

Jiming Bao, PhD

Professional Preparation

Zhejiang University	Hangzhou, China	Physics	BS	1992
Zhejiang University	Hangzhou, China	Physics	MS	1995
University of Michigan	Ann Arbor, MI	Applied Physics	PhD	2003
Harvard University	Cambridge, MA	Applied Physics	Post-Doc	9/03-6/06

Appointments

9/2014-present	Associate Professor, Department of Electrical and Computer Engineering, Materials Engineering Program, Department of Chemistry University of Houston, Houston, TX
9/2008-8/2014	Assistant Professor, Department of Electrical and Computer Engineering, Materials Engineering Program, Department of Chemistry University of Houston, Houston, TX
7/2006-8/2008	Research Associate, School of Engineering and Applied Sciences, Harvard University, Cambridge, MA

Publications (more than 95 papers)

Publications most closely related to the proposed project:

1. Liao L, Zhang Q, Su Z, Zhao Z, Wang Y, Li Y, Lu X, Wei D, Feng G, Yu Q, Cai X, Zhao J, Ren Z, Fang H, Robles-Hernandez F, Baldelli S, and Bao J. (2014). Efficient solar water-splitting using a nanocrystalline CoO photocatalyst, *Nature Nanotechnology* 9, 69–73. DOI: 10.1038/nnano.2013.272
2. F. Lin, Z. Zhu, X. Zhou, W. Qiu, C. Niu, J. Hu, Keshab Dahal, Y. Wang, Z. Zhao, Zhifeng Ren, D. Litvinov, Z. Liu, Z. M. Wang, and J. M. Bao, "Orientation control of graphene flakes by magnetic field: broad device applications of macroscopically aligned graphene", *Advanced Materials* 29, 1604453 (2017). DOI: 10.1002/adma.201604453.
3. Fei H, Dong J, Arellano-Jiménez MJ, Ye G, Dong Kim N, Samuel ELG, Peng Z, Zhu Z, Qin F, Bao J, Yacaman MJ, Ajayan PM, Chen D, and Tour JM. (2015). Atomic cobalt on nitrogen-doped graphene for hydrogen generation, *Nature Communications* 6, 8668. DOI: 10.1038/ncomms9668
4. Haiqing Zhou, Fang Yu, Yufeng Huang, Jingying Sun, Zhuan Zhu, Robert J. Nielsen, Ran He, Jiming Bao, William A. Goddard III, Shuo Chen & Zhifeng Ren, "Efficient hydrogen evolution by ternary molybdenum sulfoselenide particles on self-standing porous nickel diselenide foam", *Nature Communications* 7, 12765 (2016). DOI:10.1038/ncomms12765.
5. Feng Lin, Xin Tong, Yanan Wang, Jiming Bao, Zhiming M. Wang, "Graphene oxide liquid crystals: synthesis, phase transition, rheological property, and applications in optoelectronics and display", *Nanoscale Research Letters*, 10:435 (2015). doi:10.1186/s11671-015-1139-1.

Other significant publications:

6. Fan JA, Wu C, Bao K, Bao J, Bardhan R, Halas NJ, Manoharan VN, Nordlander P, Shvets G, and Capasso F. (2010). Self-assembled plasmonic nanoparticle clusters, *Science* 328, 1135–1138. DOI: 10.1126/science.1187949
7. Zhu Z, Yuan J, Zhou H, Hu J, Zhang J, Wei C, Yu F, Chen S, Lan Y, Yang Y, Wang Y, Niu C, Ren Z, Lou J, Wang Z, and Bao J. (2016). Excitonic resonant emission-absorption of surface plasmons in

transition metal dichalcogenides for chip-level electronic-photonic integrated circuits, *ACS Photonics* 3, 869–874. DOI: 10.1021/acsp Photonics.6b00101

8. Yu Q, Jauregui LA, Wu W, Colby R, Tian J, Su Z, Cao H, Liu Z, Pandey D, Wei D, Chung TF, Peng P, Guisinger NP, Stach EA, Bao J, Pei S-S, and Chen YP. (2011). Control and characterization of individual grains and grain boundaries in graphene grown by chemical vapour deposition, *Nature Materials* 10, 443–449. DOI: 10.1038/nmat3010
9. Wu W, De D, Chang S-C, Wang Y, Peng H, Bao J, and Pei S-S. (2013). High mobility and high on/off ratio field-effect transistors based on chemical vapor deposited single-crystal MoS₂ grains. *Applied Physics Letters* 102, 142106. DOI: 10.1063/1.4801861
10. Bao J. (2015). Photoelectrochemical water splitting: A new use for bandgap engineering, *Nature Nanotechnology* 10:19–20. DOI: 10.1038/nnano.2014.322

Synergistic Activities

- Program Advisory Committee, the International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), Houston, 2011; Symposium Organizer, Advanced Materials for Hydrogen Energy, 247th ACS National Meeting, Dallas, TX, 2014.
- Chair, IEEE Magnetic Society Houston chapter; Chair, IEEE Nanotechnology Council; Committee member, American Physical society committee on membership; Advisory board member, Journal of Semiconductor.
- Memberships: American Physical Society (APS), Optical Society of America (OSA), Materials Research Society (MRS). Institute of Electrical and Electronics Engineers (IEEE), American Association for the Advancement of Science (AAAS), American Chemical Society (ACS).
- Served as a reviewer for the following journals: *Nature Energy*, *Nature Chemistry*, *Nature Nanotechnology*, *Nano Letters*, *ACS Nano*, *Journal of Physical Chemistry*, *Langmuir*, *Applied Physics Letters*, *Nanoscale*, *Small*, *Optics Express*, *Chemical Science*, *Optics Letters*, and others.
- Served as a reviewer for grant applications for the following organizations: National Science Foundation, Department of Energy, ACS Petroleum Research Fund, The Agency for Science, Technology and Research, Singapore (A*STAR).