



George Elias Ioup, a physicist and a Fellow of the Acoustical Society of America, passed away on January 20, 2016, in his New Orleans home after a two-year fight with cancer. George was born on March 26, 1939. In 1962, he received an SB degree in physics from the Massachusetts Institute of Technology and in 1968 a doctorate in physics from

the University of Florida. His dissertation research advanced our understanding of low-energy atomic and molecular collisions through semiclassical elastic-scattering calculations and deconvolution of data. In 1969, George joined the physics faculty of the University of New Orleans (UNO) where he remained for 48 years.

By the early 1980s, the development of deconvolution techniques for acoustic and electromagnetic signals was a dominant topic of George's research endeavors. The methods of inverse problem solution are important in many research fields and George's expertise brought him many fruitful collaborations in acoustics, seismology, and radar observations. At the beginning of the millennium, George saw new research opportunities for the Gulf of Mexico state universities and a critical need for understanding the anthropogenic impact on the Gulf ecosystem. In 2001, George and his life-long colleague and friend, Dr. Grayson Rayborn, founded the Littoral Acoustic Demonstration Center (LADC), with objectives to study the evolution of acoustic soundscapes in the Gulf and its impact on the environment utilizing passive acoustic monitoring. As the first data-processing results came to light, the group realized that collected acoustic recordings were rich not only in anthropogenic noise but also in marine mammal phonations. George was among the first scientists who wanted to tackle a very complex problem of identifying individual whales from their phonations. He

worked tirelessly on this challenge and inspired many colleagues to follow. His group has made considerable progress in this direction. And if one day we have an acoustic library of individual whales, we shall always remember that George was the first to be convinced that this problem can be solved. George was actively working as a Co-PI on the 2015-2017 project sponsored by the Gulf of Mexico Research Initiative to study the long-term effects of the spill on deep-diving marine mammals using passive acoustics (www.ladcgemm.org).

One of the most important contributions a scientist can make is helping to create future generations of scientists. His guidance went beyond effectively teaching foundational courses and thoughtfully directing research projects. His mentorship guided many successfully through those important years of transition from student to scientist. His legacy of scientific integrity and professionalism as both a teacher and a researcher continues through the scientists he fostered. We will remember George not only as a great scholar but also as the kindest, most tolerant, and caring human being we came across during our life journey.

Selected Articles by George E. Ioup

- Ackleh, A. S., Ioup, G. E., Ioup, J. W., Ma, B., Newcomb, J. J., Pal, N., Sidorovskaia, N. A., and Tiemann, C. O. (2012). Assessing the Deepwater Horizon oil spill impact on marine mammal population through acoustics: Endangered sperm whales. *The Journal of the Acoustical Society of America* 131, 2306-2314.
- Ioup, G. E. (1982). An introduction to deconvolution. *The Louisiana Physics Teacher* 7, 1518.
- Tashmukhambetov, A. M., Ioup, G. E., Ioup, J. W., Sidorovskaia, N., and Newcomb, J. J. (2008). Three-dimensional seismic array characterization study: Experiment and modeling. *The Journal of the Acoustical Society of America* 123, 4094-4108.
- Tiemann, C. O., Jaffe, J. S., Roberts, P. L. D., Sidorovskaia, N. A., Ioup, G. E., Ioup, J. W., Ekimov, A., and Lehman, S. K. (2011). Signal and image processing techniques as applied to animal bioacoustics problems. *Acoustics Today* 7(3), 35-43.

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