang, F.; Zhang, Y.; Eliceiri, K. W.; Hamers, R. J.; Yan, W.; Wei, S.; Tang, M.; Jin, S.: Chemically Derived Kirigami of  $\text{WSe}_2$ . *J. Am. Chem. Soc.* **2018**, *140*, 10980-10987. DOI: 10.1021/jacs.8b03399.
181. Huang, J.; Han, J.; Wang, R.; Zhang, Y.; Wang, X.; Zhang, X.; Zhang, Z.; Zhang, Y.; Song, B.; Jin, S.: Improving Electrocatalysts for Oxygen Evolution Using  $\text{Ni}_x\text{Fe}_{3-x}\text{O}_4/\text{Ni}$  Hybrid Nanostructures Formed by Solvothermal Synthesis. *ACS Energy Letters* **2018**, *3*, 1698-1707. DOI: 10.1021/acsenergylett.8b00888.
180. Dang, L.; Liang, H.; Zhuo, J.; Lamb, B. K.; Sheng, H.; Yang, Y.; Jin, S.: Direct Synthesis and Anion Exchange of Non-Carbonate-Intercalated  $\text{NiFe}$  Layered Double Hydroxides and the Influence on Electrocatalysis. *Chem. Mater.* **2018**, *30*, 4321-4330. DOI: 10.1021/acs.chemmater.8b01334.
179. Schneider, S.; Wolf, D.; Stolt, M. J.; Jin, S.; Pohl, D.; Rellinghaus, B.; Schmidt, M.; Büchner, B.; Goennenwein, S. T. B.; Nielsch, K.; Lubk, A.: Induction Mapping of the 3D-Modulated Spin Texture of Skyrmions in Thin Helimagnets. *Phys. Rev. Lett.* **2018**, *120*, 217201. DOI: 10.1103/PhysRevLett.120.217201.
178. Fan, X.; Zhao, Y.; Zheng, W.; Li, H.; Wu, X.; Hu, X.; Zhang, X.; Zhu, X.; Zhang, Q.; Wang, X.; Yang, B.; Chen, J.; Jin, S.; Pan, A.; Controllable Growth and Formation Mechanisms of Dislocated  $\text{WS}_2$  Spirals. *Nano Letters* **2018**, *18*, 3885-3892. DOI: 10.1021/acs.nanolett.8b01210.
177. Liu, W.; Dang, L.; Xu, Z.; Yu, H.-Q.; Jin, S.; Huber, G. W.; Electrochemical Oxidation of 5-Hydroxymethylfurfural with  $\text{NiFe}$  Layered Double Hydroxide (LDH) Nanosheet Catalysts. *ACS Catalysis* **2018**, *8*, 5533-5541. DOI: 10.1021/acscatal.8b01017.
176. Kamat, P., Jin, S.: Semiconductor Photocatalysis: "Half the Story Never Been Told". *ACS Energy Letters* **2018**, *3*, 622-623. DOI: 10.1021/acsenergylett.8b00196. (Editorial as a Senior Editor)

175. Pan, D.; Fu, Y.; Chen, J.; Czech, K. J.; Wright, J. C.; Jin, S.; Visualization and Studies of Ion Diffusion Kinetics in Cesium Lead Bromide Perovskite Nanowires. *Nano Letters* **2018**, *18*, 1807-1813. DOI: 10.1021/acs.nanolett.7b05023.
174. Raj, S.; Dong, Y.; Kar, P.; Mai, L.; Jin, S.; Roy, P.; Hybrid NiCo<sub>2</sub>O<sub>4</sub>-NiCo<sub>2</sub>S<sub>4</sub> Nanoflakes as High-Performance Anode Materials for Lithium-Ion Batteries. *ChemistrySelect* **2018**, *3*, 2315-2320. DOI: 10.1002/slct.201702919.
173. Yang, Y.; Dang, L.; Shearer, M. J.; Sheng, H.; Li, W.; Chen, J.; Xiao, P.; Zhang, Y.; Hamers, R. J.; Jin, S.; Highly Active Trimetallic NiFeCr Layered Double Hydroxide Electrocatalysts for Oxygen Evolution Reaction. *Adv. Energy Mater.* **2018**, *8*, 1703189. DOI: 10.1002/aenm.201703189.
172. Shearer, M. J.; Li, M.-Y.; Li, L.-J.; Jin, S.; Hamers, R. J.; Nanoscale Surface Photovoltage Mapping of 2D Materials and Heterostructures by Illuminated Kelvin Probe Force Microscopy. *J. Phys. Chem. C* **2018**, *122*, 13564–13571. DOI: 10.1021/acs.jpcc.7b12579.
171. Stolt, M. J.; Sigelko, X.; Mathur, N.; Jin, S.; Chemical Pressure Stabilization of the Cubic B20 Structure in Skyrmion Hosting Fe<sub>1-x</sub>Co<sub>x</sub>Ge Alloys. *Chem. Mater.* **2018**, *30*, 1146–1154. DOI: 10.1021/acs.chemmater.7b05261.
170. Wu, T.; Stone, M. L.; Shearer, M. J.; Stolt, M. J.; Guzei, I. A.; Hamers, R. J.; Lu, R.; Deng, K.; Jin, S.; Schmidt, J. R.; Crystallographic Facet Dependence of the Hydrogen Evolution Reaction on CoPS: Theory and Experiments. *ACS Catalysis* **2018**, *8*, 1143–1152. DOI: 10.1021/acscatal.7b03167.
169. Evans, T. J. S.; Schlaus, A.; Fu, Y.; Zhong, X.; Atallah, T. L.; Spencer, M. S.; Brus, L. E.; Jin, S.; Zhu, X. Y.; Continuous-Wave Lasing in Cesium Lead Bromide Perovskite Nanowires. *Adv. Opt. Mater.* **2018**, *6*, 1700982. DOI: 10.1002/adom.201700982.
168. Leng, M.; Yang, Y.; Zeng, K.; Chen, Z.; Tan, Z.; Li, S.; Li, J.; Xu, B.; Li, D.; Hautzinger, M. P.; Fu, Y.; Zhai, T.; Xu, L.; Niu, G.; Jin, S.; Tang, J.; All-Inorganic Bismuth-Based Perovskite Quantum Dots with Bright Blue Photoluminescence and Excellent Stability. *Adv. Funct. Mater.* **2018**, *28*, 1704446. DOI: 10.1002/adfm.201704446.
- 2018**
167. Weathers, A.; Carrete, J.; DeGrave, J. P.; Higgins, J. M.; Moore, A. L.; Kim, J.; Mingo, N.; Jin, S.; Shi, L.; Glass-like thermal conductivity in nanostructures of a complex anisotropic crystal. *Phys. Rev. B* **2017**, *96*, 214202. DOI: 10.1103/PhysRevB.96.214202.
166. Hautzinger, M. P.; Dai, J.; Ji, Y.; Fu, Y.; Chen, J.; Guzei, I. A.; Wright, J. C.; Li, Y.; Jin, S.; Two-Dimensional Lead Halide Perovskites Templated by a Conjugated Asymmetric Diammonium. *Inorg. Chem.* **2017**, *56*, 14991–14998. DOI:10.1021/acs.inorgchem.7b02285.
165. Turgut, E.; Stolt, M. J.; Jin, S.; Fuchs, G. D.; Topological Spin Dynamics in Cubic FeGe Near Room Temperature. *J. Appl. Phys.* **2017**, *122*, 183902. DOI: 10.1063/1.4997013.
164. Song, B.; Li, K.; Yin, Y.; Wu, T.; Dang, L.; Cabán-Acevedo, M.; Han, J.; Gao, T.; Wang, X.; Zhang, Z.; Schmidt, J. R.; Xu, P.; Jin, S.; Tuning Mixed Nickel Iron Phosphosulfide Nanosheet Electrocatalysts for Enhanced Hydrogen and Oxygen Evolution. *ACS Catalysis* **2017**, *7*, 8549–8557. DOI: 10.1021/acscatal.7b02575.
163. Hong, L.; Li, L.; Chen-Wiegart, Y.-K.; Wang, J.; Xiang, K.; Gan, L.; Li, W.; Meng, F.; Wang, F.; Wang, J.; Chiang, Y.-M.; Jin, S.; Tang, M.; Two-dimensional lithium diffusion behavior and probable hybrid phase transformation kinetics in olivine lithium iron phosphate. *Nature Commun.* **2017**, *8*, 1194. DOI: 10.1038/s41467-017-01315-8.
162. Song, B.; Jin, S.; Two Are Better than One: Heterostructures Improve Hydrogen Evolution Catalysis. *Joule* **2017**, *1*, 220-221. DOI: 10.1016/j.joule.2017.09.012. (Invited Commentary)

161. Dong, Y.; Slade, T.; Stolt, M. J.; Li, L.; Girard, S. N.; Mai, L.; Jin, S.; Low Temperature Molten Salt Production of Silicon Nanowires by Electrochemical Reduction of  $\text{CaSiO}_3$ . *Angew. Chem. Int. Ed.* **2017**, *56*, 14453–14457. DOI: 10.1002/anie.201707064.
160. Hu, X.; Zhou, H.; Jiang, Z.; Wang, X.; Yuan, S.; Lan, J.; Fu, Y.; Zhang, X.; Zheng, W.; Wang, X.; Zhu, X.; Liao, L.; Xu, G.; Jin, S.; Pan, A.; Direct Vapor Growth of Perovskite  $\text{CsPbBr}_3$  Nanoplate Electroluminescence Devices. *ACS Nano* **2017**, *11*, 9869–9876. DOI: 10.1021/acsnano.7b03660.
159. Fu, Y.; Rea, M. T.; Chen, J.; Morrow, D.; Hautzinger, M. P.; Zhao, Y.; Pan, D.; Manger, L. H.; Wright, J. C.; Goldsmith, R. H.; Jin, S.; Selective Stabilization and Photophysical Properties of Metastable Perovskite Polymorphs of  $\text{CsPbI}_3$  in Thin Films. *Chem. Mater.* **2017**, *29*, 8385–8394. DOI: 10.1021/acs.chemmater.7b02948.
158. Chen, J.; Morrow, D. J.; Fu, Y.; Zheng, W.; Zhao, Y.; Dang, L.; Stolt, M. J.; Kohler, D. D.; Wang, X.; Czech, K. J.; Hautzinger, M. P.; Shen, S.; Guo, L.; Pan, A.; Wright, J. C.; Jin, S.; Single-Crystal Thin Films of Cesium Lead Bromide Perovskite Epitaxially Grown on Metal Oxide Perovskite ( $\text{SrTiO}_3$ ). *J. Am. Chem. Soc.* **2017**, *139*, 13525–13532. DOI: 10.1021/jacs.7b07506.
157. Dong, Y.; Wang, B.; Zhao, K.; Yu, Y.; Wang, X.; Mai, L.; Jin, S.; Air-Stable Porous  $\text{Fe}_2\text{N}$  Encapsulated in Carbon Microboxes with High Volumetric Lithium Storage Capacity and a Long Cycle Life. *Nano Lett.* **2017**, *17*, 5740–5746. DOI: 10.1021/acs.nanolett.7b02698.
156. Jin, S.; Are Metal Chalcogenides, Nitrides, and Phosphides Oxygen Evolution Catalysts or Bifunctional Catalysts? *ACS Energy Letters* **2017**, *2*, 1937–1938. DOI: 10.1021/acseenergylett.7b00679. (Editorial as a Senior Editor)
155. Liang, H.; Meng, F.; Lamb, B. K.; Ding, Q.; Li, L.; Wang, Z.; Jin, S.; Solution Growth of Screw Dislocation Driven  $\alpha$ - $\text{GaOOH}$  Nanorod Arrays and Their Conversion to Porous  $\text{ZnGa}_2\text{O}_4$  Nanotubes. *Chem. Mater.* **2017**, *29*, 7278–7287. DOI: 10.1021/acs.chemmater.7b01930.
154. Fu, Y.; Wu, T.; Wang, J.; Zhai, J.; Shearer, M. J.; Zhao, Y.; Hamers, R. J.; Kan, E.; Deng, K.; Zhu, X.; Jin, S.; Stabilization of the Metastable Lead Iodide Perovskite Phase via Surface Functionalization, *Nano Letters* **2017**, *17*, 4405–4414. DOI: 10.1021/acs.nanolett.7b01500.
153. Yin, Y.; Zhang, Y.; Gao, T.; Yao, T.; Zhang, X.; Han, J.; Wang, X.; Zhang, Z.; Xu, P.; Zhang, P.; Cao, X.; Song, B.; Jin, S.; Synergistic Phase and Disorder Engineering in 1T- $\text{MoSe}_2$  Nanosheets for Enhanced Hydrogen-Evolution Reaction, *Adv. Mater.* **2017**, *29*, 1700311. DOI: 10.1002/adma.201700311.
152. Cai, W.; Tucholski, T.; Chen, B.; Alpert, A. J.; McIlwain, S.; Kohmoto, T.; Jin, S.; Ge, Y., Top–Down Proteomics of Large Proteins up to 223 kDa Enabled by Serial Size Exclusion Chromatography Strategy. *Anal. Chem.* **2017**, *89*, 5467–5475. DOI:10.1021/acs.analchem.1027b00380.
151. Chen, B.; Hwang, L.; Ochowicz, W.; Lin, Z.; Guardado-Alvarez, T. M.; Cai, W.; Xiu, L.; Dani, K.; Colah, C.; Jin, S.; Ge, Y., Coupling Functionalized Cobalt Ferrite Nanoparticle Enrichment with Online LC/MS/MS for Top-Down Phosphoproteomics. *Chem. Sci.* **2017**, *8*, 4306 - 4311. DOI: 10.1039/C6SC05435H.
150. Ding, Q.; Czech, K. J.; Zhao, Y.; Zhai, J.; Hamers, R. J.; Wright, J. C.; Jin, S.; Basal Plane Ligand Functionalization on Semiconducting 2H- $\text{MoS}_2$  Monolayers. *ACS Appl. Mater. Interface* **2017**, *9*, 12734–12742. DOI: 10.1021/acsmi.7b01262.
149. Yin, Y.; Miao, P.; Zhang, Y.; Han, J.; Zhang, X.; Gong, Y.; Gu, L.; Xu, C.; Yao, T.; Xu, P.; Wang, Y.; Song, B.; Jin, S., Significantly Increased Raman Enhancement on  $\text{MoX}_2$  ( $\text{X} = \text{S}, \text{Se}$ ) Monolayers Upon Phase Transition. *Adv. Funct. Mater.* **2017**, *27*, 1606694. DOI: 10.1002/adfm.201606694
148. Liu, W.; Liu, H.; Dang, L.; Zhang, H.; Wu, X.; Yang, B.; Li, Z.; Zhang, X.; Lei, L.; Jin, S., Amorphous Cobalt–Iron Hydroxide Nanosheet Electrocatalyst for Efficient Electrochemical and Photo-

- Electrochemical Oxygen Evolution. *Adv. Funct. Mater.* **2017**, *27*, 1603904. DOI: 10.1002/adfm.201603904.
147. Shearer, M. J.; Samad, L.; Zhang, Y.; Zhao, Y.; Puzos, A. A.; Eliceiri, K. W.; Wright, J. C.; Hamers, R. J.; Jin, S., Complex and Noncentrosymmetric Stacking of Layered Metal Dichalcogenide Materials Created by Screw Dislocations. *J. Am. Chem. Soc.* **2017**, *139*, 3496–3504. DOI: 10.1021/jacs.6b12559.
146. Stolt, M. J.; Li, Z.-A.; Phillips, B.; Song, D.; Mathur, N.; Dunin-Borkowski, R. E.; Jin, S., Selective Chemical Vapor Deposition Growth of Cubic FeGe Nanowires That Support Stabilized Magnetic Skyrmions. *Nano Letters* **2017**, *17*, 508-514. DOI: 10.1021/acs.nanolett.6b04548.
145. Chen, J.; Fu, Y.; Samad, L.; Dang, L.; Zhao, Y.; Shen, S.; Guo, L.; Jin, S.; Vapor-Phase Epitaxial Growth of Aligned Nanowire Networks of Cesium Lead Halide Perovskites (CsPbX<sub>3</sub>, X = Cl, Br, I), *Nano Letters* **2017**, *17*, 460-466. DOI: 10.1021/acs.nanolett.6b04450.
144. Manger, L. H.; Rowley, M. B.; Fu, Y.; Foote, A. K.; Rea, M. T.; Wood, S. L.; Jin, S.; Wright, J. C.; Goldsmith, R. H. Global Analysis of Perovskite Photophysics Reveals Importance of Geminate Pathways, *J. Phys. Chem. C*, **2017**, *121*, 1062-1071. DOI: 10.1021/acs.jpcc.6b11547
143. Ma, D.; Fu, Y.; Dang, L.; Zhai, J.; Guzei, I. A.; Jin, S.; Single-Crystal Microplates of Two-Dimensional Organic-Inorganic Lead Halide Layered Perovskites for Optoelectronics, *Nano Res.* **2017**, *10*, 2117-2129. DOI: 10.1007/s12274-016-1401-6.
142. Zhu, H.; Tuan Trinh, M.; Wang, J.; Fu, Y.; Joshi, P. P.; Miyata, K.; Jin, S.; Zhu, X.-Y.; Organic Cations Might Not be Essential to the Remarkable Properties of Band Edge Carriers in Lead Halide Perovskites, *Adv. Mater.* **2017**, *29*, 1603072. DOI: 10.1002/adma.201603072.
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#### Invited Book Chapters:

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- Meng, F.; Morin, S. A.; Jin, S.; "Growth of Nanomaterials by Screw Dislocation" in "Springer Handbook of Nanomaterials" Edited by R. Vajtai, Springer-Verlag: Berlin Heidelberg 2013. DOI 10.1007/978-3-642-20598-8\_17.
- Pokhrel, A.; DeGrave, J. P.; Liang, D.; Higgins, J. M.; Jin, S.; "Growth of Metal Silicide Nanowires and Their Spintronic and Renewable Energy Applications" edited by W. Lu and J. Xiang, Royal Society of Chemistry (RSC), Cambridge, UK, 2015, Print ISBN: 978-1-84973-815-6; EPUB eISBN: 978-1-78262-344-1; DOI:10.1039/9781782625209-00312.

#### Conference Proceedings:

- Morin, S. A.; Amos, F. F.; Jin, S., Biomimetic assembly of zinc oxide microarrays on flexible polycarbonate film. *PMSE Preprints* **2007**, 96, 227-228.
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6. Jin, S.; Dong, Y.; Slade, T.; “Low Temperature Electrochemical Production of Silicon” *US Patent filed on April 11, 2017.*
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2. Jin, S.; Schmitt, A. L.; Song, Y. “Metal silicide nanowires and methods for their production” *US Patent 7803707B2, issued September 2010; US20100279115A1 (Nov 2010); US8395265B2 (March 2013). (Licensed to Intel Corp. 2012)*
1. Whang, D.; Jin, S.; Wu, Y.; McAlpine, M. C.; Friedmann, R. S. Lieber, C. M.; “Nanoscale arrays, robust nanostructures, and related devices” *US Patent 10/995,075, issued Nov 2005.*

### Invited or Plenary Presentations: (planned future presentations in italics)

#### 2019

November	<i>Materials Research Society (MRS) Fall meeting</i>	<i>Boston, MA</i>
June	<i>ICMAT</i>	<i>Singapore</i>
May	<i>E-MRS Spring Meeting</i>	<i>Nice, France</i>
April	<i>MRS Spring Meeting</i>	<i>Phoenix, AZ</i>
March	<i>257<sup>th</sup> ACS National Meeting</i>	<i>Orlando, FL</i>
March	<i>International Battery Seminar and Exhibit 2019</i>	<i>Fort Lauderdale, FL</i>
Jan	<i>Duke University</i>	<i>Durham, NC</i>

#### 2018

November	Materials Research Society (MRS) Fall meeting	Boston, MA
November	KAUST	Thuwal, Saudi Arabia
October	12th International Symposium for Chinese Inorganic Chemists (ISCIC-12)	Taipei, Taiwan
October	AsiaNano 2018	Qingdao, China
August	U. of Nebraska-Lincoln	Lincoln, NE
August	256 <sup>th</sup> ACS National Meeting	Boston, MA
June	13 <sup>th</sup> Sino-US Nano Forum	Chengdu, China
May	Pacific Northwestern National Lab (PNNL)	Pasco, WA
May	233 <sup>rd</sup> ECS Meeting	Seattle, WA
April	MRS Spring Meeting	Phoenix, AZ
March	U. of Texas-San Antonio	San Antonio, TX
Jan	Nature Conference: Materials Electrochemistry	Shenzhen, China

#### 2017

November	Northwestern University	Evanston, IL
October	232 <sup>th</sup> ECS Meeting	National Harbor, MD
September	University of Illinois	Urbana, IL
August	ChinaNano 2017	Beijing, China
August	24 <sup>th</sup> Congress for International Commission for Optics (ICO-24)	Tokyo, Japan
August	254 <sup>th</sup> ACS National Meeting	Washington DC
April	253 <sup>th</sup> ACS National Meeting	San Francisco, CA

March	International Battery Seminar and Exhibit 2017	Fort Lauderdale, FL
Feb	University of New Hampshire	Durham, NH

**2016**

December	Materials Research Society (MRS) Fall meeting	Boston, MA
November	Multidisciplinary Workshop on Low Dimen. Semiconductor Nanostructures	Changsha, China
September	Energy and Sustainable Materials Workshop	Eugene, OR
September	Northern Illinois University	DeKalb, IL
August	252 <sup>th</sup> ACS National Meeting	Philadelphia, PA
August	Perovskite Solar Cell Workshop	Lincoln, NE
July	Gordon Research Conference on Solar Energy Conversion	Hong Kong, China
July	APAC Silicide 2016	Kyushu, Japan
June	CIMTEC 2016	Perugia, Italy
March	Materials Research Society (MRS) Spring meeting	Phoenix, AZ
Jan	2016 Institute of Materials Chemistry and Engineering International Symposium	Kyushu, Japan

**2015**

December	Materials Research Society (MRS) Fall meeting	Boston, MA
November	Boston College	Chestnut Hills, MA
November	International Workshop on Nanomaterials for Energy and Biotechnology	Harbin, China
October	228 <sup>th</sup> ECS meeting	Phoenix, AZ
June	10 <sup>th</sup> Sino-US Nano Forum	Wuhan, China
June	Harbin Institute of Technology	Harbin, China
March	249 <sup>th</sup> ACS National Meeting	Denver, CO
March	California Institute of Technology	Pasadena, CA
March	University of Arkansas	Fayetteville, AR
Jan	Emory University	Atlanta, GA

**2014**

December	Materials Research Society (MRS) Fall meeting	Boston, MA
October	Michigan State University	East Lansing, MI
October	226 <sup>th</sup> ECS Meeting	Cancun, Mexico
August	248 <sup>th</sup> ACS National Meeting Nanoscience Award Symposium	San Francisco, CA
April	11 <sup>th</sup> Annual Conference on Foundation for Nanoscience (FNANO)	Snowbird, UT
March	247 <sup>th</sup> ACS National Meeting	Dallas, TX
Feb	2014 TMS (The Minerals, Metals & Materials Society) Annual Meeting	San Diego, CA
Jan	Columbia University	New York, New York

**2013**

October	University of Chicago	Chicago, IL
September	246 <sup>th</sup> ACS National Meeting	Indianapolis, IN
September	ChinaNano 2013	Beijing, China
June	8 <sup>th</sup> Sino-US Nano Forum	Hangzhou, China
May	Next Generation Solar 2013 – Photovoltaics Canada	Hamilton, Canada
April	245 <sup>th</sup> ACS National Meeting	New Orleans, LA
Jan	University of Michigan	Ann Arbor, MI

**2012**

November	Materials Research Society (MRS) Fall meeting	Boston, MA
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November	8th Annual Minnesota Nanotechnology Workshop	Minneapolis, MN
Oct	University of Washington-Seattle	Seattle, WA
Oct	15 <sup>th</sup> National Academy of Sciences US-China Kalvi Symposium (Invited Poster)	Irvine, CA
Oct	222 <sup>nd</sup> ECS Meeting and PRiME	Honolulu, HI
Sept	U. of California-Berkeley	Berkeley, CA
June	Institute of Process Engineering, Chinese Academy of Sciences	Beijing, China
June	Peking University	Beijing, China
June	National Chiao-Tung University	Hsinchu, Taiwan
June	National Tsing-Hua University	Hsinchu, Taiwan
June	7 <sup>th</sup> Sino-US Nano Forum	Xiamen, China
May	University of Buffalo 30th Graduate Student Symposium Keynote Speaker	Buffalo, NY
March	243th ACS National Meeting	San Diego, CA
March	University of California-Los Angeles	Los Angeles, CA

**2011**

December	ETH Zurich	Zurich, Switzerland
November	Materials Research Society (MRS) Fall meeting	Boston, MA
Oct	Research Corporation Scialog® Conference	Tucson, AZ
July	Nanyang Technological University	Singapore
June	International Conference on Materials and Technology (ICMAT) 2011	Singapore
June	Nanowires 11	Lesvos, Greece
June	Emerging Opportunities in Nanostructured Semiconductors (EONS) Workshop	Evanston, IL
March	University of Pennsylvania	Philadelphia, PA
March	NSF Materials by Design Workshop	Santa Barbara, CA

**2010**

December	PacifiChem 2010	Honolulu, HI
December	Materials Research Society (MRS) Fall meeting	Boston, MA
November	Northwestern University	Evanston, IL
November	U. of California-San Diego	San Diego, CA
October	U. of California-Berkeley	Berkeley, CA
September	U. of Wisconsin-Madison Environmental Chemistry and Technology	Madison, WI
August	240 <sup>th</sup> ACS National Meeting, <i>Nano Letters</i> 10 Year Anniversary Symposium	Boston, MA
August	Gordon Research Conference on Solid State Chemistry	New London, NH
July	Asia-Pacific Conference on Semiconducting Silicides and Related Materials	Tsukuba, Japan
July	National Institute of Materials Science (NIMS)	Tsukuba, Japan
June	Gordon Research Conference on Inorganic Chemistry	Biddeford, ME
June	5 <sup>th</sup> Sino-US Nano Forum	Suzhou, China
April	Midwest Microscopy and Microanalysis Society Conference	Madison, WI
April	7 <sup>th</sup> Korea-US Nano Forum	Seoul, Korea
March	Rice University	Houston, TX
March	Princeton University	Princeton, NJ
January	Nanyang Technological University	Singapore
January	3rd IEEE International NanoElectronics Conference	Hong Kong, China

**2009**

October	10 <sup>th</sup> NIH NCI IMAT meeting	Bethesda, MD
September	DoD Nanoelectronic Devices for Defense & Security Conference	Fort Lauderdale, FL
August	238 <sup>th</sup> ACS National Meeting	Washington, DC
August	The 17th American Conference on Crystal Growth and Epitaxy	Lake Geneva, WI

May	National Center for Nanoscience and Technology, China	Beijing, China
May	Zhejiang University	Hangzhou, China
May	Peking (Beijing) University (3 lectures)	Beijing, China
April	Stanford University	Palo Alto, CA
April	University of California-Santa Cruz	Santa Cruz, CA
April	Cornell University	Ithaca, NY
April	6 <sup>th</sup> Foundation of Nanoscience Conference (FNANO09)	SnowBird, UT
April	Ohio State University	Columbus, OH
March	University of Minnesota	Minneapolis, MN
March	237 <sup>th</sup> ACS National Meeting (Delivered by student Rachel Selinsky)	Salt Lake City, UT
March	Brown University	Providence, RI
March	University of Rochester	Rochester, NY
February	Gordon Research Conference on Renewable Energy: Solar Fuels	Ventura, CA
January	University of California- Santa Barbara	Santa Barbara, CA
January	University of California- Riverside	Riverside, CA
January	University of California- Los Angeles	Los Angeles, CA
January	University of Southern California	Los Angeles, CA

**2008**

December	Argonne National Laboratory, Center for Nanoscale Materials	Argonne, IL
December	Materials Research Society (MRS) Fall meeting	Boston, MA
October	9 <sup>th</sup> NIH NCI IMAT meeting (Invited poster)	Cambridge, MA
October	214 <sup>th</sup> Electrochemical Society (ECS) Meeting	Honolulu, HI
September	University of Louisville	Louisville, KY
September	NSF Physical Organic Chemistry Workshop	Lake Tahoe, NV
September	Chaos and Complex Systems Seminar	Madison, WI
August	DuPont Central Research and Development	Wilmington, DE
August	236 <sup>th</sup> ACS Meeting, ExxonMobil Solid State Chem. Award Symposium	Philadelphia, PA
July	14 <sup>th</sup> Annual Research Corporation Cottrell Scholar Conference (Invited poster)	Tucson, AZ
June	3M Corporation Science and Engineering Faculty Day	St. Paul, MN
June	Max-Planck Institute, International School of Nanosci. and Nanotech.	Halle, Germany
May	Particles 2008	Orlando, FL
May	University of Central Florida	Orlando, FL
April	Indiana University	Bloomington, IN
March	2008 TMS (The Minerals, Metals & Materials Society) Annual Meeting	
	Hume-Rothery Award Symposium	New Orleans, LA
February	Purdue University	West Lafayette, IN
January	Bell Labs of Lucent Technologies	Murray Hills, NJ
January	City College of New York	New York, NY

**2007**

November	Boston College	Chestnut Hills, MA
June	NSF Inorganic Chemistry Workshop	Jackson Hole, WY
June	3M Corporation Science and Engineering Faculty Day (Invited poster)	St. Paul, MN
May	North American Solid State Chemistry Conference 2007	College Station, TX
May	General Motors Corporation R&D Center	Warren, MI
March	233 <sup>rd</sup> ACS National Meeting	Chicago, IL
February	Howard University	Washington D.C.

**2006**

November	Tulane University	New Orleans, LA
November	Louisiana State University	Baton Rouge, LA

October	ACS Mid-West Regional Meeting	Quincy, IL
October	14 <sup>th</sup> NSF Workshop on Materials Chemistry and Nanoscience	St. Louis, MO
October	SPIE Optics East 2006	Boston, MA
June	3M Corporate Research Laboratory	St. Paul, MN

**2003** (postdoctoral)

December	Materials Research Society (MRS) Fall meeting	Boston, MA
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**Research Grants and External Support:****Active:**

1. NIH NIGMS (R01GM117058): Enabling Top-Down Proteomics through Materials Chemistry and Nanotechnology  
Total award: \$1,181,904 (multi-PI, with Co-PI: Y. Ge)      Period: 9/25/15-8/31/19
2. DOE BES (DE-FG02-09ER46664): Fundamental Studies of Charge Transfer in Nanoscale Heterostructures of Earth-Abundant Semiconductors for Solar Energy Conversion  
Total Award: \$1,500,000 (PI, with co-PIs J. C. Wright and R. J. Hamers)      Period: 12/15/18-12/14/21
3. NSF (ECCS-1609585): Creation, Detection, and Manipulation of Isolated Magnetic Skyrmions in Nanowires for Magnetic Storage Applications  
Total award: \$360,000      Period: 6/1/16-5/31/19
4. KAUST (OSR-2017-CRG6-3453.02): Efficient Hybrid Solar Flow Batteries That Integrate Solar Energy Conversion and Storage (with PI Jr-Hau He of KAUST)  
Total award: \$400,000      Period: 4/1/18 - 3/31/21

**Unrestricted Support:**

1. H. I. Romnes Faculty Fellowship, U. of Wisconsin-Madison  
Total Award: \$ 50,000      Period: 2013-2018
2. Vilas Associate Award, U. of Wisconsin-Madison  
Total Award: \$ 36,768      Period: 2012-2014
3. Honeywell University Affiliate Fund  
Total Award: \$ 50,000      Period: 2011-
4. Sloan Research Fellowship  
Total Award: \$ 50,000      Period: 2009-2012
5. DuPont Young Professor Grant  
Total Award: \$ 75,000      Period: 2007-2010
6. DuPont Science and Engineering Grant  
Total Award: \$ 10,000      Period: 2006-2007
7. 3M Nontenured Faculty Award  
Total Award: \$ 45,000      Period: 2006-2008

**Completed:**

1. DOE BES (DE-FG02-09ER46664): Fundamental Studies of Charge Transfer in Nanoscale Heterostructures of Earth-Abundant Semiconductors for Solar Energy Conversion  
Total Award: \$1,500,000 (PI, with co-PIs J. C. Wright and R. J. Hamers)      Period: 12/15/15-12/14/18
2. NSF (DMR-1508558): Screw Dislocation-Driven Growth of Complex Nanomaterials  
Total Award: \$ 430,000      Period: 8/1/15-7/31/18

3. DOE BES (DE-FG02-09ER46664): Fundamental Studies of Charge Transfer in Nanoscale Heterostructures of Earth-Abundant Semiconductors for Solar Energy Conversion  
Total Award: \$1,660,000 (PI, with co-PIs J. C. Wright and R. J. Hamers)      Period: 9/15/12-12/14/15
4. NSF (ECCS-1231916): Detection and Manipulation of Magnetic Skyrmion Domains in Silicide and Germanide Nanowires for Spintronic Applications  
Total award: \$288,840      Period: 9/1/012-8/31/15
5. NSF (DMR-1106184): Fundamental Investigation and Development of Screw Dislocation-Driven Nanowire Growth  
Total Award: \$ 397,000      Period: 7/1/11-6/30/15
6. NIH NIBIB (R21EB013847): Nanotechnology Enabled Top-Down Mass Spectrometry-Based Phosphoproteomics  
Total award: \$405,778 (PI, with Co-PI: Y. Ge)      Period: 2/1/012-1/31/15
7. Research Corporation Scialog Collaborative Innovation Award for Solar Energy Conversion BaSi<sub>2</sub> - a New Earth-Abundant Solar Cell Material      Period: 1/01/13-12/31/14  
Total award: \$100,000 (with collaborating PIs, J. Xue, U. of Florida and S. Hirata, U. of Illinois)
8. NIST (Department of Commerce, 70NANB10H003): Transformational Casting Technology for Fabrication of Ultra-High Performance Lightweight Al and Mg Nanocomposites (PI: X. Li)  
Total award: \$3,535,615 total cost for the whole project      Period: 2/1/10-1/31/15  
Supports one postdoc in Jin group
9. NSF (DMR-0832760) NSEC: Templated Synthesis and Assembly at the Nanoscale (PI: Nealey; 27 faculty in total)  
Total award: \$14,750,000 total cost for the whole center      Period: 9/1/09-8/31/14  
Supported one RA in Jin group
10. DOE EERE (DE-EE0005330): Enabling Earth-Abundant Pyrite (FeS<sub>2</sub>) Semiconductor Nanostructures for High Performance Photovoltaic Devices  
Total award: \$462,508      Period: 9/1/11-1/31/14
11. NSF/DOE Thermoelectric Partnership (CBET-1048625): Collaborative Research: High-Performance Thermoelectric Devices Based on Abundant Silicide Materials for Vehicle Waste Heat Recovery (collaborating with Prof. L. Shi, U. of Texas–Austin)  
Total award: \$ 375,000 (UW-Madison)      Period: 10/1/10-9/30/13
12. DOE BES (DE-FG02-09ER46664): SISGR: Fundamental Studies of Charge Transfer in Quantum Confined Nanostructure Heterojunctions and Applications to Solar Energy Conversion  
Total Award: \$1,950,000 (PI, with co-PIs J. C. Wright and R. J. Hamers)      Period: 9/15/09-9/14/12
13. NSF CAREER Award (DMR-0548232): Synthesis, Characterization and Physical Properties of One-Dimensional Rare Earth Chalcogenide Nanomaterials  
Total Award: \$ 540,000      Period: 3/1/06-8/31/11
14. NIH NCI (5R21CA126701): Ultrasensitive Nanoscale Magnetic Sensors for Label-free Analysis of Cancer  
Total award: \$350,556      Period: 9/24/08-8/31/11
15. Research Corporation Scialog: Solar Energy Conversion Application: Enabling Solar Energy Conversion using Rational and Scalable Growth of 1D Nanomaterials Made of Inexpensive Semiconductors  
Total award: \$100,000      Period: 7/01/11-6/30/14
16. Research Corporation Cottrell Scholar Award: Nanoscale Magnetic Semiconductor Materials for Spintronics.  
Total award: \$100,000      Period: 7/01/07-6/30/10
17. NSF MRSEC SEED: 1D and Branched Nanowire / Organic Semiconductor Composites for Harvesting Light

- Total award: \$51,543, co-PI with PI: M. Arnold                      Period: 4/1/09-3/31/10
18. Draper Technology Innovation Fund (TIF): Enable Phosphoproteomic Analysis of Complex Biological Samples Using Nanomaterials  
Total Award: \$ 34,798 (direct cost)                      Period: 7/1/09-6/30/10
19. UW-Madison Fall Competition: Initiating Cross-Cutting Energy Research at UW  
co-PI with D. Morgan, N. Sahai, M. Trujillo  
Total Award: \$ 135,453 (direct cost)                      Period: 7/1/09-6/30/10
20. NSF NSEC: Templated Synthesis and Assembly at the Nanoscale (PI: Nealey; 27 faculty in total)  
Total Award: \$13,365,000\*                      Period: 9/1/04-8/31/09  
\*Support about 0.5 graduate student in the Jin lab 1/1/08 – 8/31/09
21. NSF NSEC (Nanoscale Science and Engineering Center) SEED: Biomimetic Assembly and Solution Growth of Nanoscale Functional Materials  
Total Award: \$ 109,118                      Period: 7/1/05-6/30/07
22. Draper Technology Innovation Fund (TIF): Synthesis and Evaluation of Transition Metal Silicide Nanowires for Field Emission Applications  
Total Award: \$ 35,000 (direct cost)                      Period: 7/1/06-6/30/07
23. UW-Madison Fall Competition: Dilute Magnetic Semiconductor Nanocrystals as a Smart Imaging Probe of Protein-DNA Interaction  
Total Award: \$ 31,470 (direct cost)                      Period: 7/1/07-6/30/08
24. IEDR: Enabling Atom Probe Tomography Using Silicon Nanowire Arrays as Microtips (UW internal)  
Total Award: \$ 48,980 (direct cost)                      Period: 7/1/07-6/30/08
25. UW-Madison Fall Competition: Synthesis and Surface Chemistry of Multi-exciton Generating Nanowires and Heterostructures for High Efficiency Solar Cells; co-PI with PI: R. J. Hamers  
Total Award: \$ 31,614 (direct cost)                      Period: 7/1/07-6/30/08

### Graduate Students Supervised:

- Ph. D. graduates:* Andrew Schmitt (01/05- 07/09), Matthew Bierman (11/04- 07/09), Jeannine Szczech (11/05- 07/10), Stephen Morin (11/05- 02/11), Jeremy Higgins (11/05- 02/11), Rachel Selinsky (11/06 – 06/12), Mark Lukowski (11/08 – 07/13), John DeGrave (11/08 – 09/13), Matthew Faber (11/09 – 06/14), Fei Meng (11/09 – 08/14), Miguel Caban (11/09 – 06/15), Audrey Forticaux (11/10 – 02/15), Ankit Pokhrel (11/10 – 06/15), Linsen Li (11/10 – 06/15), Qi Ding (11/11 – 06/16), Leith Samad (11/11 – 1/17), Melinda Shearer (11/13 -5/18, joint student with R. J. Hamers), Lichen Xiu (11/12 -5/18), Matthew Stolt (11/13 – 7/18), Yongping Fu (11/13 – 8/18).
- Current Graduate students:* Kyle Czech (joint student with J. C. Wright, 2/13 -), Wenjie Li (11/13-), Lianna Dang (11/13-), Yuzhou Zhao (11/15-), Nitish Mathur (1/16 -, MSP), Matthew Hautzinger (11/16-), Dongxu Pan (11/16-), Hongyuan Sheng (11/16-), David Roberts (11/17- ), Christopher Roy (11/18 -), R. Dominic Ross (11/18- ).
- Visiting Graduate Students:* Meiyong Leng (9/17 - ), Ming-Yu Guo (7/18 -), Jinzhen Huang (12/18-).
- Past Graduate Students:* Lei Zhu (11/05-12/06), Pinray Huang (M.S. 11/04-6/07), Y. K. Albert Lau (M.S., 1/07-1/09), Chris Sichmeller (M.S. 11/08 – 04/11), Salih Hacialioglu (M.S. 11/10 – 5/13); Nicholas Kaiser (M.S., 11/11 – 08/14), Joseph Thomas (11/14 – 4/15), Matthew Haveman (11/15 -5/17), Stephanie Werner (11/16-11/17), Brandon Lamb (11/16 -11/17).
- Past Visiting Graduate Students:* Fan (Julien) Yang (10/07 – 09/09); Hanfeng Liang (10/13 – 03/15); Junqiao Zhuo (08/14 – 10/15), Jie Chen (09/15 – 9/17), Yifan Dong (09/15 – 7/17), Yang Yang (10/15 – 11/17), Liang Cai (9/16 –5/18), Xiaotong Han (9/17- 9/18).

**Postdoctoral Research Associates:***Current:*

*Past:* Dr. Leekyoung Hwang (06/12 – 05/16); Dr. Tania Guardado-Alvarez (11/14 – 06/16, NIH NRSA Fellowship from 9/15), Dr. Dong Liang (PhD in Physics, 2/12-8/16); Dr. Steven N. Girard (9/11 -7/14, NSF SEES Fellow 08/13 -07/14); Dr. Kwangsuk Park (PhD in Materials Science, 1/12 – 07/13); Dr. Marc Estruga (3/11 – 7/13); Dr. Ryan Franking (12/11- 08/12); Dr. Han Zhang (9/10 – 7/12); Dr. Yanghai Yu (8/10 – 9/11); Dr. Chad Dooley (5/09 – 04/11, on NIH NRSA Fellowship during the second year); Dr. Yipu Song (Ph.D. in Physics, 12/05-06/07), Dr. Fairland Amos (Ph.D. in Materials Science, 1/06-06/07).

*Visiting Scholars:* Dr. Fengmei Wang (National Center of Nanoscience and Nanotechnology, 12/18 - ).

*Past Visiting Scholars:* Dr. Ying Yang (Northwest University, 12/17 – 11/18); Dr. Bo Song (Harbin Institute of Technology, 12/16 – 12/17), Dr. Poulomi Roy (Fulbright Scholar, Birla Institute of Technology Mesra, 8/16 –2/17), Dr. Jun Dai (Jiangsu Science and Technology University, 10/16 – 10/17); Dr. Xiaohua Yang (East China University of Science and Technology, 09/15 – 9/16); Dr. Diwen Ying (Shanghai JiaoTong University, 05/14 -06/16); Prof. Dewei Ma (Zhejiang Institute of Technology, 05/14 – 05/15); Prof. Qun Wang (Harbin Institute of Technology, 01/13 – 01/14); Prof. Xingwang Zhang (Zhejiang University, 10/12 – 03/14).

**Undergraduate Researchers:**

*Current Undergraduates:* Jarryd Featherman (09/18 -); Atilla Veysal (5/18 -); Dave Kaiman (3/18 -).

*Past undergraduates:* Alexis Pigg (6/18-7/18, REU from Dillard University); Xavier Sigelko (9/17-5/18); Richard Costello (2/16- 5/18); Kunal Dani (1/15- 05/18), Zachary Matusinec (9/15-5/2017), Jayson Foster (6/17-7/17, REU from Dixie State University); Yi (Johnny) Zhang (6/13-7/17 ); Sage Bladow (9/14-12/16); Michael Stone (09/13-08/16); Axel Rivera-Larrieux (6/2016-8/2016; REU from University of Puerto Rico in Mayagüez), Brandon Phillips (1/15-5/16); Jianyuan (Jackie) Zhai (06/14-05/16); Cathleen Fry (6/2015-7/2015; REU from Francis College), Alex Schrader (6/2015-7/2015; REU from Drury University), Tyler Slade (08/13-7/15); Mariya Hinojos (6/2014-7/2014; REU from Ripon College), Hong-en Chen (5/2013 -06/14), Rushad Machhi (09/13-5/14); Praveen Sankrithi (2/13-05/14), Liyang Gan (12/12 -05/14), Andrew Daniels (8/12 -05/14), Rafal Dziedzic (08/11 – 05/14); Cade Federspill (7/13- 11/13), Seth Berger (09/11 – 07/13), Cecilia Gentle (05/13-07/13, REU from University of St. Thomas); Zachary Degregorio (05/11 – 05/13); Sanghun Shin (03/11 – 12/12); Kit Shawn Chew (06/11 – 08/12); Felix Alfonso (06/12 -8/12, REU from U. of Massachusetts-Amherst); Robert Johns (06/11 -8/11, REU from U. of Washington-Seattle); Matt O'Brien (04/08 – 05/11), Ruihua Ding (02/09 – 06/11); Patrick Bollom (12/10 – 5/11); David Lopez (05/10–08/10, REU from U. of Indianapolis); Penelope Carmichael (09/09 – 06/10, exchange student from U. of Bristol); Ray Haoyue Zhu (03/09 – 05/10), Elvin Morales (05/09 – 08/09, REU from U. of Puerto Rico), Davin Chernak (01/08 – 05/09), Jonathan Tong (01/06 – 08/09), Cory Nelson (02/07 – 06/09), Justin Mallek (09/08 – 05/09), Stephen Lee (10/07 – 05/09), Jae Hyo Han (07/08 – 05/09), Miguel Caban (5/08–8/08, REU from U. of Puerto Rico-Rio Piedras), Jean E. Calderón (5/07–8/07, NSEC REU from U. of Puerto Rico), Sarah Brendzel (03/08–05/08, Chem 116), Adam K. Schmitt (5/07–8/07, NSEC REU from Ball State U.); Andrew A. Lafko (01/05–12/06), David A. Maenner (01/05–05/06); Julie Feld (03/06–08/06).

**Graduate Student Awards and Fellowships:**

MRS Graduate Student Silver Award	Wenjie Li	2018
Leah Cohodas Berk Award for Excellence in Chemistry	Melinda Shearer	2018
Michael McCoy Memorial Award	Lianna Dang	2018
MRS Best Poster Award (Spring Meeting)	Dongxu Pan	2018
MRS Graduate Student Silver Award	Yongping Fu	2017
ACS Division of Inorganic Chemistry Young Investigator	Yongping Fu	2017



PPG Graduate Mentor Award	Melinda Shearer	2017
Materials Chemistry Research Excellence Award	Yongping Fu	2017
Fulbright-Nehru Scholar	Poulomi Roy (visiting scholar)	2016
Outstanding Self-Financed Students Abroad	Yongping Fu	2016
UW-Madison Hilldale Research Fellowship	Zachary Matusinec (undergrad)	2016
NSF Graduate Research Fellowship	Lianna Dang	2016-2018
Michael McCoy Memorial Award	Matthew Stolt	2016
NSF East Asia and Pacific Summer Institutes Fellowship	Matthew Stolt	2016
Outstanding Self-Financed Students Abroad	Linsen Li	2015
NIH Ruth L. Kirschstein National Research Service Award	Tania Guardado (postdoc)	2015-2017
Materials Chemistry Research Excellence Award	Linsen Li	2015
NSF Graduate Research Fellowship	Matthew Stolt	2015-2017
NSF Graduate Research Fellowship	Melinda Shearer	2015-2017
GSFLC Mentor Award	Miguel Caban/Hong-en Chen	2014
MRS Graduate Student Gold Award	Linsen Li	2014
MRS Science as Art 1st place winner (Spring meeting)	Audrey Forticaux	2014
UW-Madison Hilldale Research Fellowship	Michael Stone (undergrad)	2014
ACS Division of Energy and Fuels Student Award	Matthew Faber	2014
Barry Goldwater Scholarship	Cecilia Gentle (REU student)	2014
Outstanding Self-Financed Students Abroad	Fei Meng	2014
MRS Graduate Student Silver Award	Fei Meng	2013
ACS Division of Energy and Fuels R. A. Glenn Award	Matthew Faber	2013
NSF SEES Postdoctoral Fellowship	Steven Girard (postdoc)	2013
Chuck and Martha Casey Research Excellence Award	Fei Meng	2013
GSFLC Mentor Award	Fei Meng	2013
UW-Madison Hilldale Research Fellowship	Andrew Daniels (undergrad)	2013
UW-Madison Hilldale Research Fellowship	Rafal Dzedzic (undergrad)	2013
Honorable Mention Link Foundation Energy Fellowship	Linsen Li	2013
NSF Graduate Research Fellowship	Leith Samad	2013-2016
Honorable Mention IUPAC Prizes for Young Chemists	Stephen Morin	2012
Notre Dame Nanoscience&Nanoengineering Competition	Robert Johns (REU)	2011
Leah Cohodas Berk Award for Excellence in Chemistry	Rachel Selinsky	2011
NSF East Asia and Pacific Summer Institutes Fellowship	John DeGrave	2011
Fulbright Graduate Fellowship (Turkey)	Salih Hacialioglu	2010
MRS Graduate Student Gold Award	Stephen Morin	2010
NIH Ruth L. Kirschstein National Research Service Award	Chad Dooley (postdoc)	2010-2012
MRS Best Poster Award (Spring meeting)	Stephen Morin	2010
MRS Poster selected to attend Mexican MRS in Cancun	Stephen Morin	2010
Chuck and Martha Casey Research Excellence Award	Stephen Morin	2010
GSFLC Mentor Award	Jeremy M. Higgins	2010
NSF Graduate Research Fellowship	Matthew Faber	2010-2013
NSF Graduate Research Fellowship	Miguel Caban	2010-2013
UW-Madison Hilldale Research Fellowship	Ruihua Ding (undergraduate)	2010
17 <sup>th</sup> American Conference on Crystal Growth Photo Contest	Matthew Bierman (Song Jin)	2009
MRS Graduate Student Gold Award	Matthew Bierman	2009
<i>Nano Today</i> Cover Competition 2009	Matthew Bierman	2009
Undergraduate Research Mentor Award	Jeremy Higgins	2009
Undergraduate Research Mentor Award	Rachel Selinsky	2009
MRS Science as Art 2 <sup>nd</sup> place winner (Fall meeting)	Matthew Bierman	2008
UW Madison Energy Hub conference poster award	Jeremy Higgins	2008
Merck Research Laboratories Fellowship	Jeremy Higgins	2008-2009
Wisconsin Distinguished Graduate Student	Andrew Schmitt	2008-2009

Research Excellence Award in Materials Chemistry	Matthew Bierman	2008
MRS Graduate Student Silver Award	Andrew Schmitt	2008
MRS Best Poster Award (Spring meeting)	Andrew Schmitt	2008
MRS Poster selected to attend Mexican MRS in Cancun	Andrew Schmitt	2008
Outstanding Chemistry Teaching Award	Jeannine Szczech	2008
3M Graduate Fellowship	Stephen Morin	2007-2009
Air Product Graduate Fellowship	Matthew Bierman	2007-2008
MRS Best Poster Award (Fall meeting)	Andrew Schmitt	2006
APS User Meeting Best Poster Award	Andrew Schmitt	2006