



# The Jerlov Award

PRESENTED TO DR. J. RONALD V. ZANEVELD

October 11, 2006, at the Ocean Optics XVII  
Conference, Montréal, Canada

## Introductory Remarks by Tommy Dickey, University of California, Santa Barbara, CA, USA

It is a great pleasure to have led the nomination of Dr. Ron Zaneveld for this year's Jerlov Award. Before reviewing some of Ron's many accomplishments, I want to thank several people who contributed to the nomination. These include previous Jerlov Award winners Andre Morel, Ray Smith, and Howard Gordon along with Ken Voss and Alice Alldredge. Also, Mike Twardowski organized a wonderful set of support letters from Ron's former students and postdocs.

I will try to be brief in my remarks tonight as Ron's accomplishments are so well known and I am sure we all anxiously await Ron's acceptance speech.

Ron completed his B.S. degree in physics at Old Dominion University and his M.S. degree also in physics at MIT. He received his Ph.D. in oceanography from Oregon State University where he progressed to his present status as Emeritus Professor.

Ron is quite unique as he has been able to conduct equally impressive academic and business careers as he has co-founded SeaTech and co-led WET Labs, the latter with Casey Moore. These two companies have advanced optical technologies and accelerated the oceanographic community's access to precision optical sensors and systems.

Ron's impressive research accomplishments can be divided into three major categories: (1) development of optical instrumentation and methodologies, (2) observational optical oceanography, and (3) theory and modeling of marine optical processes.

Ron's contributions to optical measurements are numerous. Like Nils Jerlov, Ron recognized the need for optical instrumentation that could be deployed in the harsh marine environment. Early in his career, Ron began developing optical

instruments for measuring inherent optical properties. Howard Gordon has aptly dubbed these instruments "gold standards." These instruments are now used for not only optical oceanography, but also biological and biogeochemical oceanography and marine geology.

Ron began doing ocean observations in the 1970s and his instruments have been used in numerous field experiments, including Warm-Core Rings, Optical Dynamics Experiment, Biowatt, Marine Light in the Mixed Layer, Coastal Mixing and Optics, High Energy Benthic Boundary Layer Experiment, Hyperspectral Coastal Ocean Dynamics Experiment, and Thin Layers. Importantly, Ron's research has enabled studies of astonishing new ocean phenomena such as ocean eddies, strong benthic currents, and hydrothermal vents with their spewing particulates.

Ron's use of optics has been amazing, as he has used clever ideas to optically measure turbulence, near-surface and internal gravity waves, and thin layers.

In the area of theory and modeling, Ron has clearly advanced the understanding of theoretical and empirical relationships between optical properties of seawater. Much of his work has been based on first principles of radiative transfer theory and judicious use of observations. Ron's work has also directly contributed to the development and application of ocean color remote sensing.

I wish to personally thank Ron for being a remarkable collaborator and loyal friend. I am really pleased to congratulate Ron and his lovely wife Jackie on this occasion and wish them only the best. Thank you.

## Ron Zaneveld's Remarks upon Acceptance

It is a great honor to receive the Jerlov Award in Ocean Optics. The field has made great strides since I spent a summer at Professor Jerlov's lab in the early 1970s. In those days, the focus was on radiative transfer. Since then, improvement of optical instrumentation has allowed measurements on the time and space scales of the physical parameters. Inversion of these optical measurements has led to the rapidly expanding field of bio-optics. Combined with remote sensing and the new small mobile platforms such as profiling floats and gliders, the field stands poised to resolve critical aspects of global biogeochemical problems.

I would like to thank TOS for sponsoring the Jerlov award, Dr. Tommy Dickey for his kind words and for chairing the nomination, and all my colleagues who wrote letters supporting the nomination. I want to acknowledge all my students, post-docs, colleagues, and the many collaborators who have made so much progress possible. It has indeed been a privilege and a pleasure to have been involved in the historic progression of Ocean Optics.



Left to right: Tommy Dickey, Ron Zaneveld, and Larry Clark.

Ron's contributions to education in ocean optics are best summarized with a few quotes from his students and post-docs. For example,

Andrew Barnard: "Personally, Ron has left his own imprint on my career, as I know that I strive to effectively blend the three key elements of theory, technology and experimentation."

Scott Pegau: "Ron is an excellent mentor who is extremely willing to share his thoughts with students and colleagues in order to move optical oceanography forward."

Collin Roesler: "There is only one phrase that captures the essence of Ron Zaneveld and that is *Renaissance Man*; a great achiever, to the highest level, in many areas... In addition, it is his approach to science as part of life, not instead of it, that makes such a strong impression and ultimately has led to his being at the top of the field."

Mike Twardowski: "It is clear that all of us who have had the privilege and good fortune to work with Ron feel tremendous gratitude, not only for his lessons in science, but his lessons in life. He is a person we all would like to emulate; there is no higher compliment."

To conclude, a few quotations from nominating letters by our three previous Jerlov Award winners serve to underscore the ocean optics community's desire to honor Ron.

Howard Gordon: "Ron is full of ideas about new avenues of research, which he unselfishly shares with all, and has the intellectual curiosity that motivates great science. One cannot be with Ron for more than a few minutes without learning something important."

Ray Smith: "Ron's contributions to Ocean Optics include visionary leadership, significant experimental observations, fundamental theoretical advances and important development and commercialization of optical instrumentation."

Andre Morel: "Ron's nomination for the Jerlov Award is very well deserved, in my opinion, and would honor the stature of Professor Jerlov as well as the intent of The Oceanography Society."