



R. Joseph Kline

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Current Position

Senior Materials Engineer and leader of Dimensional Metrology for Nanomanufacturing Project, National Institute of Standards and Technology, Gaithersburg, MD

Background

- 2007-present Technical Staff, National Institute of Standards and Technology
- 2005-2007 National Research Council Postdoctoral Fellowship, National Institute of Standards and Technology
- 2005 Ph.D. in Material Science and Engineering, Stanford University
- 2000 M.S. and B.S. in Material Science and Engineering, North Carolina State University

Honors

- 2014 NIST Sigma Xi Young Investigator Award
- 2012 Presidential Early Career Award for Science and Engineering
- 2009 Department of Commerce Bronze Award
- 2008 SSRL William E. Spicer Young Investigator Award
- 2005 National Research Council Postdoctoral Fellowship
- 2000 National Science Foundation Graduate Research Fellowship

Activities

- 2011-present APS Proposal Review Panel (Chem/Bio/Environ), chair 2014-present
- 2013-present Center for Functional Nanomaterials Proposal Review Panel
- 2012-2014 NSLS Proposal Review Panel
- 2010-2012 SSRL User Organization Executive Committee

Interests

- I started using synchrotrons in graduate school to study crystallization and microstructure in thin polymer films. I have continued to be a frequent synchrotron user at NIST, focusing on small angle x-ray scattering and resonant soft X-ray scattering of polymer films. I use APS, ALS, and SSRL several times a year. My main research project involves developing an X-ray scattering method to measure nanostructures fabricated by the semiconductor industry for next generation patterning.

Goals

- I have been a frequent synchrotron user for almost 15 years. I have used many facilities and beamlines, and have a lot of experience with what works and what doesn't for beamline operation. My research involves close collaboration with industry and I would like to help make things easier for companies to work at APS. I'm very excited by the prospects of the APS upgrade and would like to do what I can to help make the upgrade improve everyone's measurements. I have also learned through my synchrotron experience that getting the data is only half the battle. I would like to push for additional resources to help users to deal with the large amount of data they collect and to encourage computational materials scientists to collaborate with synchrotron experiments.