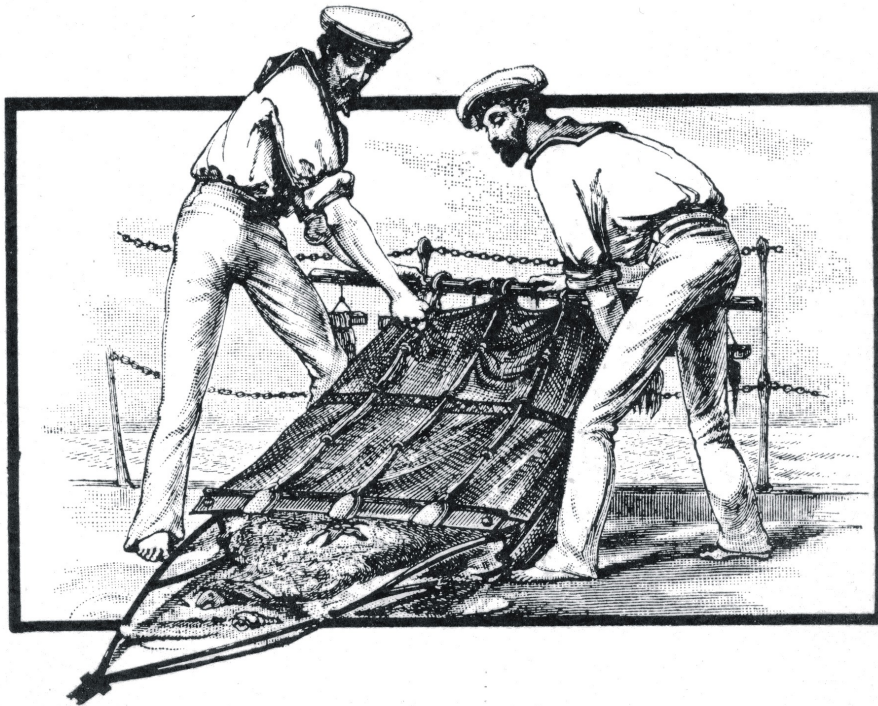


# International Marine Minerals Society



## MOORE MEDAL 2007 CITATION

The International Marine Minerals Society (IMMS) would like to present Professor Alexander Malahoff, Ph.D., D.Sc. with *The Moore Medal*\*, which is given in the name of Professor J. Robert (Robby) Moore for distinction in the development of marine minerals. Professor Moore conducted marine minerals research at Cardiff University in Wales, Great Britain and the Universities of Harvard, Wisconsin, Alaska, and Texas in the United States. He was committed to the intelligent integration of government, industry, and academia to address the development of marine minerals.

Robby founded the Underwater Mining Institute and IMMS, and he committed his research and many other considerable personal efforts to the multidisciplinary development of marine minerals. *The Moore Medal* is not awarded on any regular basis, but is reserved for those rare occasions when the career of an eminent figure in marine mining and minerals activities warrants such an honor.

*\*Robert W. Cooke earns a living designing and making monumental sculptures for many customers, mostly in the Northwest. Before becoming a full time artist, Bob was the Exploration Manager for the International Nickel deep seabed mining consortium. He attended many UMIs and became a good friend of the Institute and many of its participants. He designed and made the Moore medal when IMMS decided to initiate the award.*

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## *Alexander Malahoff*

Alexander Malahoff was born in Russia and immigrated to New Zealand at a young age. He majored in geophysics and completed a Master's degree at Victoria University in Wellington, New Zealand and was employed by that country's legendary Department of Scientific and Industrial Research where he was quickly recognized as one of their leading geophysicists. In the 1960's, he decided to pursue more advanced studies with George Woollard at the University of Wisconsin. When Dr. Woollard left Wisconsin to become the first Director of the newly created Hawaii Institute of Geophysics, Alex joined him there to run airborne magnetics throughout much of the South Pacific and to continue his studies. He built his own gravity meter and in 1965 was the first person to be awarded a Ph.D. from the new Institute. He was appointed to a Professorship and began his prominent career in geophysical research. Alex's early work in Hawaii did much to clarify the science of Plate Tectonics in the Pacific.

In 1976, Alex joined the National Oceanic and Atmospheric Administration (NOAA) as Chief Scientist of the National Ocean Service. He was one of the youngest members of the U.S. government's Senior Executive Service, and during his tenure he instituted a series of significant and innovative programs including the development of multi-beam bathymetric mapping systems for NOAA's survey fleet. These advances enabled large areas of the ocean bottom to be surveyed at one time. In 1981, he was awarded the Meritorious Service Award from the U.S. Department of Commerce for the development of the first U.S. multibeam, narrow beam, shipboard ocean floor mapping system on a NOAA vessel.

Later, Alex participated in several of the early expeditions investigating hydrothermal vents including diving with the submersible Alvin on the Galapagos vent fields. His published numbers on the potential metal content of the sulfide mounds in the vent field on the Galapagos Ridge were among the first to bring these extraordinary deposits to the attention of the marine mining community. He was also one of the early pioneers in recognizing the relationship between these active vent fields and extensive deposits of metalliferous sulfides mined on land.

In 1984, Alex returned to the University of Hawaii as a Professor of Oceanography and Director of the Hawaii Undersea Research Laboratory (HURL). He transformed HURL from a small coastal diving operation to a full-scale deepwater submersible program with the acquisition of the *Pisces IV* and *Pisces V*, three-person, 2000m depth capable submersibles. For a support and launch platform for the submersibles Alex redesigned and had re-constructed a 10,000 mile range oil industry deepwater seismic vessel with the proud Hawaiian name *Ka Imikai O Kanaloa* (The Heavenly Searcher of the Seas). He also integrated a Remotely Operated Vehicle (ROV) and a SeaBeam mapping system to provide a seamless mapping, reconnaissance, and precision diving capability. This efficient system proved eminently successful in HURL's five-month expedition in 2005 to the Kermadec Volcanic Arc north of New Zealand, where a dozen major seafloor volcanoes were explored for the first time.

Over the last two decades and through Directorship of the Marine Bioproducts Engineering Center (MarBEC), at the University of Hawai'i, a position held in addition to his other duties, Dr. Malahoff has integrated the growing capabilities of seafloor microbiology and DNA analysis in hydrothermal vents through characterization of active vents at Lō'ihi Seamount. Lō'ihi, an active submarine volcano at 900 m depth and rising, portends to be the next emerging island in the Hawaiian Island Chain. His exploits in the active crater of the seamount during research dives in the submersibles are worthy of note and are recorded in some remarkable videos filmed by him during these activities. In addition to his scientific activities, Alex has taken a strong interest in the affairs of the University and its faculty. He has been president of the UH Professional Assembly, and president of the UH Faculty Senate as well as other professional appointments of note. He was named among the Distinguished Alumni of the University of Hawai'i in 1993 and is a Fellow of the Marine Technology Society and the Geological Society of America.

On extended leave from the University of Hawai'i, Alex became, in 2002, Chief Executive Officer of the Institute of Geological and Nuclear Sciences, New Zealand's leading earth science research organization now known as GNS Science. Over a period of five years, Alex acquired a new campus for this organization and transformed GNS from a regional to a global player. Amongst his other honors, Alex was awarded a D.Sc.(Hon.) from Victoria University of Wellington and in 2007 was awarded a Gold Medal as an "Absolutely Creatively Wellington (NZ) Ambassador".

Dr. Alexander Malahoff has made significant contributions to the field of marine minerals research, that are acknowledged by his peers throughout the world, and he has pioneered the application of many new technologies. He is a gifted teacher and researcher and a most personable human being, always ready to help and to support his colleagues and students. He is probably the single most prolific contributor of new research information to the annals of the Underwater Mining Institute, and is a most deserving recipient of the Moore medal. He epitomizes the focus of the Institute. As Robbie used to say, "You heard it first at the UMI".

*Congratulations Alex!*

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Akira Usui, President

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Charles L. Morgan, UMI Chair

