

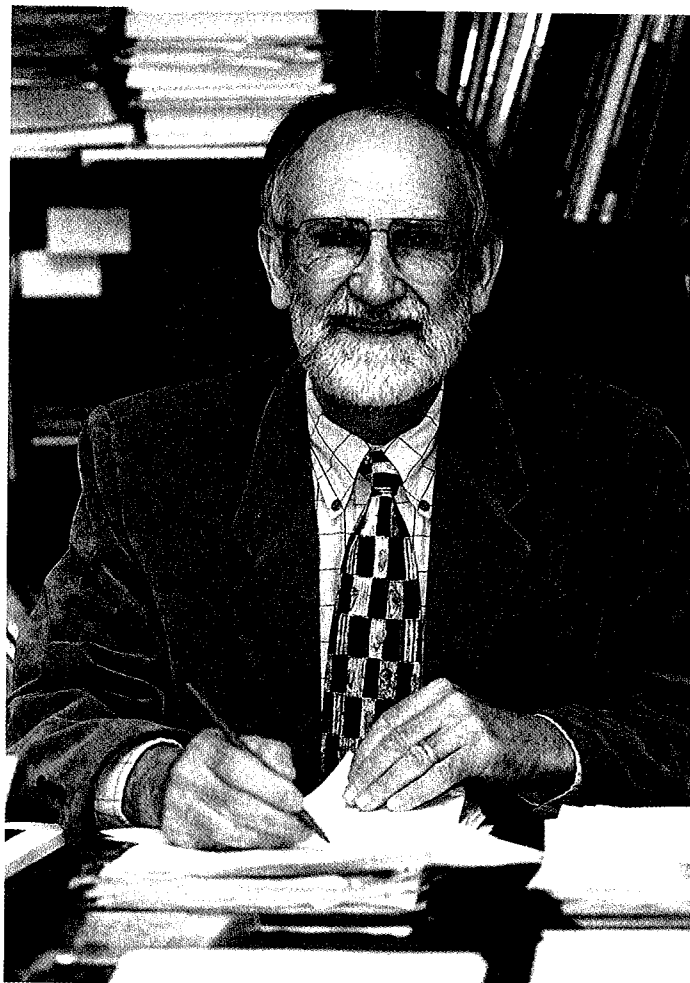
PRESIDENT OF THE TENNESSEE ACADEMY OF SCIENCE FOR 2002

This space is customarily reserved for the Tennessee Academy of Science (TAS) president to provide an autobiographical sketch of his or her professional activities. For those of you who are interested, this account of my professional career can be viewed at my home page (<http://coe.etsu-tn.edu/departments/cuai/rhotonj>). Instead, I would like to take this opportunity to reintroduce the membership to the objectives of the Academy and to briefly outline the numerous activities through which the Academy is attempting to meet these objectives. Also, I will describe my goals as your president for 2002.

Since 1912, the TAS has served as a statewide science organization whose membership includes professors of science, research workers both in educational institutions and industrial establishments, administrators, graduate and undergraduate students, secondary science and mathematics teachers, and others who have an interest in some phase of science. This broad spectrum of support for the Academy is indicative of a strong commitment to provide a learning environment that stimulates the creative abilities of our youth and to aid and improve science education in Tennessee. Therefore, the broad objectives of the Academy are to promote the creation and dissemination of scientific knowledge, and to improve the quality of science education in the state, both at the college and pre-college levels.

The Academy is actively engaged in a variety of activities and efforts in support of the objectives outlined above. For example, this journal (*Journal of the Tennessee Academy of Science*) you are now reading is published quarterly, and it provides an excellent forum for the membership to disseminate their work to a wide audience. An annual meeting, bringing together scholars from a variety of science disciplines, is held in a different location of the state each year. The annual meeting provides a vehicle for sharing and disseminating scientific research. The Collegiate Division meetings are held each spring in the three major grand divisions of the state, at which time undergraduate students share their research with their peers and mentors. Opportunities are made available to secondary teachers to enhance and enrich classroom activities through the Visiting Scientists Program (VSP) and the Networks Scientists website. Identified members of TAS make up the VSP, and they are available to share their expertise with both students and teachers.

Other activities of the academy include the support of regional science fairs in several regions of the state: Memphis, Jackson, Nashville, Chattanooga, and Johnson City. Not only is the Academy working to provide a systematic way of providing science fair judges for these regional fairs, it also awards cash prizes annually to student winners. In addition, many TAS members mentor high school students in science and mathematics research problems. The Academy's Executive Board also maintains an activity committee structure, including Standing committees, which examines and promotes issues that affect science education in Tennessee. The Academy also maintains an active awards program that recognizes individuals who have excelled in their chosen profession. These awards include: Distinguished College/University Scientist Award, Distinguished Industrial Sci-



Dr. Jack Rhoton

entist Award, Distinguished College/University Teacher Award, and the Distinguished Secondary School Science Teacher Award.

Perhaps one of the longest running programs of the Academy is the Tennessee Junior Academy of Science (TJAS). As Director of the TJAS for the past decade, I have seen first hand how this program has positively impacted science education in Tennessee. Begun in 1942 at the George Peabody College in Nashville, the Junior Academy is designed to promote the growth and development of young scientists in Tennessee High Schools by providing an annual program of scientific atmosphere and stimulation for capable students. The overall objectives of TJAS are to promote and encourage an improved science instructional program in Tennessee, and to encourage more original scientific research by secondary students.

Students who participate in TJAS submit their research papers to the Director by March 1 of each year. A panel of readers and judges evaluates each paper based on a predetermined set of criteria. Of the papers received, approximately thirty are selected

and the student authors are invited to present their research to their peers during the annual TJAS meeting. A panel of judges at the annual meeting selects the top seven papers and they are subsequently published in the *Handbook and Proceedings of the Tennessee Junior Academy of Science*. The authors of the top two papers each receive \$500 from TAS while the other student winners each receive \$200. Student winners in TJAS have the opportunity to participate in the American Junior Academy of Science (AJAS). The AJAS program meets annually in conjunction with the National Academy of Sciences. The AJAS offers our students the opportunity to participate in the national arena with their peers and thus be further motivated to travel the road into scientific careers.

The *TJAS Handbook and Proceedings* are sent to all public and private schools in the state in early September. The Handbook describes the previous year's activities, including: instructions for students and teachers participating in the program, information on how to prepare the research paper, annual meeting date and location, how to apply for TJAS student research grants, and top research papers selected by the judges. An abstract is included in the Handbook for all students who presented their research at the annual meeting.

As a science educator, most of my career has been devoted to improving science education at the pre-college level. My special research interest is in the area of professional development and its impact on science teaching and learning. The improvement of student achievement in science education is directly connected to better science teaching. For example, all of the major improvement initiatives call for increasing teacher knowledge and skills because of the link between student achievement and teacher knowledge and skills. Research shows that teacher expertise can account for about 40 percent of the variance on students' learning in science achievement, more than any other single factor, including student background. Since teacher expertise has such a demonstrated impact on student learning, it stands to reason that programs that develop teachers' knowledge and skills are a sound investment in improving student outcomes. Therefore, one of my primary goals as a science educator will be to build a stronger collaboration with local education agencies and funding agencies to provide professional development opportunities for science teachers.

Another goal is to build a stronger linkage between the Academy and the Tennessee Science Teachers Association (TSTA). By creating a richer dialogue with science teachers in Tennessee, the Academy can grow in understanding about the issues and concerns that impact K-12 science education. Each organization can learn from the other, and as an outgrowth of this mutual dialogue, the Academy will perhaps be in a better position to serve the needs of science teachers in Tennessee. A first major step in this partnership is a proposed joint meeting between TAS and TSTA in 2003. Thanks to the efforts of Martin Steward and David Wilson, discussions have already begun to bring this joint meeting to fruition. It also is critically important for TAS to dialogue more openly with the Tennessee State Department of Education. Programs and funding issues influence education and the Academy must be an advocate for programs and funding that positively impact education at all levels.

As each of us looks back on the path we have traveled, one can't help but think of a select few individuals who have made a difference in our lives. For me, they have all been educators. Madge Delaney, my primary teacher at Pattonville Elementary, Pattonville, Virginia, taught me how to read and created in me, at an early age, the excitement of learning. Marie Highfield, a high school English teacher, Rye Cove High School, Clinchport, Virginia, instilled in me a love of reading and was a source of encouragement. The late A. Paul Wishart, Professor of Science Education, University of Tennessee, Knoxville and William Pafford, Professor Emeritus, East Tennessee State University, both were role models for me in my teaching, research, and service activities. There are others who have made a difference in my life, but they are too numerous to mention here.

I have two children, Tammi, who is a theatre and public relations major and now works in Nashville, and Jeremy and his wife Marsha (with granddaughter Mia), who teach English as a Second Language in Mongolia. My wife and best friend is Martha Rhoton, who is employed by the Sullivan County School System as an English teacher.

I am greatly honored to serve as the President of the Academy, and I look forward to working with fellow officers, members of the Executive Committee, members of committees, and all TAS members in promoting the goals of the Academy. Finally, I thank all the TAS past presidents who have served before me. I feel like I am standing on the shoulders of giants.