

Ke Xu

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CURRENT POSITION

Assistant Professor and Chevron Chair in Chemistry
Department of Chemistry, **University of California**, Berkeley, CA 2013 - current

PAST POSITION

Postdoctoral Fellow / Advisor: Prof. Xiaowei Zhuang
Department of Chemistry and Chemical Biology, **Harvard University**, Cambridge, MA 2009 - 2013

EDUCATION

California Institute of Technology, Pasadena, CA 2009
Ph.D. in Chemistry / Advisor: Prof. James R. Heath
Thesis awarded Demetriades-Tsafka-Kokkalis Prize in Nanotechnology and Related Fields

Tsinghua University, Beijing, China 2004
B.S. in Chemistry
Graduated with Highest Honors

PEER REVIEW OF JOURNALS

<i>Nature Methods</i>	<i>Chemical Communications</i>
<i>Nature Communications</i>	<i>Lab on a Chip</i>
<i>Journal of the American Chemical Society</i>	<i>Journal of Materials Chemistry</i>
<i>Nano Letters</i>	<i>Physical Chemistry Chemical Physics</i>
<i>Chemical Science</i>	<i>Scientific Reports</i>

AWARDS AND HONORS

- Pew Biomedical Scholar 2015
- Hellman Fellow 2015
- Bakar Fellow, University of California, Berkeley 2015
- Demetriades-Tsafka-Kokkalis Prize in Nanotechnology and Related Fields, California Institute of Technology, Pasadena, CA, United States 2009
- Graduate Student Silver Award, Materials Research Society, United States 2008
- Graduated with Highest Honors, Tsinghua University, Beijing, China 2004

SELECTED PUBLICATIONS

22. Z. Zhang, S. J. Kenny, M. Hauser, W. Li, and K. Xu^{*}, "Ultrahigh-throughput single-molecule spectroscopy and spectrally resolved super-resolution microscopy," *Nature Methods*, Advance Online Publication, DOI: 10.1038/nmeth.3528, 2015.
21. M. Wojcik, M. Hauser, W. Li, S. Moon, and K. Xu^{*}, "Graphene-enabled electron microscopy and correlated super-resolution microscopy of wet cells," *Nature Commun.*, **6**, 7384, 2015.
Highlighted in *Nature*: "Microscopy: Graphene protects cells for imaging," *Nature* 522, 394-395, 2015.
20. A. D. Blunk, Y. Akbergenova, R. W. Cho, J. Lee, U. Walldorf, K. Xu, G. S. Zhong, X. W. Zhuang and J. T. Littleton, "Postsynaptic actin regulates active zone spacing and glutamate receptor apposition at the *Drosophila* neuromuscular junction," *Mol. Cell Neurosci.*, **61**, 241-254, 2014.
19. K. Xu, G. S. Zhong, and X. W. Zhuang, "Actin, spectrin and associated proteins form a periodic cytoskeletal structure in axons," *Science*, **339**, 452-456, 2013. **[Cited by 173 by 8/27/2015]**
Featured in *Current Biology*, **23**, R197-R198, "Cytoskeleton: axons earn their stripes", by M. N. Rasband
Recommendation in *Faculty of 1000*: <http://f1000.com/717971053>
18. K. Xu^{*} and J. R. Heath^{*}, "Contact with what?" *Nature Mater.*, **12**, 872-873, 2013.
17. K. Xu, H. P. Babcock, and X. W. Zhuang, "Dual-objective STORM reveals three-dimensional filament organization in the actin cytoskeleton," *Nature Methods*, **9**, 185-188, 2012. **[Cited by 147 by 8/27/2015]**
Recommendation in *Faculty of 1000*: <http://f1000.com/13664959>
16. P. G. Cao, J. O. Varghese, K. Xu, and J. R. Heath, "Visualizing local doping effects of individual water clusters on gold(111)-supported graphene," *Nano Lett.*, **12**, 1459-1463, 2012.
15. P. G. Cao, K. Xu, J. O. Varghese, and J. R. Heath, "The microscopic structure of adsorbed water on hydrophobic surfaces under ambient conditions," *Nano Lett.*, **11**, 5581-5586, 2011.
14. P. G. Cao, K. Xu, J. O. Varghese, and J. R. Heath, "Atomic force microscopy characterization of room-temperature adlayers of small organic molecules through graphene templating," *J. Am. Chem. Soc.*, **133**, 2334-2337, 2011.
13. K. Xu, P. G. Cao, and J. R. Heath, "Graphene visualizes the first water adlayers on mica at ambient conditions," *Science*, **329**, 1188-1191, 2010. **[Cited by 202 by 8/27/2015]**
Science Perspective Article: M. I. Katsnelson, "Just add water," *Science*, **329**, 1157-1158, 2010.
C&EN News of the Week: "Covering up for a clear view," *C&EN*, **88(36)**, 11, 2010.
12. K. Xu, P. G. Cao, and J. R. Heath, "Achieving the theoretical depairing current limit in superconducting nanomesh films," *Nano Lett.*, **10**, 4206-4210, 2010.
11. K. Xu, L. D. Qin, and J. R. Heath, "The crossover from two dimensions to one dimension in granular electronic materials," *Nature Nanotech.*, **4**, 368-372, 2009.
10. K. Xu, P. G. Cao, and J. R. Heath, "Scanning tunneling microscopy characterization of the electrical properties of wrinkles in exfoliated graphene monolayers," *Nano Lett.*, **9**, 4446-4451, 2009.
Nature Materials Research Highlights: "Covered in wrinkles," *Nature Mater.*, **8**, 922, 2009.
9. K. Xu and J. R. Heath, "Long, highly-ordered high-temperature superconductor nanowire arrays," *Nano Lett.*, **8**, 3845-3849, 2008.
PhysOrg Feature Story: "High-temp superconducting nanowire system is first of its kind," <http://www.physorg.com/news146918344.html>
8. K. Xu and J. R. Heath, "Controlled fabrication and electrical properties of long quasi-one-dimensional superconducting nanowire arrays," *Nano Lett.*, **8**, 136-141, 2008.

7. P. G. Cao, K. Xu, and J. R. Heath, "Azidation of silicon(111) surfaces," *J. Am. Chem. Soc.*, **130**, 14910-14911, 2008.
6. K. Xu, J. E. Green, J. R. Heath, F. Remacle, and R. D. Levine, "The emergence of a coupled quantum dot array in a doped silicon nanowire gated by ultrahigh density top gate electrodes," *J. Phys. Chem. C*, **111**, 17852-17860, 2007.
5. J. E. Green, J. W. Choi, A. Boukai, Y. Bunimovich, E. Johnston-Halperin, E. Delonno, Y. Luo, B. A. Sheriff, K. Xu, Y. S. Shin, H. R. Tseng, J. F. Stoddart, and J. R. Heath, "A 160-kilobit molecular electronic memory patterned at 10^{11} bits per square centimetre," *Nature*, **445**, 414-417, 2007.
4. A. Boukai, K. Xu, and J. R. Heath, "Size-dependent transport and thermoelectric properties of individual polycrystalline bismuth nanowires," *Adv. Mater.*, **18**, 864-869, 2006.
3. J. W. Choi, A. H. Flood, D. W. Steuerman, S. Nygaard, A. B. Braunschweig, N. N. P. Moonen, B. W. Laursen, Y. Luo, E. Delonno, A. J. Peters, J. O. Jeppesen, K. Xu, J. F. Stoddart, and J. R. Heath, "Ground-state equilibrium thermodynamics and switching kinetics of bistable [2]rotaxanes switched in solution, polymer gels, and molecular electronic devices," *Chem.-Eur. J.*, **12**, 261-279, 2006.
2. Z. Y. Zhang, K. Xu, W. R. G. Baeyens, and X. R. Zhang, "An energy-transfer cataluminescence reaction on nanosized catalysts and its application to chemical sensors," *Anal. Chim. Acta*, **535**, 145-152, 2005.
1. Z. Y. Zhang, K. Xu, Z. Xing, and X. R. Zhang, "A nanosized Y_2O_3 -based catalytic chemiluminescent sensor for trimethylamine," *Talanta*, **65**, 913-917, 2005.