NEW FELLOWS

M. Leroy Spearman

M. Leroy Spearman, a research scientist at the National Aeronautics and Space Administration Langley Research Center, has contributed to the advancement of scientific research and science education in Virginia and in his discipline throughout his career. Through his research on airfoils, surface flow, and materials and his management of wind tunnel facility projects, he has become a national leader. He has mentored countless graduate students and managed their projects. For several decades. he has enthusiastically and tirelessly served the Academy as Chair and Program Chair of the Academy's Aeronautics and Aerospace Sciences Section.

Leroy Spearman retired from NACA/NASA December 31, 2004 after over 60 years of government service. He earned a B.S. degree in Aeronautical Engineering from Auburn University, 1943, and began his government service at Langley Field, VA in March 1944. At the time of retirement he was an aerospace technologist in the Systems Analysis Branch, Aerospace Systems, Concepts & Analysis Competency at the NASA-Langley Research Center, Hampton, VA where he was involved in assessing advanced vehicles including civil transports, hypersonic vehicles, various types of missiles and new innovations. He is recognized as an authority in the fields of aerodynamics, stability and control, and performance of aircraft, spacecraft and missiles. Leroy has conducted wind tunnel research investigations throughout the subsonic, transonic and supersonic speed ranges.

Leroy began his career in 1944 with NACA at what was then the Langley Memorial Aeronautical Laboratory. He was assigned to the Atmospheric Wind Tunnel where he made some of the first tests of swept wings in the US.

He was transferred to the new 7 x 10-foot tunnels in 1946 where he continued his study of swept wings. He conducted some of the earliest transonic tests in the US using the transonic-bump technique. These tests revealed, for the first time, some of the

aerodynamic phenomena to be encountered in flight at supersonic speeds. These tests included a model of what was to become the first airplane to exceed the speed of sound, the Bell X-1.

In 1948, he was transferred to the new 4 x 4-foot supersonic pressure tunnel where he extended his aerodynamic studies to supersonic speeds. There he was responsible for stability and control studies that had an impact on essentially every supersonic aircraft and missile built in the US. He made the first supersonic tests of the variable sweep wing concept, canard airplane and missile configurations, and some of the earliest tests of supersonic transport concepts.

In 1963, he began to conduct research studies including wind-tunnel tests that were designed to assess the status of foreign technology. Over the years these studies have had a significant effect on the direction taken by some US programs.

In 1974, Spearman was assigned to the High-Speed Research Division Office as Chief Scientist for Military and Foreign Technology. He was reassigned in 1979 to the Aeronautical Systems Division as a Senior Technical Specialist where he participated in the development and assessment of a variety of advanced vehicles.

In addition to his significant contributions to research. Mr. Spearman has participated as a mentor in the New Horizons Regional Education Center program for talented-and-gifted high-school students and in the NASA Langley Virginia Governor's School Program. For several years he has instructed, guided, and encouraged those students who are looking toward a career in engineering. He also promoted interest in math and science as a guest teacher in local schools.

Leroy is a Fellow of the American Institute of Aeronautics and Astronautics. He is a member of the Air Force Association, the Auburn University Alumni Engineering Council and the Virginia Academy of Science. He has been honored by all of these groups and has received a number of NASA awards as well.

Leroy Spearman is credited with authoring over 316 technical publications. He continues to work with NASA as an unpaid Distinguished Research Associate, and continues to author papers for technical societies.

Donald Allen Whitney

Dr. Donald Whitney, a physicist and Dean of the Graduate School at Hampton University, has contributed to the advancement of scientific research, science education, and research and education management in Virginia and in his disciplines throughout his career. For several years he has enthusiastically and tirelessly served the Academy as President and member of Council and as Chair of Local Arrangements for several Academy annual meetings at Hampton University.

Don, Dean of the Graduate College and Associate Professor of Physics at Hampton University. served as 84th President of the Virginia Academy of Science (2006-07). A long time member of the Academy's Astronomy, Mathematics and Physics Section, he has served as the Section's Chair, Secretary and several terms as Editor. His Academy offices include President-Elect. Vice President, Secretary, and Treasurer. Don chaired the Local Arrangements Committees for 80th and 86 Annual Meetings (2000-02 and 2006-08), was Program Chair for the 83rd Annual Meeting at James Madison University (2005), and currently serves on the Finance and Nominations committees.

Don's first of several presentations to the Academy was a paper on solar energy measurements in 1982. Characteristic of much of his career as a science educator, many other papers would be co-authored with student co-investigators. As a scientist and research and academic administrator, Hampton University graduate and undergraduate students would also benefit from $2 million in grants, for which Dr. Whitney was Principal Investigator or Project Director, from the National Science Foundation, Sherman Fairchild Foundation, U.S. Department of Education, National Aeronautic and Space Administration, and Battelle Pacific Northwest Laboratory.

Don's dedication to science education extends as well to middle and secondary students and their teachers through workshops, lectures, and demonstrations for city and county schools and judging science fairs and local science fair projects. For over twenty years, Don has served as a Judge for the Annual Meetings of the Virginia Junior Academy of Science.

Dr. Whitney's research interests are in laser physics, environmental and atmospheric sciences, and low temperature solid state physics. His studies have been published in *American Institute of Physics Proceedings, Bulletin of the American Physical Society, Progress in Solar Energy, Solid State Communications,* and *Physical Review*.

At Hampton University, he has served on more than fifty governance committees, often as chair. Hampton recognized Don's leadership early, naming him the university's first Assistant, and then Associate, Dean. As a consultant, he has contributed to physics education and curriculum design for the U.S. Air Force Academy, University of Dallas,

NASA-Langley Research Center, National Science Technology Society. U.S. Department of Education, and as a reviewer for several textbook publishers. For several years he has worked on physics education standards of the MCAT and NTE for the Educational Testing Service.

Donald Allen Whitney holds a B.S. in Physics from the University of Scranton (1969) and the Ph.D. in Physics from the University of Virginia (1977). He was an NDFA Fellow, Eli Lilly Post-Doctoral Fellow, and an American Society for Engineeriniz Research Fellow. A member of Sigma Xi National Honor Society, Dr. Whitney has been listed in Who *Who in the South and Southwest* and Who s' *Who Among Americas' leachers.*

Susan P. Booth

Susan Booth has contributed to the advancement of science education in Virginia as a teacher and teacher educator throughout her career. For several years she has enthusiastically and tirelessly served the Academy through its Virginia Junior Academy of Science Committee, as Director of the Virginia Junior Academy of Science, and by her work with the American Junior Academy of Science and similar organizations.

Susan P. Booth has been Director of the Virginia Junior Academy of Science since 1999 and Executive Director of the Virginia Association of Science Teachers since 2000. Susan has taught at Kecoughtan High School since 1986, where she was named "Biology Teacher of the Year" and "Teacher of the Year," and at Lee-Davis High School (1984-86) and .I.E.J. Moore High School (1983-84). From 1991-97, she was the Newport News School System's Science Specialist, K-12.

Susan's enduring interest in VJAS includes decades of service on the VAS Junior Academy Committee and later as VJAS Assistant Director. In 1991 she was honored with VMS Science Club Sponsor Award. The breadth and depth of her many contributions to science education has also been recognized in the Outstanding Volunteer Award of the Virginia Association of Science Teachers (1992), the Distinguished Service Award of the Tidewater Science Congress (1994), and the Equity Award of the National Association of Biology Teachers (1996).

A consultant for International Science and Engineering Fairs, Susan Booth has presented papers and conducted teacher workshops for the Tidewater Science Congress, V-Quest (Virginia Department of Education), the Virginia Association of Science Teachers. and NASA Langley Research Center. She has published articles in the *Journal of Virginia Science Education* and *The Daily Press* and has been awarded grants from the Virginia Department of Education, the Virginia Commission for the Arts, and the American Association for the Advancement of Science.

Currently, Susan also serves on the Tidewater Science Congress Advisory Board and the Board of Directors of the Virginia Association for Supervision and Curriculum

Development. She has been a National USA/USSR Educator (1990) and a NASA Project Stars/V-Quest Initiative Teacher/Researcher (1994). In service to her community she was Hampton's Clean City Coordinator and School Pride in Action Coordinator; Susan was honored by the City of Hampton with its Outstanding Volunteer Award (1993).

Susan majored in Biology-General Science at Mary Washington College (B.S., 1983) and earned her M.A. in K-12 Supervision (1992) and Ed.S. in K-12 Administration (1993) from George Washington University. Her Virginia certifications include General Science and Biology, Elementary School Principal, Middle School Principal, and High School Principal.

A member of Phi Delta Kappa National Honor Society, Susan is also a member of the Mathematics/Science Coaltion-Region 2, the Virginia Science Resource Network, the National Association of Biology Teachers, and she is a an Academic Reviewer for the Virginia Department of Education. Susan Booth has been also been named to several editions of *Who Who Among Americas' Teachers.*