Xiaobo Yin

Materials Science and Engineering | Mechanical Engineering | Physics
University of Colorado, Boulder
Phone: (303) 492 9689
Email: xiaobo.yin@colorado.edu
https://sites.google.com/site/xblab2000/

Research Interests

Energy and applied energy systems; Nano-optics; Nanomaterials and nanostructures synthesis, fabrication and scalable manufacturing; Structured optical, thermal and phononic materials and metamaterials; Nonlinear spectroscopy; Photoacoustics and photoacoustic imaging; Nanophotonics and biophotonics; Optical imaging and lithography

Education

Stanford University	Ph.D in Electrical Engineering, September 2008
Nanjing University, China	M.S. in Condensed Matter Physics, July 2001

Appointments & Work Experience

01/2016 – present	*Co-founder, Center for Experiments on Quantum Materials,* University of Colorado Boulder
02/2014 – present	*Assistant Professor of Physics*, University of Colorado Boulder
09/2013 – present	*Assistant Professor of Materials Science and Engineering* and *Assistant Professor of Mechanical Engineering*, University of Colorado Boulder
10/2010 – 08/2013	*Research Manager and Senior Scientist*, NSF NSEC Center for Scalable and Integrated Nanomanufacturing (SINAM); *Assistant Research Professor*, Department of Mechanical Engineering, University of California, Berkeley
10/2008 – 01/2013	*Assistant Research Professor*, Department of Electrical Engineering, Stanford University
10/2008 – 10/2010	*Postdoctoral Scholar*, Materials Sciences Division, Lawrence Berkeley National Laboratory and Department of Mechanical Engineering, University of California, Berkeley
09/2002 – 09/2008	*Research Assistant*, Stanford Photonic Research Center, Stanford University

Awards and Honors

- The Kavli Foundation Early Career Award and Lectureship in Materials Science, Materials Research Society (2017)
- Institution of Physics (IOP) Physics World Top Ten Breakthroughs of 2017 - Metamaterial enhances natural cooling without power input (2017)
- The Economist's 10 most popular articles in 2017 – How to keep cool without costing the Earth (2017)
- Moore Inventor Fellow, Gordon and Betty Moore Foundation (2017)

- Invited Participant, the National Academy of Engineering's (NAE) 15th U.S. Frontiers of Engineering (FOE) Symposium (2017)
- Bruce S. Anderson Engineering Faculty Fellowship, University of Colorado (2017)
- Invited Presenter, Congressional Showcase to the Senate's Committee on Energy and Sustainability of the United States Congress at the Capitol Hill (2017)
- DARPA Young Faculty Award (2015)
- Nominated to the Charles C. Gates Faculty (Teaching) Fellowship (2015)

Selected Publications

- 70 journal publications; annual citations > 2000; total citations > 9000; H-index of 47;
- 30 keynotes and invited talks since joining CU-Boulder in Aug. 2013;
- Media coverage on *Science*, *Nature*, *Physics Today, The Economists*, *MSNBC*, *CBS*, *Discovery News*, *PC Magazine*, etc.

1. Y. Zhai, Y. G. Ma, S. N. David, D. L. Zhao, R. N. Lou, G. Tan, R. G. Yang, **X. B. Yin**, "Scalable-manufactured Randomized Glass-Polymer Hybrid Metamaterial for Day-time Radiative Cooling", (*Science*, in press, 2017)
2. **X. B. Yin**, Z. L. Ye, D. A. Chenet, Y. Ye, K. O'Brien, J. C. Hone, and X. Zhang, "Edge Nonlinear Optics on a MoS_2 Atomic Monolayer", *Science* **344**, 488 (2014);
3. Z. L. Ye, T. Cao, K. O'Brien, H. Y. Zhu, **X. B. Yin**, Y. Wang, S. G. Louie, and X. Zhang, "Probing excitonic dark states in single-layer tungsten disulphide", *Nature* **513**, 214 (2014).
4. **X. B. Yin**, Z. L. Ye, J. Rho, Y. Wang, and X. Zhang, "Photonic Spin-Hall Effect at Metasurfaces", *Science* **339**, 1405 (2013);
5. H. Suchowski, K. O'Brien, Z. J. Wong, A. Salandrino, **X. B. Yin**, and X. Zhang, "Phase Mismatch-Free Nonlinear Propagation in Optical Zero-Index Materials", *Science* **342**, 1223 (2013);
6. M. Liu*, **X. B. Yin***, E. Ulin-Avila1, B. S. Geng, T. Zentgraf, L. Ju, F. Wang, and X. Zhang, "A graphene-based broadband optical modulator", *Nature* **474**, 64 (2011);
7. C. Hu, A. Labno, C. Lu, **X. B. Yin**, M. Liu, C. Gladden, Y. M. Liu, X. Zhang, "Probing the electromagnetic field of a 15nm sized hotspot by single molecule imaging", *Nature* **469**, 385 (2011);

Professional Activities and Services

- ***Conference Technical Program Committee and Conference Organizer,*** 2018 SPIE Optics and Photonics; 2018 ASME Energy Sustainability Conference; 2016 and 2017 American Physics Society (APS) March Meeting; 2016 and 2017 CLEO; 2016 American Vacuum Society (AVS) Annual Meeting; 2015 MRS Fall Meeting Symposium; Editorial Board Member, Materials Research Express (2013 – present); OSA IRP Integrated Photonics Research Conference (2013 – present); ASME Nano-Engineering for Energy and Sustainability (2014 – present)