



WILLIAM T. PECORA AWARD

Optical Oceanography Laboratory

For groundbreaking advancements in remote sensing technology to improve the understanding of changing aquatic ecosystems, and strong commitment to translating findings into tangible benefits for society.

The Optical Oceanography Lab (OOL) at the University of South Florida has been at the forefront of groundbreaking advancements in remote sensing technology, education, and community service. Under the leadership of Dr. Chuanmin Hu, OOL pioneered innovative remote sensing methodologies to investigate phenomena such as algal blooms, oil spills, and coastal ecosystem dynamics, and effectively translated this research into meaningful applications that support decision makers, mitigate disasters, educate future professionals, and provide services to the public. Through the diligent efforts of its members, OOL developed cutting-edge algorithms and ocean color indices that supported coastal communities and helped improve resilience. Perhaps its most significant contribution to science and the public was the discovery of the Great Atlantic Sargassum Belt—extensive mats of brown seaweed that extend from the west coast of Africa to the Gulf of Mexico that pose detrimental impacts on coastal ecosystems and communities. The Sargassum Belt, which annually impacts over 30 countries, was selected by “Discover” magazine as one of the top 50 discoveries in 2019. The OOL turned the discovery into applications to serve the public, developing the open access Sargassum Watch System, which provides updated satellite images with monthly bulletins distributed to user groups on an interactive platform to track Sargassum in support of mitigation efforts.

The OOL research regularly garners widespread recognition within the scientific community. Its pioneering work using optical remote sensing to understand the changing ocean has resulted in the widespread adoption of its products for science and monitoring efforts worldwide and thousands of citations of its published results in many scientific journals. Its novel algorithm for estimating chlorophyll-a concentrations in the open ocean has revolutionized the ability to monitor phytoplankton dynamics in response to climate change, and its work focused on nearshore waters has resulted in remote sensing methods and data products to detect oil spills and harmful algal blooms that are regularly used by coastal managers to monitor changes in water quality. The OOL has repeatedly demonstrated a strong commitment to develop tangible benefits for society, providing crucial and timely data and tools for stakeholders ranging from governmental agencies to coastal managers and the public. Additionally, its efforts in education and outreach, including media engagement and hosting international scientific meetings, further underscore its dedication to advancing knowledge and fostering collaboration.

In recognition of these remarkable achievements in remote sensing research and scientific advancement within the field of Earth sciences, the Department of the Interior and the National Aeronautics and Space Administration present the 2024 William T. Pecora Group Award to the Optical Oceanography Lab.

Secretary
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Space Administration