

# Gold Medal



James F. Lynch

2021

The Gold Medal is presented in the spring to a member of the Society, without age limitation, for contributions to acoustics. The first Gold Medal was presented in 1954 on the occasion of the Society's Twenty-Fifth Anniversary Celebration and biennially until 1981. It is now an annual award.

## PREVIOUS RECIPIENTS

Wallace Waterfall	1954	David M. Green	1994
Floyd A. Firestone	1955	Kenneth N. Stevens	1995
Harvey Fletcher	1957	Ira Dyer	1996
Edward C. Wentz	1959	K. Uno Ingard	1997
Georg von Békésy	1961	Floyd Dunn	1998
R. Bruce Lindsay	1963	Henning E. von Gierke	1999
Hallowell Davis	1965	Murray Strasberg	2000
Vern O. Knudsen	1967	Herman Medwin	2001
Frederick V. Hunt	1969	Robert E. Apfel	2002
Warren P. Mason	1971	Tony F. W. Embleton	2002
Philip M. Morse	1973	Richard H. Lyon	2003
Leo L. Beranek	1975	Chester M. McKinney	2004
Raymond W. B. Stephens	1977	Allan D. Pierce	2005
Richard H. Bolt	1979	James E. West	2006
Harry F. Olson	1981	Katherine S. Harris	2007
Isadore Rudnick	1982	Patricia K. Kuhl	2008
Martin Greenspan	1983	Thomas D. Rossing	2009
Robert T. Beyer	1984	Jiri Tichy	2010
Laurence Batchelder	1985	Eric E. Ungar	2011
James L. Flanagan	1986	William A. Kuperman	2012
Cyril M. Harris	1987	Lawrence A. Crum	2013
Arthur H. Benade	1988	Brian C. J. Moore	2014
Richard K. Cook	1988	Gerhard M. Sessler	2015
Lothar W. Cremer	1989	Whitlow W. L. Au	2016
Eugen J. Skudrzyk	1990	William M. Hartmann	2017
Manfred R. Schroeder	1991	William A. Yost	2018
Ira J. Hirsh	1992	William J. Cavanaugh	2019
David T. Blackstock	1993	Judy R. Dubno	2020



## CITATION FOR JAMES F. LYNCH

*...for contributions to shallow ocean dynamics and acoustics, geo-acoustics and inversion, and for service to the society and its publications*

### ACOUSTICS IN FOCUS • 4 JUNE 2021

One of the prime contributors to James F. Lynch's successful career in ocean acoustics is his effective collaborative style. Jim's playfully curious approach and his cheerful manner are a combination that inspires his teams to work in the most effective, convivial, and creative ways.

The easygoing Lynch style is an outgrowth of what Jim describes as a blue-collar, Irish immigrant upbringing in New Jersey. Jim's grandfathers (a longshoreman/union leader and a small chemical/detergent business owner), and his father (a Purple Heart WWII vet) had major influences on him, not only through their worldliness, but also through their activities, which included voracious reading, science, and the ocean. After the war, Jim's father and uncle established a marine and industrial electrical shop, which was successful enough to send Jim to Catholic schools and later to college at the Stevens Institute of Technology.

At Stevens Jim started out as an Electrical Engineering major, as his father wanted him to join the family business. But his true interest was in Physics, and after convincing his father that a Physics degree actually held some practical value, he began a lifelong study of the subject, especially in the areas of nuclear physics, elementary particles, astrophysics, and fluid mechanics. Physics graduate school also amplified another great quality of Jim's: humor. Jim's PhD advisor at the University of Texas (UT) at Austin, Rory Coker, is also a proficient magician and caricature artist with a great sense of satire.

It is often the case that our field chooses us, and not the other way around. When a grant funding Jim's last year of graduate school was cancelled at the last minute, Jim found an interesting acoustics assistantship opportunity at the UT Applied Research Labs (ARLUT) where, with a few changes in variables, he found numerous parallels with nuclear physics. With great mentors like Paul Vidmar, Ken Hawker, and Chester McKinney, Jim was quickly making interesting contributions to ocean acoustics.

After four years at ARLUT, Jim and his wife Chris (also from New Jersey) decided they would like to return to the Northeast. So, when Chris found a job ad in *Physics Today* with a "cute sailboat," Jim submitted his resume to WHOI. He interviewed in December of 1981 and, after a lively interview, he was offered the job - it was a perfect match.

At WHOI, Jim led thirty-six scientific cruises across the globe, supervised eight MS's, ten PhD's and two postdocs, and documented his work in over 140 refereed publications, 79 conference proceedings, and one textbook. The body of work is broad and deep: ocean acoustics, acoustical oceanography and inversion, geology, physical oceanography and climate science, biological oceanography and marine mammals, and instrument development. Jim insists that this was all made possible by an amazingly talented crew of WHOI co-workers, the ships and their crews, and numerous great collaborators.

In his early WHOI days, Jim worked closely with George Frisk on shallow water acoustics, including geoacoustic inversion. In parallel, Jim became interested in the acoustic measurement of sediment transport and bottom bedforms. Along with his WHOI co-workers, Jim extended the capabilities of existing backscatter and sector scanning sonars to observe the continental shelf seafloor and its bottom boundary layer.

Noting Jim's skills at using acoustic instrumentation, in wave propagation physics and in inversion, department chair Bob Spindel enlisted Jim into his efforts in Ocean Acoustic Tomography. With colleagues Ching-Sang Chiu and Jim Miller, Jim performed a novel surface wave tomography experiment in the Monterey Bay, and then worked with them again at the Barents Sea Polar Front, using acoustics to monitor frontal meanders and internal waves. Perhaps the largest effort during that time was the six-mooring 1988-89 Greenland Sea Tomography Experiment, co-led with Peter Worcester, looking at deep convection and gyre thermal evolution. In the early 90's, Jim was tapped by ONR to lead a new major research thrust in littoral/shallow water acoustics. Given Jim's propensity towards collaboration and interdisciplinary work, in experiment after experiment, Jim assembled talented and motivated national and international teams of acousticians, physical oceanographers,

geologists and marine biologists. Topics treated in this work include acoustical impacts of physical oceanographic processes such as nonlinear and linear internal waves, shelfbreak fronts, shelf eddies, filaments and spice. Similar advances were made in the geological and biological areas, including geoacoustic inversion and marine mammal acoustics. This body of work was so extensive that Jim was awarded the 2009 Walter Munk Medal by the Oceanography Society for his contributions to shallow water acoustics and acoustical oceanography.

While Jim's interdisciplinary work has led him to be associated with many scholarly societies, there is no doubt that the Acoustical Society of America (ASA) is his home and his impacts on the ASA have been enormous. Jim has served on or led over a dozen ASA committees, has been technical chair for two meetings, has been TPOM representative for ten meetings, and has organized over twenty-five special sessions. Most important are Jim's impacts on ASA's publications, especially in his role as Editor-in-Chief (EIC) since 2014. Jim came to ASA after having served as the chief editor (1999-2004) for a good competitor journal, the IEEE Journal of Oceanic Engineering. From 2006 to 2014, Jim worked on growing the newly-established JASA-EL, and he was instrumental in sorting out a number of ASA publication policies. So, in 2014 when the then EIC Allan Pierce stepped down, Jim was the logical replacement. He has served with distinction in a role that goes back to Wallace Waterfall, Bruce Lindsay, and Dan Martin.

A key achievement under Jim's leadership was helping ASA's publishing operation to adjust to change and become more competitive. He has successfully modernized the procedural and business models of the Journal, which has greatly boosted its impact. He re-invigorated special content/issues, initiated Editorial Picks highlighting important papers, co-started the "coordinating editor" position to expedite handling diverse content, and nearly halved the time from submission to first decision. In the course of this process, he has hired and manages what he describes as a "totally world class" Publications Office group and team of Editors and Associate Editors.

The core activities of the ASA rely on meetings and publications, and Jim Lynch has made significant contributions to both. Congratulations to Jim on a richly deserved ASA gold medal and an exceptional career in acoustics. As they might say in New Jersey: Way da go, Exit 12 Guy.

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JAMES H. MILLER  
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