

## CURRICULUM VITAE

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### **Birthplace:**

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### **Marital Status:**

Married to Dr. Shirley S. Chan  
Dependents: 2 children (Doug and Wayne)

### **Education:**

Hope College, Holland, Michigan, 1968, BA  
University of Illinois, Urbana, Ill, 1970, MS (Physics)  
University of Illinois, Urbana, Ill, 1975, PhD (Physics)

### **Ph.D. Dissertation:**

Experimental Studies of Myoglobin Recombination Kinetics

### **Thesis Advisor:**

Professor Hans Frauenfelder, Dept. of Physics, Univ. of Ill.

### **Research Interests:**

1. Protein Dynamics
2. Energy Transport in Biomolecules
3. DNA-Protein Interactions and Topology
4. Applications of Microlithography to Biology
5. Cell signaling

## Employment:

Postdoctoral, Dept. of Physics, The University of Illinois, Urbana, Illinois  
Postdoctoral at the Max Planck Institute for  
Biophysical Chemistry, Goettingen, West Germany  
1979-1984: Assistant Professor of Physics, Princeton  
University, Princeton, New Jersey  
1984-89: Associate Professor of Physics, Princeton University  
1989- : Professor of Physics, Princeton University

## Honors:

1988: Fellow, American Physical Society  
1987-1990: Governing Board, Biophysics Division, American Physical Society  
1991-1994: Biophysics Divisional Editor, Physical Review Letters  
1991-1994: Councillor at Large, American Physical Society  
1998: Fellow, American Association for the Advancement of Science  
1999: Member, National Academy of Sciences  
2002: Chairman, Division of Biological Physics, American Physical Society  
2003: Chairman elect, U.S. Liaison Committee for the International Union of Pure and Applied Physics

## Publications

1. E. Greenbaum, R.Austin, H.Frauenfelder, I.Gunsalus: **Photoreduction of NADP+ Sensitized by Synthetic Pigment System** (1972) *Proc. Natl. Acad. Sci.* 69, 1273
2. R.H. Austin, K.Beeson, L.Eisenstein, H.Frauenfelder, I.Gunsalus, V.Marshall: **Dynamics of Carbon Monoxide Binding by Heme Proteins** (1973) *Science* 181, 541
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4. R.H. Austin, K.Beeson, L.Eisenstein, H.Frauenfelder, I.Gunsalus, V.Marshall: **Dynamics of Ligand Binding to Myoglobin**, (1975) *Biochemistry* 14, 5355-5373

5. N.Alberding, R.H. Austin, S.Chan, L.Eisenstein, H.Frauenfelder, I.Gunsalus, T.Nordlund: **Tunneling in Ligand Binding to Heme Proteins** (1976) *Science* 192, 1002
6. N.Alberding, R.H. Austin, S.Chan, L.Eisenstein, H.Frauenfelder, I.Gunsalus, T.Nordlund: **Dynamics of Carbon Monoxide Binding to Protoheme** (1976) *J.Chem.Phys.* 65, 4701
7. R.H. Austin, K.Beeson, S.Chan, P.Debrunner, R.Downing, L.Eisenstein, H.Frauenfelder, T.Nordlund: **Transient Recorder with a Logarithmic Time Base** (1976) *Rev. Sci. Instrum.* 47, 445
8. R.H. Austin: **Low Temperature Kinetics as a Probe of Protein Structure and Dynamics** (1977) *Croatica Chemica Acta* 49, 445
9. T. Pederson, I. Gunsalus, R.H. Austin: **Redox Dynamics in a Cytochrome P450-Putidaredoxin Dienzyme Complex** (1976) *Z. Physl. Chem.* 357, 1048
10. T.Pederson, I.Gunsalus, R.H. Austin: **Redox and Ligand Dynamics in Cytochrome P450-Putidaredoxin Complexes** (1976) *Fed. Proc.* 35, 1535
11. R.H. Austin and S.Chan: **The Rate of Entry of Dioxygen and Carbonmonoxide into Myoglobin** (1978) *Biophys. Journal* 24, 175
12. N.Alberding, R.H. Austin, S.Chan, L.Eisenstein, H.Frauenfelder, D.Good, K.Kaufmann, M.Marden, T.M.Nordlund, L.Reinisch, A.Reynolds, L.Sorenson, G.Wagner, K.Yue: **Fast Reactions in Carbon Monoxide Binding to Heme Proteins** (1978) *Biophys. J.* 24, 319
13. W.Vaz, H.Vogel, F.Jaehnic, G.Schoellman, R.H. Austin: **Kinetics of the Incorporation of Cytochrome b5** (1978) *Fed. Eur. Biochem. Soc. Lett.* 87, 269
14. W.Vaz, R.H. Austin, H.Vogel: **The Rotational Motion of Cytochrome b5 on Lipid Vesicles** (1979) *Biophys J.* 24,175
15. R.H. Austin, T.M.Jovin, S.S.Chan: **Rotational Diffusion of Cell Surface Components by Time Resolved Phosphorescence Anisotropy** (1979) *Proc. Natl. Acad. Sci. USA* 76, 5650
16. R.H. Austin, J.J.Hopfield: **Search for a Charge Transfer Band** (1979) *Electron Transport and Utilization* (Elsevier North-Holland)
17. B.Gerstman, J.J.Hopfield, R.H. Austin: **Investigation of Spin Tunneling in Carbon Monoxide Recombination with Hemoglobin** (1981) *Phys. Rev. Lett.* 47,1636
18. N.Alberding, D.Lavalette, R.H. Austin: **Hemerythrin's Oxygen-binding Reaction Studied by Laser Photolysis** (1981) *Proc. Natl. Acad. Sci. USA* 78,2307
19. T.M.Jovin, M.Bartholdi, W.L.C.Vaz, R.H.Austin: **Rotational Diffusion of Biological Macromolecules by Time-Resolved Delayed Luminescence** (1981) *Ann. N.Y. Sci.*, 366, 176
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21. J.Wang, M.Hogan, R.H. Austin: **DNA Motions in the Nucleosome Core Particle**, (1982) *Proc. Natl. Acad. Sci. USA* 79, 5896

22. A.M.F. Chang and R.H. Austin:**Electron Tunneling in Cytochrome C** (1982) *J. Chem. Physics.* 77, 5272
23. R.H. Austin and T.Jovin:**The Rotational Motion of RNA Polymerase Free and Bound to DNA in Nonspecific Complexes**, (1983) *Biochemistry* 22, 3082
24. M.Hogan, R.H. Austin, J.LeGrange: **Base Pair Sequence Affects DNA Rigidity**, (1983) *Nature* 304, 752
25. M. Hogan, J. Wang and R.H. Austin:**Triplet anisotropy decay measurements of DNA internal motion** (1983) *Ciba Found Symp* 93, 226
26. S.S. Chan and R.H. Austin:**Laser Photolysis in Biochemistry**, (1984) *Methods of Biochemical Analysis* 30, 105
27. K.C.Cho and R.H. Austin:**Charge Transfer between Plastocyanin and Iron Hexacyanide** (1984) *J. Chem. Physics* 80, 1131
28. S.A. Payne, R.H. Austin, and D.S. McClure:**Effect of a Magnetic Field on the Luminescence Lifetime of Cu<sup>+</sup> In Alkali Halide Hosts** (1984) *Phys. Rev. B* 29, 32
29. H.K. Nam, R.H. Austin, and G.C. Dismukes:**On The Role Of Fe<sup>2+</sup> in Bacterial Photosynthesis; The Effect of Biosynthetic Substitution Fe<sup>2+</sup> by Mn<sup>2+</sup>**, (1984) *Biochimica Biophysica Acta* 765, 301
30. T.M. Eads, D.D. Thomas and R.H. Austin:**Microsecond Rotational Motions of Eosin-Labeled Myosin Measured by Time Resolved Anisotropy of Absorption and Phosphorescence** (1984) *J. Molec. Biol.* 179, 55
31. R.H. Austin and J.D. LeGrange:**Amplification of Sub- nanosecond Light Pulses by a Synchronously Fired Nd: YAG Laser**, (1985) *Rev. Sci.Instrum.* 56, 630
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33. R.H. Austin, B. Gerstman, A. Chang and D. Rokshar:**Introduction to Tunneling in Biology**, (1985) *Comments on Molecular and Cellular Biophysics* 2, 295
34. W. Cobau, J. LeGrange and R. Austin:**Low Temperature Kinetic Differences between R and T Carp Hemoglobin** (1985) *Biophys. J.* 47, 781
35. B. Berkoff, M. Hogan, J. LeGrange and R.H. Austin:**Dependence of oxygen quenching of intercalated methylene blue triplet lifetime on DNA base-pair composition** (1986) *Biopolymers* 25 (2), 307
36. M.E. Hogan, B. Hayes, N.C. Wang and R.H. Austin:**An Ion Induced Structure Change in Nucleosomes** (1986), *Biochemistry* 25, 5070
37. R.H. Austin, D.L. Stein and J. Wang:**Terbium Luminescence Lifetime Heterogeneity and Protein Conformational Dynamics** (1987) *Proc. Natl. Acad. Sci. USA* 84, 1541
38. Hogan, M.E., Rooney, T.F., and R.H. Austin **Evidence for Kinks in DNA Folding in the Nucleosome** (1987) *Nature* 328, 554
39. Hogan, M.E. and R.H. Austin **The Importance of DNA Stiffness in Protein-DNA Binding Specificity** (1987) *Nature* 329, 263

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56. R.H. Austin (1993) **Complexity in Biomolecules,** in *Lecture Notes Santa Fe Summer Institute, V. 5,* L. Nadel

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