

## Dean Edward Wilcox

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### *Education*

1984 Ph.D. Inorganic Chemistry, Massachusetts Institute of Technology  
1979 M.S. Chemistry, University of California at Riverside  
1978 B.S. Chemistry (*cum laude*), University of California at Riverside

### *Professional Experience*

7/16 - 6/19 Chairman, Department of Chemistry, Dartmouth College  
7/01 - 6/04 Chairman, Department of Chemistry, Dartmouth College  
7/96 - present Professor of Chemistry, Dartmouth College  
7/90 - 6/96 Associate Professor of Chemistry, Dartmouth College  
9/84 - 6/90 Assistant Professor of Chemistry, Dartmouth College  
1/82 - 8/84 Research Assistant, Stanford University  
9/79 - 12/81 Research Assistant, Massachusetts Institute of Technology  
6/79 - 8/79 Research Associate, Argonne National Laboratory  
6/77 - 8/77 NSF Undergraduate Research Program in Chemistry, U. C. Riverside

### *Honors and Memberships*

M.A. (honorary), Dartmouth, 2000 American Chemical Society  
Faculty Fellowship, Dartmouth, 1988 International EPR (ESR) Society  
Cabot Solar Energy Fellowship, M.I.T., 1981 Society of Biological Inorganic Chemistry  
ARNCO Fellowship, U.C.R., 1979 Sigma Xi (President of Dartmouth Chapter)

### *Current Grant Support*

NSF CHE-1609553, "Thermodynamics of Metal-Protein Interactions"; 7/1/16-6/30/19; \$400,292.

### *Professional Activities (past 5 years)*

Trinity College Dublin, Department of Chemistry, 04/24/12, invited seminar  
Polish Academy of Sciences, Institute of Biochemistry and Biophysics, 04/27/12, invited seminar  
Metals in Biology, Gordon Research Conference, 1/20-25/13, poster  
McGill University, Department of Chemistry, 2/12/13, invited seminar  
6<sup>th</sup> Mississippi Regional Biophysical Consortium, 5/30-31/13, invited plenary lecture  
NSF Chemistry of Life Processes CAREER awards review panel, 11/7-8/13, member  
34<sup>th</sup> Boston Regional Inorganic Colloquium, 5/3/14, organizer  
3<sup>rd</sup> Bioinorganic Training Workshop, Pennsylvania State University, 5/28/14-6/4/14, facilitator  
University of Vermont, Department of Chemistry, 9/18/14, invited seminar  
Judah Folkman Scientist-in-Residence, Bexley High School, Bexley, OH, 10/15/14  
Ohio State University, Department of Chemistry, 10/16/14, invited seminar  
Rhode Island College, Department of Physical Sciences, 10/24/14, invited seminar  
Metals in Biology, Gordon Research Conference, 1/25-29/15, poster  
Cell Biology of Metals, Gordon Research Conference, 7/26-30/15, poster  
251<sup>st</sup> meeting of the American Chemical Society, San Diego, 3/13-17/16, two invited talks  
Cornell University, Department of Chemistry and Chemical Biology, 4/15/16, invited seminar

Carnegie Mellon University, Department of Chemistry, 5/3/16, invited seminar  
4<sup>th</sup> Bioinorganic Training Workshop, Pennsylvania State University, 6/2-10/16, facilitator  
5<sup>th</sup> Latin American Meeting on Biological Inorganic Chemistry, 10/17-22/16, workshop, talk  
University of Newcastle, Department of Chemistry, 11/08/16, invited seminar

*Publications* (past 5 years; 75 total)

- J. C. Cochran, Y. C. Zhao, D. E. Wilcox, F. J. Kull, "A Metal Switch for Controlling the Activity of Molecular Motor Proteins", *Nature Structural & Molecular Biology* **2012** *19*, 122-127.
- Anne M. Rich, Elisa Bombarda, Austin D. Schenk, Paul E. Lee, Elizabeth H. Cox, Anne M. Spuches, Lynn D. Hudson, Bruno Keifer, Dean E. Wilcox, "Thermodynamics of Zn<sup>2+</sup> Binding to Cys<sub>2</sub>His<sub>2</sub> and Cys<sub>2</sub>HisCys Zinc Fingers and a Cys<sub>4</sub> Transcription Factor Site", *Journal of the American Chemical Society* **2012** *134*, 10405-10418.
- Dean E. Wilcox, "Arsenic. Can this Toxic Metalloid Sustain Life?" in "Interrelations between Essential Metal Ions and Human Disease", Vol. 13 of *Metal Ions in Life Sciences*, A. Sigel, H. Sigel, R. K. O. Sigel, Eds, Springer Science+Business Media B.V., Dordrecht, **2013**, 475-498.
- Margaret C. Carpenter, Dean E. Wilcox, "Thermodynamics of Formation of the Insulin Hexamer: Metal-Stabilized Proton-Coupled Assembly of Quaternary Structure", *Biochemistry* **2014** *53*, 1296-1301.
- George P. Lisi, Chien Y. M. Png, Dean E. Wilcox, "Thermodynamic Contributions to the Stability of the Insulin Hexamer", *Biochemistry* **2014**, *53*, 3576-3584.
- Xiaoming He, Steven Swarts, Eugene Demidenko, Ann Flood, Oleg Grinberg Jiang Gui, Michael Mariani, Stephen Marsh, Andres Ruuge, Jason Sidabras, Dmitry Tipikin, Dean Wilcox, Harold Swartz, "Development and Validation of an *Ex Vivo* Electron Paramagnetic Resonance Fingernail Biodosimetric Method", *Radiation Protection Dosimetry* **2014** *159*, 172-181.
- Molly L. Croteau, Xin Su, Dean E. Wilcox, Ivan Aprahamian, "Metal Coordination and Isomerization of a Hydrazone Molecular Switch", *ChemPlusChem* **2014** *79*, 1214-1224.
- Marcelo M. Pedroso, Fernanda Ely, Nataša Mitić, Margaret C. Carpenter, Lawrence R. Gahan, Dean E. Wilcox, James L. Larrabee, David L. Ollis, Gerhard Schenk, "Comparative Investigation of the Reaction Mechanisms of the Organophosphate-degrading Phosphotriesterases from *Agrobacterium radiobacter* (Opda) and *Pseudomonas diminuta* (OPH)", *Journal of Biological Inorganic Chemistry* **2014** *19*, 1263-1275.
- Destinee K. Johnson, Michael J. Stevenson, Zayed A. Almadidy, Sharon E. Jenkins, Dean E. Wilcox, Nicholas E. Grosseohme, "Stabilization of Cu(I) for Binding and Calorimetric Measurements in Aqueous Solution", *Dalton Transactions* **2015** *44*, 16494-16505.
- Colette F. Quinn, Margaret C. Carpenter, Molly L. Croteau, Dean E. Wilcox, "Isothermal Titration Calorimetry of Metal Ions Binding to Proteins", in *Methods in Enzymology*, Vol. 567, Calorimetry, Andrew L. Feig, editor; Burlington: Academic Press, **2016**, pp. 3-21.
- Haytham Wahba, Lauriane Lecoq, Michael Stevenson, Ahmed Mansour, Laurent Cappadocia, Julien Lafrance-Vanasse, Kevin J. Wilkinson, Jurgen Sygusch, Dean E. Wilcox, and James G. Omichinski, "Characterization of a Copper-binding Mutant of the Organomercurial Lyase MerB: Insight into Metal Binding Specificity and Redirected Protein Function", *Biochemistry*, **2016** *55*, 1070-1081.
- M. C. Carpenter, A. Shami Shah, S. DeSilva, A. Gleaton, A. Su, B. Goundie, M. L. Croteau, M. J. Stevenson, D. E. Wilcox, R. N. Austin, "Calorimetric Studies of Pb(II) and Zn(II) Binding to MT-3, a Neurologically Important Metallothionein", *Metallomics* **2016** *8*, 605-617.
- George P. Lisi, Russell P. Hughes, Dean E. Wilcox, "Coordination Contributions to Protein Stability in Metal-Substituted Carbonic Anhydrase", *Journal of Biological Inorganic Chemistry*, **2016** *21*, 659-667.