

Brief Curriculum Vitae
ROBERT D. YOUNG

Address

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Professional Positions

University Faculty

1. Illinois State University, Normal IL: Assistant Professor of Physics (1967-73); Associate Professor of Physics (1974-77); Professor of Physics, (1978-2000); Professor Emeritus, (2000).
2. Northern Arizona University, Flagstaff, AZ: Adjunct Professor of Physics (2003-present), Visiting Professor (2005-present)

University Administration

1. Illinois State University: Director, College of Arts and Sciences Research Office, 1994-1995; Associate Vice President for Research and Dean of Graduate Studies, 1995-1997; Chair, Department of Physics, 1997-2000, Chair Emeritus (2000).

Additional Academic & Research Experience and Positions:

1. Graduate Faculty, Illinois State University, 1967-2000.
2. Director of Planetarium, Department of Physics, Illinois State University, 1967-70
3. Visiting Research Professor of Biophysics, University of Illinois at Urbana-Champaign, 1982.
4. Adjunct Professor of Physics, University of Illinois at Urbana-Champaign, 1986-2001.
5. Graduate Faculty, University of Illinois at Urbana-Champaign, 1990-2001.
6. Research Affiliate, Los Alamos National Laboratory, Los Alamos NM, 2003-present.

Professional Education

1. Bachelor of Science with Distinction in Physics (1962), Illinois Institute of Technology, Chicago IL
2. Master of Science (1965) and Doctor of Philosophy (1967) in Physics, Purdue University, West Lafayette IN

Publications and Presentations

R.D. Young has published widely in the areas of biological physics as well as computational physics and physics education. He has delivered invited presentations at conferences, laboratories, and universities throughout the USA and 7 foreign countries. The following is a summary of publications and presentations. Full bibliographic citations available upon request.

Professional Articles and Reviews

Thirty nine (39) articles in refereed, scientific journals and books. Journals include the *Physical Review*, *Physical Review Letters*, *Biochemistry*, *Proceedings of the National Academy of Sciences USA*, *Journal of Chemical Physics*, *Biophysical Chemistry*, *Biophysical Journal*, *Journal of Physical Chemistry*, *Chemical Physics*, and other international journals. The following are his ten (10) most recent publications:

1. "Ligand Binding to Heme Proteins II. Transitions in the Heme Pocket of Myoglobin." J.R. Mourant, D.P. Braunstein, Chu, H. Frauenfelder, G.U. Nienhaus, P. Ormos, R.D. Young, Biophysical Journal Vol. 65, 1496 (1993).
2. "Ligand Binding to Heme Proteins III. FTIR Studies of His-E7 and Val-E11 Mutants of Carbonmonoxymyoglobin," D.P. Braunstein, K. Chu, K.D. Egeberg, H. Frauenfelder, J.R. Mourant, G.U. Nienhaus, P. Ormos, S.G. Sligar, B.A. Springer, and R.D. Young, Biophysical Journal 2447 (1993).
3. "Barrier Crossing Phenomena in the Heme Pocket of Myoglobin," H. Frauenfelder, K. Chu, G. U. Nienhaus, and R.D. Young, in The Barrier Crossing Problem, Ed. P. Hanggi and G. Fleming (World Scientific, 1994) pp. 120-142.
4. "Relaxation and disorder in proteins," H. Frauenfelder, G.U. Nienhaus, and R.D. Young, in Disorder Effects on Relaxation Processes, ed. A. Blumen and R. Richert, Springer (1994) 591-614.
5. "Thermal Properties of Proteins and the Random Energy Model," R.D. Young and S.W. Powell, Journal of Chemical Physics Vol. 101, 9919 (1994).
6. "Protein Dynamics," G. U. Nienhaus and R.D. Young, Encyclopedia of Applied Physics, American Institute of Physics Vol. 15, 163-184 (1996).
7. "Ligand Binding to Heme Proteins. VI. Interconversion of Taxonomic Substates in Carbonmonoxymyoglobin," J. Bruce Johnson, Don C. Lamb, Hans Frauenfelder, Joachim D. Mueller, Ben McMahon, G. Ulrich Nienhaus, Robert D. Young, Biophysical Journal Vol. 71, 1563-1573 (1996).
8. "Proteins as paradigms of complex systems," P. W. Fenimore, H. Frauenfelder, R. D. Young, in Fluctuations and Noise in Biological, Biophysical, and Biomedical Systems, S. M. Berukov, H. Frauenfelder, F. Moss, Ed., Proceedings of SPIE, Vol. 5110, 1-3 (2003).
9. "Bulk-solvent and hydration-shell fluctuations, similar to α - and β -fluctuations in glasses, control protein motions and functions," P.W. Fenimore, H. Frauenfelder, B.H. McMahon, and R.D. Young, Proc. Natl. Acad. Sci. USA Vol. 101, 14408 (2004).
10. "Proteins are paradigms of stochastic complexity," P.W. Fenimore, H. Frauenfelder, B.H. McMahon, R.D. Young, Physica A, Vol. 351, 1-13 (2005).

Presentations

Ten (10) invited presentations at international conferences in seven (7) countries. *Fifty seven (57) presentations* at scientific conferences throughout the USA. *Twenty five (25) invited presentations* at universities throughout the USA.

Research Grants and Sponsored Projects

R. D. Young has been awarded *over \$1.8 million for research and sponsored projects* as project director or co-director. Full bibliographic citations available.

1. Research Grants--National Agencies

Four (4) research grants worth \$1.6 million from the *US National Science Foundation, Office of Naval Research, and National Research Council.*

2. Sponsored Projects--National Agencies

Four (4) sponsored projects worth \$180 thousand from the *National Science Foundation.*

3. Research Grants/Sponsored Projects—State Agencies

Three (3) grants/sponsored projects worth \$78 thousand from state agencies.