

Clark Thomas Riley, Ph.D.

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Personal Data:

Birthdate: May 21, 1951
Place of Birth: Madison, Indiana
Citizenship: U.S.A.
Security Clearance: Secret (1977)

Education:

- 1967-1969: Associates in Science, The University of Kentucky, Hopkinsville, Kentucky.
- 1969-1972: B.S. Chemistry, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.
- 1972-1973: M.S. Chemistry, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.
- 1977-1983: Ph.D. Chemistry, The University of Chicago, Chicago, Illinois.
- 1983-1984: Postdoctoral Fellow, The Department of Pathology, The University of Chicago, Chicago, Illinois.

Professional Experience:

- May 1973 - July 1977: Line Officer, United States Navy.
- January 1981 - December 1984: Research Associate, Department of Pathology, The University of Chicago, Chicago, Illinois.
- December 1984 - April 2000: Assistant, Department of Molecular Biology and Genetics, The Johns Hopkins University School of Medicine, Baltimore, Maryland.
- January 1990 - April 2000: Senior Associate, Howard Hughes Medical Institute, Director of Biopolymer Laboratory, Baltimore, Maryland.
- April 1992 - present: Sole proprietor of Production Services, document preparation and formatting services specializing in academic texts, journals, scientific illustration and web site management.
- September 2000 - December 2002: Senior Field Engineer, MacHome and Office, providing consultation, installation, and maintenance of a broad range of Apple Computer products, services, and training to the central Maryland region.

Leadership:

- May 1973 - July 1977: Officer in the United States Navy.
- May - July 1973, Surface Warfare Officer School, Newport, Rhode Island.
- July 1973 - July 1974: Gunnery Officer, USS Bagley (FF-1069); Supervised twenty technically rated personnel.
- July 1974 - August 1976: Deck Officer, USS Bagley (FF 1069); supervised thirty-six non-rated personnel and Boatswain's mates.
- August 1976 - July 1977: Assistant to the Ordnance Officer, Naval Weapons Station, Concord, California. Assisted in the administration of the ordnance department, including weapons safety and quality control documentation.

- Security clearance: Secret and occasional temporary higher. Member Personnel Reliability Program aboard USS Bagley. Final rank: Lieutenant, USNR.
- October 1977 - January 1981: Supervised undergraduate and junior research technicians in the maintenance of the laboratory insect colony and instruction in the use of laboratory instruments.
- January 1981 - December 1984: Trained and supervised research technicians performing lipid analysis and protein preparation in the Specialized Center Of Research (SCOR) Core Chemistry Laboratory in the Department of Pathology, the University of Chicago. Responsibilities include budgeting supplies, evaluation and acquisition of analytical instrumentation, procedure development, and assisting and coordinating the design and construction of new laboratory facilities for the research center.
- December 1984 - April 2000: Trained and supervised technicians in the Biopolymer Laboratory of the Howard Hughes Medical Institute at the Johns Hopkins University, Baltimore. Responsible for all aspects of laboratory management, including methods development, quality control, instrument procurement, user training, budget development, programming, consultation with users and interaction with other Hughes Biopolymer facilities. Designed laboratory and coordinated construction of new facilities 1985-1986.
- September 2000 - present: Provide classroom and on-site teaching in the use of Macintosh computers and graphics software including Quark and the entire Adobe suite of products. Trained sales force in the features of these products.

Biotechnology:

- *Instrumentation:* Automated synthesis and sequencing of oligonucleotides and peptides, using the Applied Biosystems 380B and 430A machines. High performance liquid chromatography using a variety of systems including the Hewlett Packard 1090M systems. Have written data acquisition and analysis packages for the Macintosh computer. Apple Technical Coordinator for the Johns Hopkins University School of Medicine.
- *Analytical Chemistry:* Purification and characterization lipoproteins, binding proteins, and pigment proteins. Amino acid analysis and protein sequence determination including selective cleavages, and full use of automated sequence analyzers, gel permeation chromatography, ion-exchange chromatography and high performance liquid chromatography, gas-liquid chromatography, gel electrophoresis, and a broad range of ultracentrifugation techniques. I have used thin-layer chromatography, UV-Visible, infrared, and nuclear magnetic resonance spectroscopy. I have considerable experience in the repair and maintenance of laboratory equipment.
- *Organic chemistry:* Synthesis of spin-labelled protein analogs for binding site studies, amino acid and peptide synthesis, and synthesis of the juvenile hormone. Development of synthetic strategies for automated peptide synthesis. Liquid hydrogen fluoride cleavage and peptide purification.
- *Sterile tissue culture:* Large scale culture of orchid embryos on sterile nutrient media, including media development and preparation, chemical seed sterilization, sterile transfer and shipment of sterile specimens.

Computer:

- I have extensive experience with MS-DOS compatible, Hewlett Packard, and Apple laboratory computers and have written original programs in 68000 Assembly Language, C, BASIC, Pascal, and FORTRAN. I provide formatting services to publishers on a

professional basis. I have extensive experience in networking computers, both Macintosh and DOS/Windows. I was a resource person for the Howard Hughes Medical Institute for integrating Macintosh and DOS computers on their Electronic Requisitioning Module order/entry system. Maintained Gopher site for the Association of Biomolecular Resource Facilities. Developed automated archiving and chargeback network system for the Biopolymer Laboratory. I produce, convert, and manage databases for laboratory, publishing, and mailing using FileMaker.

Publishing:

- Extensive commercial experience providing production services for publishers, including file conversion and formatting, book and multi-lingual journal preparation, graphic work and type design. I have produced over 80 books, journals, monographs, and workbooks.
- Web site setup and management, HTML services, JavaScript, commercial text and audio CD Production. Experienced and facile with Microsoft family of tools, Quark Express, Pagemaker, Photoshop, Illustrator, InDesign, and Adobe Acrobat, including all facets of PDF document production. HTML documents produced in raw HTML for maximum portability and compatibility.

Awards and Certifications:

- 1969 Chemical Rubber Company Award for Excellence in Undergraduate Chemistry, the University of Kentucky, Hopkinsville, Kentucky.
- 1972 Merck Award for Undergraduate Chemistry, the University of North Carolina at Chapel Hill.
- 1972 Graduation with Honors, the University of North Carolina at Chapel Hill.
- 1997 ABRF Excellence Award, The Association of Biomolecular Resource Facilities.
- 2000, 2001, 2002 Apple Product Professional certification.
- 2002 Apple Certified Desktop Technician.
- December 2002 Employee of the Month, New Mac Vision Corporation.

Societies:

- *American Chemical Society*, 1972 - present.
- *Alpha Chi Sigma, chemistry fraternity*, 1972 - present.
- *Association of Biomolecular Resource Facilities*, 1989 - 2000.
- *The Protein Society*, 1991 - 2000.
- *Baltimore Writers' Alliance*, 2000 - present.

Teaching:

- January-May 1976: The United States Navy, Instructor in mathematics in the Navy's shipboard Program of Afloat College Education (PACE). Held California Teaching Certificate for Junior Colleges.
- Spring 1978, 1979: The University of Chicago, lecturer and assistant for Insect Physiology and Biochemistry class, Department of Biology.
- Autumn 1977 - Spring 1978, Winter 1979: The University of Chicago, Teaching assistant in organic chemistry laboratory, Drs. Steven Mazur, Wilbur Urry, Philip Eaton, and John Law, instructors.
- Summer 1980: The University of Chicago, Laboratory instructor in the advanced graduate biochemistry laboratory course, Dr. Ferenc J. Kézdy instructor.
- 1990 - 1995: Speaker/guest teacher in the State of Maryland Science Week program.

- Autumn 1995: Reading tutor and computer consultant for two elementary schools in Baltimore City.
- September 2000 - present: Classroom and on-site trainer for MacHome and Office, teaching computer usage and software skills.

Publications:

- *In-solution Structure Determination Using the Nitroxide Spin-Labelled Dipeptide*. Honors Paper, The University of North Carolina, 1972.
- *Studies in Protein Separation by Polyacrylamide Gel Electrophoresis*. Masters Thesis, The University of North Carolina, 1973.
- *Juvenile Hormone Carrier Protein of Manduca sexta Haemolymph, Improved Purification Procedure; Protein Modification Studies and Sequence of the Amino Terminus of the Protein*. Peterson R. C., Dunn P. E., Seballos H. L., Barbeau B. K., Keim P. S., Riley C. T., Heinrikson R. L., and Law J. H. (1982) *Insect Biochemistry* 12, 643-650.
- *The Primary Structure of Insecticyanin, a Blue Biliprotein from the Hemolymph of the Tobacco Hornworm, Manduca sexta L.* Doctoral Dissertation, The University of Chicago, 1983.
- Hardy Orchids: Horticultural Seed Germination and Commercial Potential. *Proceedings of the MidAmerican Orchid Congress*, Michigan Orchid Society, 1983.
- The Covalent Protein Structure of Insecticyanin, a Blue Biliprotein from the Hemolymph of the Tobacco Hornworm, *Manduca sexta L.* Riley C. T., Heinrikson R. L., Kézdy F. J., Barbeau B. K., Keim P. S. and Law J. H. (1984) *The Journal of Biological Chemistry* **259**, 13159-13165.
- Isolation of Synthetic Oligonucleotides Using Reversed-Phase HPLC. Riley C. T. Paper presented to Division of Analytical Chemistry, the American Chemical Society Meeting in Chicago, 9 September 1985.
- Reversed-Phase Columns for Oligonucleotide Purification. Riley C. T. (1985) *LC*. 3, 948 - 952.
- Isolation and Primary Structure of a Peptide from the Corpora Cardiaca of *Heliothis zea* with Adipokinetic Activity. Jaffe H., Raina A. K., Riley C. T., Fraser B. A., Holman G. M., Wagner R. M., Ridgway R. L., and Hayes D. K. (1986) *Biochemical and Biophysical Research Communications* **135**, 622 - 628.
- Isolation and Primary Structure of a Neuropeptide Hormone from *Heliothis zea* with Hypotrehalosemic and Adipokinetic Activities. Jaffe H., Raina A. K., Riley C. T., Fraser B. A., Bird T. G., Tseng C-M., Zhang Y-S., and Hayes D. K. (1988) *Biochemical and Biophysical Research Communications* **155**, 344-350.
- Identification of a Neuropeptide Hormone That Regulates Sex Pheromone Production in Female Moths. Raina A. K., Jaffe H., Kempe T. G., Kiem P., Blacher R. W., Fales H. M., Riley C. T., Klun J. A., Ridgway R. L., and Hayes D. K. (1989) *Science* **244**, 796-798.
- Primary structure of two neuropeptide hormones with adipokinetic and hypotrehalosemic activity isolated from the corpora cardiaca of horse flies (Diptera). Jaffe H., Raina A. K., Riley C. T., Fraser B. A., Nachman R. J., Vogel V. W., Zhang Y-S., and Hayes D. K. (1989) *Proc. Natl. Acad. Sci.* **86**, 8161-8164.
- Pheromone Biosynthesis-Activating Neuropeptide Hormone of *Heliothis zea*: Isolation and Characterization (1991), Jaffe H., Raina A. K., Wagner R. M., Fales H. M., Kempe T. G., Keim P., Blacher R. W., and Riley C. T. in *Insect Neuropeptides: Chemistry*,

Biology, and Action, Menn J. J., Kelly T. J., and Masler E. P. eds., American Chemical Society, Washington, DC, pp. 215-225.

- *Proceedings of the North American Native Terrestrial Orchid Conference* (1996), Carol Allen, ed., Clark T. Riley, producer, Gaithersburg, MD: NANTOC.
- *Proceedings of the North American Native Terrestrial Orchid Conference, CD Supplement* (1996), Carol Allen, ed., Clark T. Riley, producer, Gaithersburg, MD: NANTOC.
- *Hybridization in the genus Cypripedium*, an update, paper presented at the Paphiopedilum Forum, Washington DC, February 15, 1997.
- Characterization of Protein Kinase A and Protein Kinase C Phosphorylation of the N-Methyl-D-aspartate Receptor NR1 Subunit Using Phosphorylation Site-specific Antibodies, Tingley, W. G., Ehlers, M. D., Kimihiko, K., Doherty, C, Ptak, J. B., Riley, C. T., and Haganir, R. L. (1997) *Journal of Biological Chemistry* **272**, 5157-5166.
- Web site for the *Journal of Indo-European Studies*, <http://jies.org>; *Spirit of This Covenant*, <http://clark.the-rileys.net/spirit>; MacHome and Office, <http://machomeandoffice.com>; Aroid Trading Post, <http://www.aroid.org/trading>; Production Services, <http://drriley.mypcr.com>; InfoMaryland, <http://InfoMaryland.com>.

Other interests:

- Member of Woodbrook Baptist Church, serving as Sunday School teacher, member of various committees, and deacon.
- Member of the American Orchid Society and the Maryland Orchid Society. I have presented original research at regional congresses. I have several presentations which I give nationally on selected orchid topics. The lectures include full slide presentations, handouts, and plant sales.
- Organized fifth biennial Biopolymer Facilities Directors Meeting for Howard Hughes Medical Institute in Chevy Chase, Maryland, December 1995.
- Organized publication of the Proceedings of the North American Native Terrestrial Orchid Conference, U.S. National Arboretum, March 1996.
- Reader in the Reading for Life program between the Johns Hopkins University School of Medicine and the Tench Tilghman Elementary School.
- *Patchwork: A Pioneer's Story* (Novel), in progress, anticipated completion Autumn 2003.