

obituaries

To notify the community about a colleague's death, subscribers can visit <http://www.physicstoday.org/obits>, where they can submit obituaries (up to 750 words), comments, and reminiscences. Each month recently posted material will be summarized here, in print. Select online obituaries will later appear in print.

Henry Ellis Bass

Henry Ellis Bass, who is recognized nationally and internationally for his contributions to physics education and his leadership in physical acoustics research, died on 28 May 2008 after a six-month battle with cancer. At the time of his illness, he was the director of the Jamie L. Whitten National Center for Physical Acoustics (NCPA) and a Frederick A. P. Barnard Distinguished Professor at the University of Mississippi (UM).

Hank, as he was known to his friends, was born on 31 August 1943 in Tulsa, Oklahoma, and earned a BS degree in physics from Oklahoma State University in 1965. He also received his PhD from OSU in 1971; his doctoral thesis, "Energy Transfer in Polyatomic Gases," was published under the direction of Thomas Winter.

Douglas Shields attracted Hank to the UM department of physics and astronomy in 1970, where he remained for 37 years. Hank was a leader in physics education throughout his career. With the help of Larry Crum, Lee Bolen, Roy Arnold, and Muntaz Dino, in 1972 he founded the Physical Acoustics Research Group at UM, which later became the NCPA.

Hank made research contributions in the fields of molecular vibrational relaxation processes in multicomponent gases, atmospheric sound absorption, coupling of airborne sound to seismic vibration, propagation of sonic booms and shock waves through the atmosphere, sound propagation through a turbulent atmosphere, and sound propagation over porous ground. The molecular relaxation research led to theo-

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Henry Ellis Bass

ries and algorithms that are the standard procedure for calculation of the absorption of sound and noise by the atmosphere. Hank's work in the vibrational response of the ground-to-airborne sound led to the development of an acoustic technique for locating buried land mines. Hank was driven to work on practical applications of his research. Using the knowledge learned from the atmospheric sound absorption research, he developed the Tornado Alert System, which warns of tornadoes by analyzing their time-dependent acoustic frequency spectrum.

The research group's faculty members provided a focus that resulted in one of the largest physical acoustics graduate student groups in any physics department, and many of the students have had successful careers in the field. Hank and his wife, Cathy, were away-from-home parents for a number of graduate students, and many of them considered him a mentor. Hank organized Friday afternoon happy-hour events at which students developed professional relationships that led to their active membership in the Acoustical Society of America. Some former students, including Anthony Atchley, Ronald Roy, and Michael White, now hold leadership positions with ASA.

Recently posted death notices at <http://www.physicstoday.org/obits>:

Allen Wayne Bowers
28 July 1920 – 25 August 2008
Stefan Machlup
9 August 1928 – 22 August 2008
Philip Geoffrey Saffman
19 March 1931 – 17 August 2008
Harvey Willard
1 July 1927 – 16 August 2008
Henri Cartan
8 July 1904 – 13 August 2008
C. Lester Hogan
8 February 1920 – 12 August 2008
Edmond M. Reeves
1934 – 8 August 2008
Robert N. Beck
1928 – 6 August 2008
Geoffrey Ballard
16 October 1932 – 2 August 2008
Mortimer Rogoff
1921 – 1 August 2008
William Lord
22 March 1919 – 28 July 2008
Yurii Viktorovich Gorelinskii
13 December 1939 – 27 July 2008
Carolyn Kimme-Smith
1934 – 23 July 2008
Albert Joseph Froelich
22 March 1940 – 22 July 2008
Nicol Peacock
7 February 1931 – 19 July 2008
John Thornes
27 December 1940 – 17 July 2008
Yoji Totsuka
6 March 1942 – 10 July 2008
J. Murdoch Ritchie
10 June 1925 – 9 July 2008
Louis Hodes
1934 – 30 June 2008
Andrew Lang
9 September 1924 – 30 June 2008
Fritz Koerner
3 July 1932 – 26 May 2008
William Douglas Allen
27 July 1914 – 7 May 2008
George Anthony Victor
15 November 1936 – 4 March 2008
Earle Cabell Fowler
10 June 1921 – 1 March 2008

Hank worked tirelessly to add research facilities for the NCPA, which were realized in 1986. While serving as the acting chair of UM's department of physics and astronomy from 1992 to 1997, he helped the university win an NSF grant to build needed laboratory space. The new facilities were constructed as the number of graduate students peaked.

Letters and opinions are encouraged and should be sent by e-mail to ptletters@aip.org (using your surname as "Subject"), or by standard mail to Letters, PHYSICS TODAY, American Center for Physics, One Physics Ellipse, College Park, MD 20740-3842. Please include your name, affiliation, mailing address, e-mail address, and daytime phone number on your attachment or letter. You can also contact us online at <http://www.physicstoday.org/pt/contactus.jsp>. We reserve the right to edit submissions.

A founding member of the North Atlantic Treaty Organization's Research Study Group (RSG-11) on outdoor sound—he was a member from 1980 until his death—Hank helped organize international acoustic propagation field trials. Significant progress in battlefield acoustic technologies for sniper and mortar detection, progress that resulted from RSG-11's research in outdoor sound propagation, has greatly aided the US military. Together with Keith Attenborough of the UK's Open University, Gilles Daigle at the National Research Council in Canada, and others, Hank organized UM's biennial Symposium on Outdoor Sound Propagation from 1981 to 2006.

In 1994, with Office of Naval Research sponsorship, Hank worked with Atchley and Logan Hargrove to create the Physical Acoustics Summer School for graduate students and teaching faculty. Hank was the director from 1994 to 2008. More than 250 students have completed the biennial summer school, which addresses hot topics in physical acoustics.

In 1996 Hank assumed the task of building and managing infrasound stations for the Comprehensive Nuclear

Test Ban Treaty. He was a strong advocate for the inclusion of infrasound sensors in the CTBT Organization's International Monitoring System. That global network of stations led to a renaissance in infrasound research and applications. Stations built to monitor clandestine nuclear tests also record other planned and accidental explosions, which have included mining operations and the *Columbia* space shuttle disaster. The renewed interest in infrasonic monitoring is also leading to enhanced life-saving capabilities, such as early notification of volcanic eruptions to warn airline pilots of potential ash plumes and new research in hurricane and tornado warning and tracking.

For his early research on the effects of molecular relaxation in gases, Hank received ASA's Biennial Award in 1978. That research led to the 1995 publication of the standard ANSI S1.26 for the calculation of the absorption of sound by the atmosphere. In 2006 Hank was awarded ASA's Silver Medal for leadership in physical acoustics and contributions to understanding atmospheric sound propagation.

Whether it was mentoring students doing graduate research or assembling

collaborative teams of academic, industry, and government scientists to focus on outdoor sound propagation or infrasound research, Hank was always able to develop close working relationships. His warm, welcome guidance and leadership will be sorely missed.

James M. Sabatier
*Jamie L. Whitten National Center
 for Physical Acoustics
 University, Mississippi* ■

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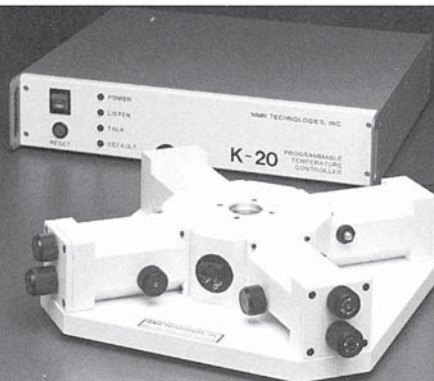
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