

## DANIEL L. COX

### Academic Preparation

University of Washington	Physics	B.S.	1979
Cornell University	Physics	Ph.D.	1985

### Professional History

2006---Present	Co-director, Institute for Complex Adaptive Matter (icam-i2cam.org)
2004 – Present	Deputy Director, Institute for Complex Adaptive Matter
1997 – Present	Professor of Physics, University of California, Davis
1994 – 1996	Professor of Physics, The Ohio State University
1990 – 1994	Associate Professor of Physics, The Ohio State University
1986 – 1990	Assistant Professor of Physics, The Ohio State University

### Other Activities & Accomplishments

1. Postdoctoral Scholar, Department of Physics, UC San Diego (1984-86)
2. Visting Professor, Technische Hochschule Darmstadt, Autumn 1987
3. AP Sloan Fellow, 1988
4. NSF Presidential Young Investigator, 1988
5. Troiseme Cycle Lecturer, Lausanne Switzerland, 1996
6. JS Guggenheim Memorial Fellow, 2004-2005 (visiting scientist, Center for Theoretical Biological Physics, UC San Diego)

### UC Davis Dissertations Directed (of 14 overall at Davis, Ohio State)

- Montiago X. LaBute, Strong electron correlations in biomimetic transition metal molecules 2002 ( NSF IGERT SUPPORT)
- Robert G. Endres, Theory of electron transfer and molecular states in DNA, 2002
- David L. Mobley, Models of cooperative dynamics, from biomolecules to magnets, 2004 (NSF IGERT SUPPORT)
- Kay C. Kunes, Theory of misfolded prion conformations and aggregation, 2007
- Jong Chin Lin , Theory of transition metal complexes in molecular transistors and DNA repair proteins, 2007
- Jianping Pan, Theory of metal ion binding to prion proteins and mutation induced prion disease, 2007

### Five Publications (most related to this proposal)

1. ``Influence of correlated hybridization on the conductance of molecular transistors,`` J.C. Lin, F.B. Anders, and D.L. Cox, *Phys. Rev. Lett.* **76**, 115401 (2007)
2. ``The Materials Science of Amyloid Disease,`` D.L. Cox, H. Lashuel, K.Y. Lee, R.R.P. Singh, *MRS Bulletin* **30**, 452 (2005)
3. ``Structure of infectious prions: stabilization by domain swapping`` S. Yang, H. Levine, J.N. Onuchic, and D.L. Cox, *FASEB J* **19**, 1778 (2005)
4. ``Colloquium: The quest for high-conductance DNA,`` R.G. Endres, D.L. Cox, and R.R.P. Singh, *Rev. Mod. Phys.* **76**, 195 (2004).
5. ``Modeling amyloid beta-peptide insertion into lipid bilayers,`` D.L. Mobley, D.L. Cox, R.R.P. Singh, M.W. Maddox, and M.L. Longo, *Biophys. J.* **86**, 3585(2004).

### Five Other Significant Publications

1. ``A mechanism for copper inhibition of infectious prion conversion,`` D.L. Cox, J.P. Pan, R.R.P. Singh, *Biophys. J* **91**, L11 (2006).
2. ``Prion disease: exponential growth requires membrane binding,`` D.L. Cox, R.R.P. Singh, S.C. Yang, *Biophys. J.* **90**, L77 (2006).

3. ``Correlated Hybridization in Transition Metal Complexes,`` A. Huebsch, J.C. Lin, J. Pan, and D.L. Cox, *Phys. Rev. Lett.* **96**, 196401 (2006).
4. ``Optical Conductivity of Wet DNA,`` A. Huebsch, R.G. Endres, D.L. Cox, and R.R.P. Singh, *Phys. Rev. Lett.* **94**, 178102 (2005).
5. ``On the statistical mechanics of prion proteins,`` A. Slepoy, R.V. Kulkarni, R.R.P. Singh, F. Pazmandi, and D.L. Cox, *Phys. Rev. Lett.* **87**, 058101 (2001)

### **Synergistic Activities**

1. Member of Advisory Committee to Rice Biomedical Engineering Department 2005-present
2. Member at Large of the APS Division of Biological Physics, 2008-2011
3. Adjunct Scientist, Center for Theoretical Biological Physics (CTBP), 2004-present
4. Member, AIP Publications Committee, 2007-present
5. Supervisor of five UCD Physics REU students (2005, 2006, 2007, 2008)

### **Advisors:**

*Doctoral: Prof. John Wilkins, Department of Physics, Ohio State University*

*Postdoctoral: Prof. Lu Sham, Department of Physics, University of California, San Diego*

### **Collaborators, last 48 months**

R.R.P. Singh, UC Davis; R.G Endres, Imperial College; J. Onuchic, UCSD; H. Levine, UCSD;; J.C. Lin, U. Maryland; D. Mobley, UCSF; M.X. Labute,, Archimedes, Inc.; K.C. Kunes, UC Davis; Margie Longo, UC Davis; M. Maddox, UC Davis; J. Pan, L & P Enterprises Inc.; S. Yang, U. Chicago; H. Lashuel, EPFL; K.Y.C. Lee, U. Chicago; D. Pines, UC Davis; F. Anders, Saarbrucken U;; M.B. Maple, UCSD; E. Bauer, Los Alamos; P.C. Ho, UCSD; T. Schauerte, Deutsche Bank; A. Huebsch, private consulting firm; C. Trevisan, UC Davis; R. Noack, U. Mainz; PG vonDongen, U. Marburgh; CD Batista, Los Alamos National Labs; C.R. Pike, U.C. Davis; J.E. Davies, U.C. Davis.; Scott Clark, Oregon State U; Evan Olson, Central College, Iowa.