

Jing Xu, PhD

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Physics, UC Merced
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EDUCATION

Caltech	Pasadena, CA	BS w. Honor, Physics	1998
UC Santa Barbara	Santa Barbara, CA	PhD, Physics	2006

PROFESSIONAL POSITIONS

Assistant Professor, Physics, UC Merced, 2011-present
Postdoctoral Fellow, Developmental Cell Biology, UC Irvine, 2006-2011
Research Scientist, Physics, Caltech, 1998-2001

AWARDS AND HONORS

Academic Research Enhancement Award (R15)	NIH	2016-2019
Academic Senate Faculty Research Grant	UC Merced	2016
Academic Senate Faculty Research Grant	UC Merced	2015
Health Sciences Research Institute Biomedical Seed Grant	UC Merced	2014
Faculty Research Grant	UC Merced	2012
Postdoctoral Fellowship	AHA	2008-2010
Professional Opportunities for Women Travel Award	Biophysical Society	2010
Postdoctoral Travel Award	ASCB	2010
Dean's Award for Postdoctoral Research Excellence	UC Irvine	2009
Barbara Burgess Memorial Postdoctoral Award	UC Irvine	2008
Graduate Student Research Fellowship	NASA	2005
Graduate Opportunity Fellowship	UC Santa Barbara	2005
Graduate Teaching Fellowship at UC Santa Barbara	NSF	2004
Mitsubishi Chemical Distinguished Graduate Fellowship	UC Santa Barbara	2004
Broida-Hirschfelder Fellowship	UC Santa Barbara	2004
Science and Engineering Research Grant	UC Santa Barbara	2004
Doctoral Student Travel Grant	UC Santa Barbara	2004
Summer Undergraduate Research Fellow in Physics	Caltech	1995
Advanced Placement Scholar	US College Board	1994
High School Student Intern at UC Berkeley	NASA	1994

PEER REVIEWED PUBLICATIONS

^{UG} denotes UC Merced undergraduate, ^G denotes UC Merced graduate student under supervision of J. Xu. ^{G'} denotes a UC Merced graduate student where J. Xu had a significant contribution to

research, but is not the advisor of record. * denotes co-corresponding author. ^T denotes co-corresponding author.

1. **Q. Li^G**, S.J. King, **J. Xu**, “Native kinesin-1 does not preferentially bind to GTP-rich microtubules in vitro”, under 2nd review at *Cytoskeleton*
2. M.W. Gramlich, L. Conway, **W.H. Liang^{UG}**, J.A. Labastide, S.J. King, **J. Xu***, J.L. Ross*, “Single molecule investigation of kinesin-1 motility using engineered microtubule defects”, *Scientific Reports*, 7, 44290 (2017)
3. **W.H. Liang^{UG}**, **Q Li^G**, **KM Faysal^G**, SJ King, A Gopinathan, **J Xu**, “Microtubule defects influence kinesin-based transport in vitro”, *Biophysical Journal*, 110, 2229 (2016)
4. **Q Li^G**, S.J. King, A. Gopinathan, **J. Xu**, “Quantitative determination of the probability of multiple-motor transport in bead-based assays”, *Biophysical Journal*, 111, 2720 (2016)
5. **A.J. Tan^G**, D.E. Chapman, L.S. Hirst, **J. Xu**, “Understanding the role of transport velocity in biomotor-powered microtubule spool assembly”, *RSC Advances*, 6, 79143 (2016)
6. **C. Lor^G**, **J. Lopes^G**, M.K. Mattson-Hoss, **J. Xu***, L.S. Hirst*, “A simple experimental model to investigate force range for membrane nanotube formation”, *Frontiers in Materials*, 3, 6 (2016)
7. **D. Ando^G**, M.K. Mattson, **J. Xu***, A. Gopinathan*, “Cooperative protofilament switching emerges from inter-motor interference in multiple-motor transport”, *Scientific Reports*, 4, 7255 (2014)
8. **J. Xu***, S.J. King, **M. Lapierre-Landry^{UG}**, **B. Neme^{UG}**, “Interplay between velocity and travel distance of kinesin-based transport in the presence of tau”, *Biophysical Journal*, 105, L23 (2013)
9. **J. Xu***, Z. Shu, S.J. King, S.P. Gross*, “Tuning multiple motor travel via single motor velocity”, *Traffic*, 13, 1198 (2012)
10. **J. Xu**, B.J.N. Reddy, P. Anand, Z. Shu, S. Cermelli, M.K. Mattson, S.K. Tripathy, M.T. Hoss, N.S. James, S.J. King, L. Bardwell, L. Huang, S.P. Gross, “Casein kinase 2 reverses tail-independent inactivation of kinesin-1”, *Nature Communications*, 3, 754 (2012)
11. A. Kunwar, S.K. Tripathy, **J. Xu**, M.K. Mattson, P. Anand, R. Sigua, M. Vershinin, R.J. McKenney, C.C. Yu, A. Mogilner, S.P. Gross, “Mechanical stochastic tug-of-war models cannot explain bidirectional lipid-droplet transport”, *Proceeding of the National Academy of Sciences USA*, 108, 18960 (2011)
12. K.M. Ori-McKenney^T, J. Xu^T, S.P. Gross, R.B. Vallee, “A cytoplasmic dynein tail mutation impairs motor processivity”, *Nature Cell Biology*, 12, 1228 (2010)
Highlighted in: *Nature Cell Biology*, 12, 1126 (2010)
13. G.T. Shubeita, S.L. Tran, **J. Xu**, M. Vershinin, S. Cermelli, S.L. Cotton, M.A. Welte, S.P. Gross, “Consequences of motor copy number on the intracellular transport of kinesin-1-driven lipid droplets”, *Cell*, 135, 1098 (2008)
Highlighted in: *Cell* 135, 1000 (2008)
14. K.S. Larsen, **J. Xu**, S. Cermelli, Z. Shu, S.P. Gross, “BicaudalD actively regulates microtubule motor activity in lipid droplet transport”, *PLoS ONE*, 3, e3763 (2008)
15. A. Kunwar, M. Vershinin, **J. Xu**, S.P. Gross, “Stepping, strain gating, and an unexpected force-velocity curve for multiple-motor-based transport”, *Current Biology*, 18, 1173 (2008)
16. M. Vershinin^T, **J. Xu^T**, D.S. Razafsky, S.J. King, S.P. Gross, “Tuning microtubule-based transport through filamentous MAPs: the problem of dynein”, *Traffic*, 9, 882 (2008)

17. **J. Xu**, K.W. Plaxco, S.J. Allen, J.E. Bjarnason, E.R. Brown, “0.15 - 3.72 terahertz absorption of aqueous salts and saline solutions”, Applied Physics Letters, 90, 031908 (2007)
18. **J. Xu**, K.W. Plaxco, S.J. Allen, “The collective dynamics of lysozyme in water: terahertz absorption spectroscopy and comparison with theory”, Journal of Physical Chemistry B, 110, 24255 (2006)
19. **J. Xu**, K.W. Plaxco, S.J. Allen, “Probing the collective vibrational dynamics of a protein in liquid water by terahertz absorption spectroscopy”, Protein Science, 15, 1175 (2006)
Citation since publication: 170.
20. **J. Xu**, K.W. Plaxco, S.J. Allen, “Absorption spectra of liquid water and aqueous buffers between 0.3 - 3.72 terahertz”, Journal of Chemical Physics, 124: 036101 (2006)
21. P. Robrish, **J. Xu**, S. Kobayashi, P.G. Savvidis, B. Kolasa, G. Lee, D. Mars, S.J. Allen, “Loss and gain in Bloch oscillating super-superlattices: THz stark ladder spectroscopy”, Physica E: Low-dimensional Systems and Nanostructures, 32, 325 (2006)
22. **J. Xu**, J.F. Galan, G.J. Ramian, P.G. Savvidis, A.M. Scopatz, R.R. Birge, S.J. Allen, K.W. Plaxco, “Terahertz circular dichroism of biopolymers”, Proceedings of SPIE, 5268, 19 (2004)
23. **J. Xu**, G.J. Ramian, J.F. Galan, P.G. Savvidis, A.M. Scopatz, R.R. Birge, S.J. Allen, K.W. Plaxco, “Terahertz Circular Dichroism Spectroscopy: A potential approach to the in situ detection of life’s metabolic and genetic machinery”, Astrobiology, 3, 489 (2003)
24. H.A. Walling, E.G. Gwinn, **J. Xu**, K.D. Maranowski, A.C. Gossard, “Temperature dependence of conductance fluctuations in quantum Hall multilayers”, Physical Review B, 70, 235343 (2004)
25. **J. Xu**, J.J. Bock, K.M. Ganga, V. Gorjian, K. Uemizu, M. Kawada, A.E. Lange, T. Matsumoto, T. Watabe, “Measurement of sky surface brightness fluctuations at $\lambda = 4 \mu\text{m}$ ”, Astrophysical Journal, 580, 653 (2002)
26. **J. Xu**, A.E. Lange, J.J. Bock, “Far-infrared emissivity measurements of reflective surfaces”, 30th ESLAB Symposium on Submillimetre and Far-Infrared Space Instrumentation, ESA SP-388, 69 (1996)