



Dr. Nathan P. Guisinger
Scientist

Theme: Electronic and Magnetic
Materials & Devices
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Professional Preparation:

University of Illinois	Electrical Engineering	B.S. 1999
University of Illinois	Electrical Engineering	M.S. 2002
Northwestern University	Materials Sci. and Eng.	Ph.D. 2005

Research Summary

My research interests include:

- The study of low-dimensional material systems ranging from metal-organic molecules to 2D graphene: synthesis, characterization, and application.
- Cross-sectional studies of complex oxides.
- Study of structural, electrical, and magnetic properties of thin films, organic molecules, metals, and semiconductors.
- Scanning tunneling microscopy, spectroscopy, and spin-polarized techniques.

Select Publications with 100+ Citations

- Y. Qinkai, et al., “Control and characterization of individual grains and grain boundaries in graphene grown by chemical vapour deposition” *Nature Materials*, **10**, 443 (2011).
- L. Gao, J. R. Guest, and N. P. Guisinger, “Epitaxial graphene on Cu(111)” *Nano Lett.*, **10**, 3512 (2010).
- G. M. Rutter, J. N. Crain, N. P. Guisinger, T. Li, P. N. First, and J. A. Stroscio, “Interference and localization in epitaxial graphene,” *Science*, **317**, 219 (2007).
- N. P. Guisinger, M. E. Greene, R. Basu, A. S. Baluch, and M. C. Hersam, “Room temperature negative differential resistance through individual molecules on silicon surfaces,” *Nano Letters*, **4**, 55 (2004).
- M. C. Hersam, N. P. Guisinger, and J. W. Lyding, “Silicon-based molecular nanotechnology” *Nanotechnology*, **11**, 70 (2000).

