

# Curriculum Vita

**Jack Rhoton**, Professor

Science Education

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## **Professional Preparation**

B.S. - East Tennessee State University, 1966, biology, Johnson City, Tennessee

M.Ed. - University of Virginia, 1969, science education major, Charlottesville, Virginia

M.S. - Old Dominion University, 1974, biology major, Norfolk, Virginia

Ed.D. - University of Tennessee, 1984, science education major, Knoxville, Tennessee

Major Advisor - Dr. A. Paul Wishart, Chairman

## **Professional Membership**

Science Association of Tennessee

Tennessee Environmental Association

Tennessee Academy of Science

Association for the Education of Teachers in Science

National Association of Biology Teachers

National Science Teachers Association

National Science Education Leadership Association

National Association of Science, Technology, Society

Association for Supervision and Curriculum Development

North Carolina Science Teachers Association

School Science and Mathematics Association

Tennessee Conservation League

## **Teaching**

### **Courses Taught:**

Wildlife Conservation

Teaching Science in the Secondary Schools

Nature Study and Elementary School Science  
Special Topics in Science

My special interest is in the teaching and learning of science in the public schools. I have been an active researcher in K-12 science, especially the restructuring of school science in science education as it relates to improving teaching practices in the K-12 science classroom.

## **Employment**

Assistant/Associate/Professor of Science Education - East Tennessee State University, 1987 - present.

Interim Chair, Department of Curriculum and Instruction, East Tennessee State University, Johnson City, TN (1996-1999). Provide leadership for the teaching, research, and service functions of approximately 17 faculty who serve several undergraduate and graduate programs in the College of Education. The department offers undergraduate K-8 and 1-8 interdisciplinary studies (concentrations in Arts and Humanities, Science and Mathematics, and Social Sciences), and several 7-12 programs leading to initial licensure. Graduate programs are offered (M.Ed., elementary teaching and secondary teaching); Masters of Arts in Teaching (MAT, elementary and secondary education); media services (M.Ed., concentrations in instructional technology and instructional media); and reading education and reading and storytelling MA and M.Ed., degrees offer in both concentrations).

Kingsport City School System, Kingsport, Tennessee. Supervisor of Science and Environmental Education, system wide science program. Director of several external funded projects. Primary responsibilities were built around curriculum development, inservice training, staff management, assignments/transfers/work load, school building and equipment, school-community relations, and professional growth. 1974-1987.

Tennessee State Department of Education, Nashville, Tennessee. Career Ladder Evaluator for Principals and Supervisors. Traveled from Mountain City to Memphis and visited more than 200 elementary, middle, and high school programs across the state. 1985-1986.

Kingsport City School System, Kingsport, Tennessee. Dobyns-Bennett High School. Teacher of biology and physical science. 1972-1974.

Chesapeake Public Schools, Chesapeake, Virginia. Deep Creek High School. Teacher of biology and senior science. Served as interim science department chair. Primary responsibilities centered around curriculum development, equipment and supplies, scheduling, professional growth, school wide science fair director. 1969-1972.

Chesapeake Public Schools, Chesapeake, Virginia. Truitt Junior High School. Teacher of science. 1968-1969.

Burke County School System, Morganton, North Carolina. Oak Hill High School. Teacher of biology and physical science. 1966-1967.

## **Awards**

Recipient of the 2005 Distinguished Educator of the Year Award, presented by the Tennessee Science Teachers Association (2005)

Recipient of the National Science Teachers Association Distinguished Service in Science Education Award, 2000

Recipient of the Tennessee Academy of Science Fellow Award, 1998

Recipient of the ETSU Kappa Delta Pi William Fowler Award, 1997

Recipient of the ETSU Distinguished Faculty Award, 1995

Recipient of the Tennessee Science Teachers Association Outstanding Service Award, 1994

Recipient of the National Science Supervisors Association Distinguished Service Award, 1992

Recipient of the Tennessee Academy of Science Distinguished Teacher Award, 1990

National Science Foundation Scholarship, 1969

Member of Kappa Delta Pi Honorary Society

## **Publications last five years (4 books, 2 book chapters, and 9 other articles, making for 15 publications)**

### **Books: (All nationally refereed books)**

Rhoton, J & Shane P. (2005). *Teaching Science in the 21<sup>st</sup> Century* (Eds). Co-published by the National Science Teachers Association and the National Science Education Leadership Association. NSTA Press: Arlington, VA. (Available September 2005)

Rhoton, J & Bowers, P. (2003) *Science Teacher Retention: Mentoring and Renewal*. Co-published by National Science Teachers Associations and the National Science Leadership Association, NSTA Press: Arlington, VA.

Rhoton, J. & Bowers, P. (2001) *Professional Development Planning and Design*. Co-published by National Science Teachers Association and National Science Education Leadership Association, NSTA Press: Arlington, VA.

Rhoton, J. & Bowers, P. (2001). *Professional Development Leadership and the Diverse Learner*. Co-published by the National Science Teachers Association and National Science Education Leadership Association, NSTA Press: Arlington, VA.

### **Other Publications:**

Rhoton J. (2005) Building on going and sustained professional development. In *Teaching Science in the 21<sup>st</sup> Century*, eds. J. Rhoton, and P. Shane, National Science Teachers Association and National Science Education Leadership Association: NSTA Press. **(Nationally refereed chapter)**

Rhoton, J. (2005) *Tennessee Junior Academy of Science Proceedings and Handbook*, ed. Tennessee Academy of Science. **(state non- refereed research article by students)**

Rhoton, J. (2004). Some Thoughts on the No Child Left Behind Act, *NSELA Navigator*, Vol. 41, No. 1. **(Nationally refereed article)**

Rhoton, J. (2004) *Tennessee Junior Academy of Science Proceedings and Handbook*, ed. Tennessee Academy of Science. **(State, non-refereed research articles by students)**

Rhoton, J. (2003). The Third Wave of Science Education Reform, *NSELA Navigator*, Vol. 40, No. 2, Fall 2003. **(Nationally refereed article)**

Rhoton, J. (2003). Who are We and What Do We Do Best, *NSELA Navigator*, Vol. 40, No. 3. **(Nationally refereed article)**

Rhoton, J. (2003) *Tennessee Junior Academy of Science Proceedings and Handbook*, ed. Tennessee Academy of Science. **(State non-refereed research articles by students)**

Rhoton, J. (2002) *Tennessee Junior Academy of Science Proceedings and Handbook*, ed. Tennessee Academy of Science. **(State non-refereed research articles by students)**

Rhoton, J. & Stiles, S.E. (2002). Exploring the Professional Design Process: Bringing an Abstract Framework into Practice. *Science Educator*, 11 (1), 1-8. **(Nationally refereed article)**

Rhoton, J. & etal. (2001). Professional Development: A Major Component in Science Teaching and Learning. *Science Educator*, 8 (1), 1-8. **(Nationally refereed article)**

Rhoton, J. (2001) School Science Reform: An Overview and Implications for the Secondary School Principal. *National Association of Secondary School Principals Bulletin*, 85 (623), 10-23. (**Nationally refereed article**)

Madrazo, G. & Rhoton, J. (2001) The diverse learner. In Rhoton, J. & Bowers, P. (Ed.), *Issues in Professional Development: Science Leadership and the Diverse Learner*. National Science Teachers Association and the National Science Education Leadership Association: Washington, DC. (**Nationally refereed chapter**)

## **Grants Funded (Approximately 2.4 million last five years)**

**Director of numerous projects, totaling approximately 5 million dollars for the improvement of K-12 science in the region's schools. Most recent ones (last five years) are listed below:**

**Talent Expansion in Quantitative Biology. Funding source: National Science Foundation.** I assisted in the writing of this grant and I'm serving as a Co-Pi. Anant Godbole is the PI and is responsible for the development and writing of the grant. Other Co-Pi's include: James Boland, Hugh Miller, and Lev Yampolsky. The broader impact of this project will do the following: create a pipeline to the many careers and graduate programs in computational sciences, informatics, and mathematical biology; aggressively seek to create a new breed of interdisciplinary student from the ground up; and bring this agenda to an underserved population of motivated students (with an unclear career plan) in an EPSCOR state.

**Funded Amount: \$990,000.00**

**Years: 2005-2009**

*Reaching for Excellence in Middle and High School Science Teaching Partnership.* Wrote proposal and serving as project director. This grant will train seventy-five middle and high school science teachers in six school districts in Northeast Tennessee during the 2004-2007 school years. The primary goals of the project are to provide teachers opportunities to learn advanced science content, increase achievement and reduce the achievement gaps in middle and high school science for all 6-12 students in partner schools, and increase the number of middle and high school science teachers participating in content-based professional development and train all middle and high school science teachers in the targeted districts to become "highly qualified" as defined by the state.

**Funded Amount: \$600,000.00**

Years: 2003-2007

*Middle and High School Science Teacher Renewal and Retention in Four Rural School Districts in Northeast Tennessee.* Wrote proposal and serving as project director. Funding source: Tennessee Higher Education Commission. This grant will train twenty middle

and high school science teachers during the summer of 2003. Through the science education leadership institute, teachers will learn advanced science content (changing their command of content and how to use it); learn standards-based instructional strategies, and engage students in standards-based learning that will translate into improved student achievement.

**Funding amount: \$62,882**

Year: 2003

*Enhancing Undergraduate Education in Biological Sciences (A major component of this grant was for science preservice and inservice science education.)* Co-wrote proposal with faculty in Biological Sciences. Funding Source: Howard Hughes Medical Institute. The three-year project will train 60 teachers (2001-2004) on how the science standards can be aligned with biology activities, but a more global purpose it to train teachers on how biology activities can be used in planning inquiry lessons. For example, the workshop will allow teachers to participate in a series of laboratory investigations they can model in their own classrooms.

**Funded amount: \$700,000**

Year: 2001-2004

*Technology in the Science Classroom: Implementing the Vision of the Tennessee Science Standards.* Funding source: Tennessee Higher Education Commission. The project trained twenty middle and high school science teachers on how to more effectively use technology as a scientific tool for data acquisition, modeling, and improved student learning. Participants will work through a series of probes/sensors instruments as part of a computer interface technology system as being exemplary resources for integrating technology into the existing science curriculum.

**Funding amount: \$43,000**

Year: 2000

### **Professional Activities (Past five years)**

#### National Focus

President, National Science Education Leadership Association (2003-2004)

Chairperson, National Science Education Leadership Association (NSELA) Mini-Conference, Atlanta, GA, 2004

Program Chair, National Science Teachers Association Area Conference, Nashville, TN, 2005

Board of Examiners, National Council for Accreditation of Teacher Education (NCATE) (2002-present)

Board Member, National Science Teachers Association (NSTA) 2002-2005

Board Member, National Science Education Leadership Association (NSELA) 2000-2005)

Co-Chair, Association of Educators of Teacher of Science Conference (AETS) Roan Mountain, TN (2004)

Member, National Judging Panel for ExploraVision Award. National Science Teachers Association, Washington, D.C. (March, 2004).

Proposal Reviewer: National Science Foundation (NSF) 2004

Member, Task Force on Conventions, National Science Teachers Association (2003-2005)

Editor, Science Educator Journal (1992-present) This journal is a publication of the National Science Supervisors Association. The journal serves as a forum for presentation and discussion of issues pertaining to science supervision.

Editor, Issues in Science Education Series, National Science Teachers Association, 1996-present.

Member, Board of Directors, Association of Educators for the Teaching of Science, 1999-2000.

Chairperson, Association for the Education of Teachers of Science (AETS) Conference, Kingsport (2000)

## **Presentation Made (14 national presentations past five years)**

### **National**

Rhoton, J. & at al. (2005). Sustaining Professional Development Programs, Paper presented to the National Science Teachers Association, Dallas, TX (April, 2005)

Rhoton, J. (2005). The Role of Partnerships in Science Teaching and Learning. NSELA Mini-Conference, Dallas, TX (March, 2005)

Rhoton, J. , Motz, L., Madrazo, G. & Walton, E. (2004). Professional Development and Leadership—Defining, Developing, and Designing Innovative Science Teaching and

Learning Programs. Paper presented at the NSTA Conference in Atlanta, GA, (April, 2004)

Rhoton, J. & Shane, P. (2004). Teacher Shortage: Fact or Fiction? Paper presented at the NSTA Conference in Atlanta, GA. (April 2004)

Rhoton, J. & Shane, P. (2004). What is NSELA? A Forum for Science Leaders. Presented at the NSELA and NSTA Conference in Atlanta, GA (April 2004)

Rhoton J. & Shane, P. (2003). Retention and Renewal of Science Teachers, paper presented at the NSTA Conference in Philadelphia, PA (March 2003)

Rhoton, J. & Shane, P. (2003). Teacher Shortage: Fact or Fiction? Presented at the NSTA Area Conference in Minneapolis, Minnesota (November, 2003)

Rhoton, J. & Shane, P. (2003). What is NSELA? A Forum for Science Leaders. Paper presented at the NSTA Area Conference in Reno, NV, (December 2003)

Rhoton, J., Motz, L., Madrazo, G. & Walton, E. (2002). Professional Development in Teaching and Learning. Paper presented at the NSTA conference in San Diego, CA. (March 2002)

Rhoton, J. , Motz, L., Madrazo, G. & Walton, E (2002). Professional Development-Defining, Developing, and Designing Innovative Science Teaching and Learning, St. Louis, March.

Rhoton, J. & Bowers, P. (2001) Professional Development for Science Teaching and Learning, Memphis, December.

Rhoton, J. , Loucks-Horsley, S. & Bowers, P. (2000). Professional Development: A Major Component in Science Teaching and Learning. Paper presented at the National Science Teachers Conference. Orlando, Florida. (April 2000).

Rhoton, J. , Motz, L. & Madrazo, G. (2000). Maximizing the impact of professional development programs: A perspective from three science education leaders. Paper presented at the National Science Teachers Conference. Orlando, Florida. (April 2000).

Rhoton, J. & et al. (2000). What does the science supervisor expect us to teach pre-service teachers before they enter the science classroom? AETS Conference, Akron, Ohio. (January, 2000).

## **PRESENTATIONS MADE**

**Local (Approximately 25 local presentations made to school districts and science classrooms during last five years, not all are listed here)**

Rhoton, J. (1987-present). Numerous science workshops and presentations to local school groups and teachers in Northeast Tennessee.

Rhoton, J. (1980-present). Numerous presentations made at the Tennessee Science Teachers Conference.

Rhoton, J. (1980-present) Numerous presentations made at the Tennessee Academy of Science Conference.

Rhoton, J. (1998). Moving the vision of the national science education standards and the state framework into classroom practice. A two-week workshop for middle school teachers in the region's schools (June 8-19, 1998).

Rhoton, Jack (1996). Elementary science unit kits. All day session for Washington County elementary science teachers. Johnson City, TN (October, 1996)

**State Level (Approximately 15 presentations have been made at the state level, not all are listed here (selective examples provided below))**

Rhoton, J. (2004) Involving your students in the Tennessee Junior Academy of Science, TAS meeting, Nashville, TN

Rhoton, J. (2002). Planning for joint meeting between the Tennessee Academy of Science and the Tennessee Science Teachers Association for 2003. Nashville, TN.

Rhoton, J. (2001). How to involve your students in the Tennessee Junior Academy of Science Program, Tennessee Science Teachers Association, Nashville Tennessee.

Rhoton, J. & Prather, P. (2000). University perspectives on reform of undergraduate science and mathematics curriculum and teaching. Tennessee Science Teachers Association (Nashville, TN).

## ***Editorial***

**National Level:** (all within the last five years)

Editorial Board, NSTA publications, meeting the science standards.

Co-Editor, Professional Development for Improved Teaching and Learning. A publication of the National Science Teachers Association and the National Science Education Leadership Association.

Editorial Board, Exciting Plant Activities. (Published by the American Association of Biology Teachers.) Dr. Gerry Madrazo, Editor.

Reviewing manuscripts for: *Journal of Teacher Education*. American Association of Colleges for Teacher Education.

Editor, *The Science Educator*. A National referred publication that is published by the National Science Education Leadership Association.

Past member of the Editorial Review Board, *Journal of College Science Teaching*. National Science Teachers Association.

Have reviewed manuscripts for: *The Science Teacher*, *Science Scope*, *Science and Children*.

**State:**

Editor, *Handbook and Transactions of the Tennessee Junior Academy of Science*. A publication of the Tennessee Academy of Science.

**UNIVERSITY ACTIVITIES (Selective examples past five years)**

Member, Search Committee to find a new Dean for the College of Arts and Sciences (2004)

Member, Search Committee to find a new Chair for the Department of Biological Sciences (2004-2005)

Member, Search Committee to find a new Chair for the Department of Biological Science (2005-2006)

Director, Teacher Education Honors Program (2002- present)

Member, University Honors Council (2005-present) I think this is the name of this committee)

President, Upper East Tennessee Science Fair, Inc. (2000-2005)

Member, College of Education, Recognition Committee, 1996-present).

Member, Advisory Committee for several MAT students (1987-present)

Member, COE, Tenure and Promotion Committee (2000-2004)

Chair, Committee to Develop Tenure and Promotion Guidelines for the Department of Curriculum and Instructions (2002).

Member, Off-campus Student Support Continuous Improvement Committee, 1999-2000).

Member, Dean's Advisory Committee, College of Education,  
(1995-2000).

Member, Screening Committee for MAT Program, (1995 to Present).

Program Coordinator, Master of Education Degree Program, (1995-2000).

Member, Board of Directors, Upper East Tennessee Science Fair. (1991-present).

Member, Executive Committee, Upper East Tennessee Science Fair. (1991-present).