

## Yanwen Wu - Biographical Sketch

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### A. Professional Preparation

University of Michigan, Ann Arbor MI	Physics	B.S., 2000
University of Michigan, Ann Arbor MI	Physics	Ph.D., 2008
University of Cambridge, Cambridge, UK	BEC in semiconductors	Postdoc 2007-2010
University of Texas, Austin TX	Plasmonics nanostructures	Postdoc 2011-2013

### B. Appointments

2013-Assistant professor, Physics, University of South Carolina, Columbia SC  
2011-2013 Postdoctoral Fellow, Physics, University of Texas, Austin TX  
2007-2011 Herschel Smith Postdoctoral Fellow, Physics, University of Cambridge, UK

### C. Publications

(i) Related to proposal project

1. Li, X., **Wu, Y.**, Stievater, T. H., Steel, D. G., Gammon, D., Katzer, D. S., Park, D., Piermarocchi, C., Sham, L. J., "An all-optical quantum gate in a semiconductor quantum dot", *Science* **301**, 809 (2003).
2. **Wu, Y.**, Li, X., Duan, L. M., Steel, D. G., and Gammon, D., "Density matrix tomography through sequential coherent optical rotations of an exciton qubit in a single quantum dot," *Phys. Rev. Lett.* **96**, 087402 (2006).
3. **Wu, Y.**, Zhang, C., Zhao, Y., Kim, J., Zhang, M., Liu, X., Pribil, G. K., Alù, A., Shih, C.-K., and Li, X., "New Optical Constants of Silver Obtained from Atomically Smooth Epitaxial Films and Their Potential for Plasmonic Applications", *Advanced Materials* **26** (35), 6106-6110 (2014).
4. Jinwei Shi, Sarah Elias, Francesco Monticone, **Yanwen Wu**, Daniel Ratchford, Xiaoqin Li, and Andrea Alù, "Assembling Three-Dimensional Optical Stereo-Nanocircuits", *Nature Communication* **5**, 3896 (2014).
5. Matt Seaton, Alex Krasnok, Alan Bracker, Dan Gammon, Andrea Alù, and **Yanwen Wu**, "Localized optical gating of single semiconductor quantum dots using embedded silver plasmonic structures", *Adv. Opt. Mater.* (2018)

(ii) Other significant publications

1. Shafiei, F., Wu, C., **Wu, Y.**, Khanikaev, A. B., Putzke, P., Singh, A., Li, X., and Shvets, G., “Plasmonic nano-protractor based on polarization spectro-tomography”, *Nature Photonics*, **7** 367 (2013).
2. **Wu, Y.**, Kim, E. D., Xu, X., Cheng, J., Steel, D. G., Bracker, A. S., Gammon, D., Economou, S. E., and Sham, L. J., “Selective optical control of electron spin coherence in singly charged GaAs-Al<sub>0.3</sub>Ga<sub>0.7</sub>As quantum dots”, *Phys. Rev. Lett.* **99**, 097402 (2007).
3. Xu, X., **Wu, Y.**, Sun. B., Huang, Q., Cheng, J., Steel, D.G., Bracker, A.S., Gammon, D., Emary, C., and Sham, L.J., “Fast spin state initialization in a singly charged InAs-GaAs quantum dot by optical cooling”, *Phys. Rev. Lett.* **99**, 097401 (2007).
4. **Wu, Y.**, Piper, I. M., Ediger, M., Brereton, P., Schmidgall, E. R., Eastham, P. R., Hugues, M., Hopkinson, M. and Phillips, R. T., “Population inversion in InGaAs quantum dots by adiabatic rapid passage”, *Phys. Rev. Lett.* **106**, 067401 (2011).
5. Akshay Singh, Galan Moody, Sanfeng Wu, **Yanwen Wu**, Nirmal J. Ghimire, Jiaqiang Yan, David G. Mandrus, Xiaodong Xu, and Xiaoqin Li, “Coherent Electronic Coupling in Atomically Thin MoSe<sub>2</sub>”, *Phys. Rev. Lett.* **112**, 216804 (2014) – *Editor’s Suggestion*

**D. Synergistic Activities**

- Faculty demonstrator in the annual R. L. Childers Midway Physics Day event at the S. C. State fair. (2013-present)
- Women in Science and Engineering (WISE) mentor at River Bluff High School. (2016-present)
- Judge in the Region II Science and Engineering fair of South Carolina (2015-present)
- New graduate course development – Quantum optics (2015-2016)
- Society of Physics Student (SPS) advisor of U of SC chapter (2014-present)