

## David J. Srolovitz

Joseph Bordogna Professor  
Materials Science and Engineering (MSE)  
Mechanical Engineering and Applied Mechanics (MEAM)  
Computer and Information Science (CIS)

### Email

Honors and Awards: Princeton University Baetjer Lecture - 2010, Institute of Advanced Study, HKUST Distinguished Lecture - 2010, National University of Singapore Commencement Speaker - 2010, Materials Research Society Fellow - 2009, University of British Columbia Weinberg Memorial Lecture - 2009, Institute of Physics Fellow - 1999, ASM International Fellow - 1998, American Institute of Chemical Engineers Outstanding Paper Award - 1997, NASA Materials Division Outstanding Paper Award - 1989, Acta Metallurgica Outstanding Paper Award - 1985

Research Expertise: Computational and Theoretical Materials Science | Defects; Growth; Evolution; and Deformation of materials

Dave conducts research in defects in materials, growth of materials, evolution of the microstructure and morphology of materials, and the mechanical deformation of materials. He does this through the development and application of analytical theory and a wide range of computational modeling techniques, ranging from the quantum mechanical to atomistic to microstructural to continuum.

### Education:

PhD Materials Science 1981 - University of Pennsylvania  
MS Materials Science 1980 - University of Pennsylvania  
BS Physics 1978 - Rutgers University

### Recent Publications

- [Atomistic, generalized Peierls-Nabarro and analytical models for \(1 1 1\) twist boundaries in Al, Cu and Ni for all twist angles](#), Dai, S. | Xiang, Y. | Srolovitz, D.J., Acta Materialia, 2014
- [Corrigendum to: A more accurate three-dimensional grain growth algorithm \[Acta Mater. 59 \(2011\) 6837-6847\] \(DOI:10.1016/j.actamat.2011.07.052\)](#), Lazar, E.A. | Mason, J.K. | MacPherson, R.D. | Srolovitz, D.J., Acta Materialia, 2014
- [Current-induced switching of magnetic tunnel junctions: Effects of field-like spin-transfer torque, pinned-layer magnetization orientation, and temperature](#), Tiwari, R.K. | Jhon, M.H. | Ng, N. | Srolovitz, D.J. | Gan, C.K., Applied Physics Letters, 2014
- [Statistical topology of three-dimensional Poisson-Voronoi cells and cell boundary networks](#), Lazar, E.A. | Mason, J.K. | Macpherson, R.D. | Srolovitz, D.J., Physical Review E - Statistical, Nonlinear, and Soft Matter Physics, 2013
- [Microstructure versus flaw: Mechanisms of failure and strength in nanostructures](#), Gu, X.W. | Wu, Z. | Zhang, Y.-W. | Srolovitz, D.J. | Greer, J.R., Nano Letters, 2013

[Return to Directory](#)

