Four members honored by the Acoustical Society

LINDSAY

The Acoustical Society of America has presented a distinguished service citation to Robert Bruce Lindsay and three silver medals for 1981. Carleen M. Hutchins received the medal in musical acoustics, Henning E. von Gierke was awarded the medal in noise and Ernest G. Wever was given the medal in psychological and physiological acoustics.

R. Bruce Lindsay was chosen to receive the distinguished service citation, which is awarded in recognition of outstanding service to the Society. He was cited for "his stimulating leadership and for twenty-five years of dedicated service as editor-in-chief of the Journal of the Acoustical Society of America."

After obtaining his master's from Brown University and his PhD from the Massachusetts Institute of Technology, Lindsay joined the faculty at Yale for 13 years. In 1936 he became a professor at Harvard; and during his 35 years there he advanced to become chairman of the physics department, director of the ultrasonics lab and dean of the graduate school. He left Harvard in 1971, and since then he has been professor emeritus at Brown. His research career has included work in acoustics, the filtration of sound, ultrasonic transmission and underwater sound.

Carleen Maley Hutchins became the first winner of the silver medal in musical acoustics for "outstanding contributions and leadership in the development of a new violin family of musical instruments, and for leadership in the acoustical research on bowed string musical instruments."

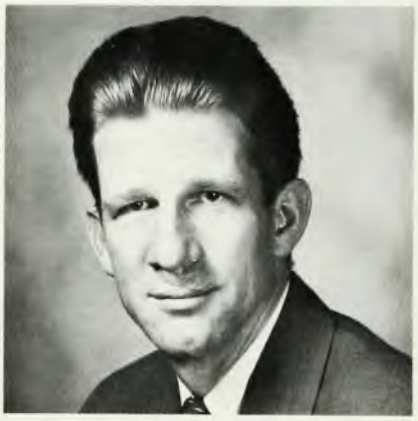
The family of new string instruments that Hutchins designed and constructed maintains the timbre that is characteristic of the violin, while extending the range to lower pitches than those at which the violin can be played. Her research in acoustics has included developing advanced techniques for eliciting and identifying the "tap tones" of violins. These tones are made by tapping the body of the instrument and are used to evaluate the tonal quality of parts of the instrument while it is being assembled in order to improve the finished product.

Early in her career she worked with Frederick Saunders in 1949, then head of Harvard's physics department, in his informal "catgut acoustical society." Now she conducts a research facility as well as classes in violin building. Her interest in acoustical research extends to include the study of ways to inexpensively mass-produce violins of good quality, the use of graphite-epoxy plate materials in violins and guitars, and the application of theory and research methods to stringed instruments. In addition to research, Hutchins has served for years as secretary of the Catgut Acoustical Society, Inc., an international organization with over 750 members that publishes a refereed technical journal in the field.

HUTCHINS

Henning von Gierke was presented with the silver medal for noise "for his contributions to the understanding of the effects of noise and vibration on man, and for national leadership in community noise control." This medal was last awarded by the Society in 1978 to Harvey H. Hubbard.

By offering his expertise as consultant or adviser to numerous agencies



VON GIERKE

(including the Environmental Protection Agency, the Standards Committee on Bioacoustics, the National Institute of Health, the National Aeronautics and Astronautics Administration, and the Office of Science and Technology) von Gierke has served as a leader both in determining the standards for noise and by exploring means to implement them. He served as chairman of more than 15 working groups within the National Research Council's Committee on Hearing Bioacoustics and Biomechanics; one of these groups prepared the "Guidelines for the Preparation of Environmental Impact Statements with Respect to Noise."

Director since 1956 of the Biodynamics and Bioengineering Division of the Aerospace Medical Research Laboratory at Wright-Patterson Air Force Base, von Gierke's research interests include physical, physiological and psychological acoustics, biodynamics, the

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effects of noise and vibration and their impact on man, communication biophysics and bionics. He has contributed to the solution of scientific questions and technical noise problems. These solutions have provided the basis for determining human tolerance levels

WEVER

used to set health and design criteria for aviation, manned space-programs, personnel safety and environmental quality. He holds patents for inventions that include an acoustic siren, an improved hearing protector and a personal noise exposure meter. He has authored or co-authored more than 150 scientific and technical publications that span the range of his research interests, and he has also found time to teach both at Ohio State University and Wright State University.

Ernest Glen Wever, of Princeton University, has been honored with the silver medal in psychological and physiological acoustics "for establishing the field of cochlear electrophysiology and advancing knowledge of middle and inner ear function."

After obtaining his PhD in experimental psychology from Harvard, Wever went to Princeton in 1927, where he remained and is now professor emeritus. The extent of his research contribution is partially represented in print. In 1930, with C. W. Bray, he published a paper describing an effect that proved to be a composite of the cochlear microphonic response and the nerve action potential. This was the beginning of cochlear electrophysiology and led to further research in cochlear microphonics and its use as a tool to investigate auditory phenomena. His publications include the *Theory of Hearing*, a book on his volley theory of hearing; *Physiological Acoustics* with M. Lawrence, which is a systematic treatment of auditory physiol-

ogy; and *The Reptile Ear: Its Structure and Function*, in which he documents the anatomical features of the reptile ear based on his investigations of their microphonic responses.

in brief

Robert Gilmore has left the Institute for Defense Analyses (Arlington, Virginia) to become professor of physics and atmospheric science at Drexel University in Philadelphia.

Srinivasa Venugopalan has joined the faculty of SUNY, Binghampton as associate professor of physics. He was formerly at Purdue and the Raman Research Institute in India.

Jean-Claude Diels, formerly at the Center for Laser Studies at the University of Southern California, has been named professor of physics at North Texas State University (Denton). Rogers W. Redding has been appointed physics department chariman.

Mary Beth Stearns and **Ignatius S. T. Tsong** have joined the physics department at Arizona State University (Tempe) as full professors. **Joseph R. Comfort** has been appointed associate professor.

obituaries

Jan Burgers

J. M. Burgers died last summer at age 86. He was professor emeritus at the Institute for Physical Science and Technology at the University of Maryland at the end of a scientific career that extended over 65 years. He was active in scientific research until a year before his death. His most recent book, *The Nonlinear Diffusion Equation*, was published when he was 79.

Burgers and his brother, the crystallographer W. G. Burgers, were the sons of a self-educated amateur scientist who gave public lectures on physics in Arnhem and assembled a large collection of scientific instruments.

In 1914, Burgers entered the University of Leiden, where he came to know Hendrik Lorentz, Kamerlingh Onnes, Albert Einstein and Niels Bohr, and was part of a group of students of P. T. Ehrenfest that included D. Coster, H. A. Kramers and D. J. Struik. Burgers, the first of Ehrenfest's students in Leiden to complete a PhD thesis (1918), wrote his dissertation on the Rutherford–Bohr model of the atom, completing Ehrenfest's work on the connection between the Bohr–Sommerfeld quantization rules and the adiabatic invariants of classical mechanics.

Before receiving his PhD degree, Burgers accepted an appointment as professor in the Department of Mechanical Engineering and Shipbuilding at the Technical University in Delft. While this appointment brought to the department someone with a firm scientific approach to the foundations of hydrodynamics it offered Burgers the attraction of starting a new line of work. In his characteristically modest account of his early years in Delft for the *Annual Review of Fluid Mechanics* (Vol. 7, 1975), Burgers wrote that one of his reasons for accepting the position in Delft was his fear of "having insufficient phantasy for making fruitful advances in Bohr's theory." While at Delft, Burgers quickly became one of the world's leading authorities on fluid dynamics. His first work was devoted to Oseen's theory of flow at low Reynolds numbers and its connection with Ludwig Prandtl's work on airfoils. In 1921 he met Theodore von Kármán, with whom he had a long and close professional and personal association that stimulated his work on turbulence. In this field he was a pioneer in using the hot wire anemometer to probe velocity fluctuations in turbulent flows. His work on the theory of turbulence was devoted in large part to developing a statistical theory of turbulence and to treating theoretical models of turbulent flow. In this connection he studied what has now become known as the Burgers equation, which is a one-dimensional, nonlinear partial differential equation similar in struc-

BURGERS