



# Light and Photosynthesis in Aquatic Ecosystems

By John T. O. Kirk



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Beginning systematically with the fundamentals, the fully-updated third edition of this popular graduate textbook provides an understanding of all the essential elements of marine optics. It explains the key role of light as a major factor in determining the operation and biological composition of aquatic ecosystems, and its scope ranges from the physics of light transmission within water, through the biochemistry and physiology of aquatic photosynthesis, to the ecological relationships that depend on the underwater light climate. This book also provides a valuable introduction to the remote sensing of the ocean from space, which is now recognized to be of great environmental significance due to its direct relevance to global warming. An important resource for graduate courses on marine optics, aquatic photosynthesis, or ocean remote sensing; and for aquatic scientists, both oceanographers and limnologists.

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### Editorial Review

#### Review

"This new edition of *Light and Photosynthesis in Aquatic Ecosystems* is indispensable for any science library and for anyone interested in photosynthesis in aquatic organisms. The book succeeds in every feature essential in a textbook - it is well organized and provides a historical perspective, a high level of complexity, relevant figures, detailed and updated references, and a comprehensive index."

E.L. Peredo, University of Connecticut, Storrs for *Plant Science Bulletin*

#### About the Author

John Kirk began his research into ocean optics in the early 1970s in the Division of Plant Industry of the Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra, Australia, where he was a Chief Research Scientist, and continued it from 1997 in *Kirk Marine Optics*. He was awarded the Australian Society for Limnology Medal (1981), and besides the two successful previous editions of this book, has also co-authored *The Plastids: Their Chemistry, Structure, Growth and Inheritance* (Elsevier, 1978), which became the standard text in its field. Beyond his own scientific research interests, he has always been interested in the broader implications of science for human existence, and has published a book on this and other issues, *Science and Certainty* (CSIRO Publishing, 2007).

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