

## DAWN A. BONNELL

Department of Materials Science & Engineering  
University of Pennsylvania  
Philadelphia, PA 19104-6272  
(215) 898-6231

bonnell@sol1.lrsm.upenn.edu <http://www.seas.upenn.edu/~bonnell/>

### PROFESSIONAL PREPARATION

University of Michigan	Materials Science and Engineering	Ph.D.	1986
University of Stuttgart, FRG,	Physics		
University of Michigan	Engineering Materials	MSE	1983
University of Michigan	Materials Science and Engineering	BSE	1983

### APPOINTMENTS

7/2002-	Trustee Chair Professor, Materials Science Depart.	University of Pennsylvania
9/04-present	Director, Nano/Bio Interface Center	
5/99	Professor, Materials Science Department,	The University of Pennsylvania
9/91--	Bioengineering Graduate Group member	
5/93-5/99	Associate Professor, Materials Science Department,	University of Pennsylvania
9/92-5/96	Graduate Group Chair, Department of Materials Science	
6/88-5/93	Assistant Professor, Materials Science Department,	University of Pennsylvania
5/86-6/88	Visiting Scientist, IBM Thomas Watson Research Center,	Physical Sciences
9/85-4/86	Research Assistant, University of Michigan	
10/84-8/85	Visiting Researcher, Max-Planck-Institute, Stuttgart,	West Germany

### PUBLICATIONS

#### **Related**

1. Polarization and Local Reactivity on Organic Ferroelectric Surfaces: Ferroelectric Nanolithography using Poly (vinylidene fluoride)  
C. Rankin, C. Chou, D. Conklin, D. Bonnell *ACS Nano* 1 (2007) 234-238.
2. Polarization Controlled Transport in PANI-BaTiO<sub>3</sub> Nanofibers M. Nikiforov, H. Liu, H. Craighead, D. Bonnell *Nano Letters* 6 (2006)
3. Polarization Reorientation In Ferroelectric PZT Thin Films With Electron Beams D.B. Li, D.R. Strachan, J. H. Ferris, D.A. Bonnell *Journal of Materials Research* 21 (2006) 935-940
4. Clean Electromigrated Nanogaps Imaged by TEM D. Strachen, D. Smith, M. Fishbein, D. Johnson, B. Guiton, M. Drndic. D. Bonnell, A.T. Johnson *Nano Letters* 6 (2006) 441 444
5. High Frequency Scanned Gate Microscopy and Memory Effect in Carbon Nanotube Transistors C. Staii, A.T. Johnson, R. Shao, D. Bonnell *Nano Letters* 5 (2005) 893-6

#### **Significant**

6. Low-Temperature Resistance Anomaly at SrTiO<sub>3</sub>/sub 3/ Grain Boundaries: Evidence for an Interface-Induced Phase Transition R. Shao, M.F. Chisholm, G. Duscher, D.A. Bonnell *Physical Review Letters*. 95 (2005) 197601/1-4
7. M. Freitag, S. Kalinin, D. Bonnell, A. T. Johnson, Role Of Defects In Electronic Transport Through Semiconducting Single-Wall Carbon Nanotube FETs *Phys Rev Letters* 89 (2002) 216801

8. Sergei Kalinin, D. Bonnell, T. Alvarez, X. Lei, Z. Hu, J.Ferris, Q Zhang, S. Dunn, Atomic Polarization, Charge Compensation and Local Reactivity on Ferroelectric Surfaces: a new route toward complex nanostructures, *Nano Letters* **2** (2002) 589. highlight *Science*
9. S.V. Kalinin, D.A. Bonnell, T. Alvarez, X. Lei, Z. Hu, R. Shao, and J.H. Ferris, Ferroelectric Lithography of Multi Component Nanostructures *Adv. Mat* (2003)
10. D.A. Bonnell, Scanning Probe Microscopy: Theory and Applications ed. John Wiley & Sons New York (2000)

Of over 188 papers, chapters, and patents.

### **SYNERGISTIC ACTIVITIES**

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|--------------|--|
| 2008/9       | CoOrganizer: NSF/DoE Gender Equity in Materials Science Workshop, report and speaking engagements on this topic  |
| 2007         | National Press Club Panelist on National Infrastructure, covered on C-SPAN   |
| 2004-present | Development of a new undergraduate minor, graduate certificate program and Master's degree in nanotechnology   |
| 2003         | President AVS The Science and Technology Society, an international organization with about 5,000 members that is committed to outreach to undergraduates and high school students through regional activities, special programs and educational materials, and to increasing community awareness of science at the national and local level. |

**Thesis advisor:** T. Y. Tien, deceased; **Post doc advisor:** David Clarke, Harvard University

**Collaborators** G. Duscher, North Carolina State University; Roger French, DuPont Wilmington, DE; Steve Pennycook, Oak Ridge National Lab; Matt Chisholm, ORNL; Lucas Eng, Technical University of Dresden

**Students and Post docs:** S. Kalinin, ORNL; R. Shao, First Solar; Jack Smith, UPO; Dongbo Li, Penn State; Matt Brukman, Penn, Sanjini Nanayakara, Penn;, John Garra; Zonghai Hu Beijing University; Xioajun Li, U Texas; Maxim Nikiforov, ORNL