Appendix 1: Biosketch

Jennifer A. Dionne

Associate Professor of Materials Science and Engineering, Stanford University
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Education and Training

Washington University in St. Louis	Physics	B.S. 2003
Washington University in St. Louis	Systems & Electrical Engineering	B.S. 2003
California Institute of Technology	Applied Physics	M.S. 2005
California Institute of Technology	Applied Physics (advisor: H. A. Atwater)	Ph.D. 2009

Research and Professional Experience

Stanford University Associate Professor of Materials Science and Engineering (2016-present)
Assistant Professor of Materials Science and Engineering (2010-2016);
Affiliate Faculty of the Precourt Institute for Energy (2012-present)
Affiliate Faculty, Stanford Neurosciences Institute (2015-present)
Affiliate Faculty, Bio-X (2015-present)

University of California, Berkeley and Lawrence Berkeley National Labs, Postdoctoral Fellow advised by A. P. Alivisatos (2009-2010)

Selected Publications and Patents

- 50 total publications with an h-index of 32 (Google Scholar) and 7 patents on enantioselective synthesis, surface-enhanced circular dichroism spectroscopy, nano-optical tweezing, upconverting materials, nano-optical tomography, plasmonic modulators, and color displays

1. Y. Zhao, A. Saleh, M. Haar, B. Baum, A. Lay, O. Becerra, and J. Dionne, "Nanoscopic control and quantification of enantioselective optical forces", *Nature Nanotechnology* AOP (2017)
2. T. Narayan, F. Hayee, A. Baldi, A. Koh, R. Sinclair, and J. Dionne, "Direct visualization of hydrogen absorption dynamics in individual palladium nanoparticles," *Nature Communications* 14020 (2017)
3. T. Narayan, A. Baldi, A. Koh, R. Sinclair, and J. Dionne, "Reconstructing solute-induced phase transformations within individual nanocrystals," *Nature Materials* 15, 768 (2016)
4. A. Atre, B. Brenny, T. Coenen, A. Garcia, A. Polman, and J. Dionne, "Nanoscale optical tomography with cathodoluminescence spectroscopy" *Nature Nanotechnology* 10, 429 (2015)
5. G. Naik and J. Dionne, "Photon upconversion with hot carriers in plasmonic systems," *Applied Physics Letters* 107, 133902 (2015)
6. M. Wisser, M. Chea, Y. Lin, D. Wu, W. Mao, A. Salleo, and J. Dionne, "Strain-induced modification of optical selection rules in lanthanide-based upconverting nanoparticles," *Nano Letters* 15, 1891 (2015)
7. A. Baldi, T. Narayan, A. L. Koh, and J. Dionne, "Detection of hydrogen absorption and desorption in individual palladium nanocrystals" *Nature Materials* 13, 1143 (2014)
8. S. Sheikholeslami, H. Alaeian, A. Koh and J. Dionne, "A metafluid exhibiting strong optical magnetism," *Nano Letters* 13, 4137 (2013)
9. J. Scholl, A. Garcia-Etxarri, A. Koh and J. Dionne, "Observation of quantum tunneling between two plasmonic nanoparticles," *Nano Letters* 13, 564 (2013)
10. J. Scholl, A. Koh and J. Dionne, "Quantum plasmon resonances of individual metallic nanoparticles," *Nature* 483, 421 (2012)

Selected Synergistic Activities

- Elected Vice Chair / Chair for 2018/2020 Plasmonics and Nanophotonics Gordon Conferences
- Co-organized Planet Earth Arts New Play Festival and Art Residency at Stanford, 2015-present
- Editorial Board Member, *ACS Photonics* (2015-present); *Nano Letters* (2016-present)

- Chair/Co-chair, Materials Research Society Symposia:
  i. *Fall 2017: Semiconducting and Plasmonic Nanocrystals*
  ii. *Fall 2013: Enabling Metamaterials – From Science to Innovation*
  iii. *Spring 2012 and 2010: Plasmonic Materials and Metamaterials*
- Lawrence Berkeley National Lab Molecular Foundry Executive Committee, Washington University in St. Louis Electrical & Systems Engineering advisory board and Mechanical Engineering & Materials Science advisory board, Washington University

Selected Invited Talks

More than 100 invited lectures since 2010, including:

- One of five plenary speakers at the first and third LAST (Life, Art, Science, and Technology) festivals, 2014/15 (including Alvy Ray Smith, Peter Norvig, Daniel Kaufman, and Chris McKay)
- Gordon Research Conferences, Clusters (2017); Plasmonically Powered Processes (2017); Plasmonics (2016); Noble Metal Nanoparticles (2012)

Honors and Awards

2017: Materials Research Society Outstanding Young Investigator; Nano Letters Young Investigator Lectureship; Inaugural Inductee to the Tau Beta Pi Teaching Honor Roll
2016: Tau Beta Pi Outstanding Undergraduate Engineering Professor, Stanford; Adolph Lomb Medal, Optical Society of America
2015: Camille Dreyfus Teacher-Scholar Award; Sloan Research Fellowship
2014: Presidential Early Career Award in Science and Engineering
2013: Kavli Early Career Lectureship in Nanoscience (Materials Research Society); Oprah's 50 things that will make you say 'Wow!'
2012: National Science Foundation CAREER Award; Outstanding Young Alumni Award, Washington University in St. Louis
2011: Technology Review TR35 – one of 35 top young innovators under 35; Hellman Faculty Scholar
2010: Air Force Office of Scientific Research Young Investigator Program Award
2009: Francis and Milton Clauser Prize for best Caltech Ph.D. thesis
2008: Materials Research Society Gold Award for outstanding graduate student

Identification of Potential Conflicts of Interest

- Collaborators and co-editors: None
- Graduate and Postdoctoral Advisors: Harry A. Atwater and A. Paul Alivisatos
- Former Advisees (and notable achievements)
  Dr. Justin Briggs; Dr. Brian Baum; Dr. Michael Wisser (PhD, 2017)
  Dr. Tarun Narayan (PhD, 2016): Huggins Award for best Materials Science Thesis, 2016
  Dr. Diane Wu (PhD, 2016): Lindau Nobel Laureate meeting attendee, 2013
  Dr. Hadiseh Alaeian (PhD, 2015): Humbolt Fellowship, 2015; MRS Silver Award, 2014
  Dr. Jonathan Scholl (PhD, 2015): MRS Gold Award, 2013
  Dr. Ashwin Atre (PhD, 2015); Dr. Amr Saleh (PhD, 2015)
  Dr. Andrea Baldi – faculty at FOM Institute - Differ, The Netherlands
  Dr. Aitzol Garcia-Etxarri – Gipuzkoa fellow, Donostia International Physics Center
  Dr. Guru Naik – faculty at Rice University, TX
  Dr. Sassan Sheikholeslami – senior scientist at Pacific Biosciences, CA
  Dr. Yang Zhao – APS Carl Anderson Award, 2015