Photosynthesis Research **79:** 109–111, 2004.

Announcement

Advances in Photosynthesis and Respiration, Volume 14: '*Photosynthesis in Algae*', edited by Anthony Larkum, Susan Douglas and John Raven

I am extremely delighted to announce the publication of the long-awaited *Photosynthesis in Algae*, Volume 14, edited by Anthony Larkum (Australia), Susan Douglas (Canada) and John Raven (UK) in our Series *Advances in Photosynthesis and Respiration*. This volume is a sequel to the following 13 volumes in the *Advances in Photosynthesis and Respiration* (AIPH) series.

Published volumes

(1) *Molecular Biology of Cyanobacteria* (Donald A. Bryant, editor, 1994);
(2) *Anoxygenic Photosynthetic Bacteria* (Robert E. Blankenship, Michael T. Madigan and Carl E. Bauer, editors, 1995);
(3) *Biophysical Techniques in Photosynthesis* (Jan Amesz† and Arnold J. Hoff†, editors, 1996);
(4) *Oxygenic Photosynthesis: The Light Reactions* (Donald R. Ort and Charles F. Yocum, editors, 1996);
(5) *Photosynthesis and the Environment* (Neil R. Baker, editor, 1996);
(6) *Lipids in Photosynthesis: Structure, Function and Genetics* (Paul-André Siegenthaler and Norio Murata, editors, 1998);
(7) *The Molecular Biology of Chloroplasts and Mitochondria in Chlamydomonas* (Jean David Rochaix, Michel Goldschmidt-Clermont and Sabeeha Merchant, editors, 1998);
(8) *The Photochemistry of Carotenoids* (Harry A. Frank, Andrew J. Young, George Britton and Richard J. Cogdell, editors, 1999);
(9) *Photosynthesis: Physiology and Metabolism* (Richard C. Leegood, Thomas D. Sharkey and Susanne von Caemmerer, editors, 2000);
(10) *Photosynthesis: Photobiochemistry and Photobiophysics* (Bacon Ke, author, 2001);
(11) *Regulation of Photosynthesis* (Eva-Mari Aro and Bertil Andersson, editors, 2001);
(12) *Photosynthetic Nitrogen Assimilation and Associated Carbon and Respiratory Metabolism* (Christine Foyer and Graham Noctor, editors, 2002); and
(13) *Light Harvesting Antennas* (Beverley Green and William Parson, editors, 2003).

See http://www.wkap.nl/series.htm/AIPH for further information and to order these books. Please note that the members of the International Society of Photosynthesis Research, ISPR (http://www. Photosynthesis research.org) receive special discounts.

Photosynthesis in algae

Algae are a fascinating group of organisms, which refuse to be classified. One may simply place them in the Protists, one of the six kingdoms of nature. However, this ignores the fact that they are photosynthetic and are undeniably related in some way to the land plants (Plantae). It also places the algal group, which represents some of the largest organisms on the planet in a kingdom that is typified by microscopic unicellular organisms! A large number of researchers have recognized the advantages of using unicellular algae even though they may devote their main work on higher plants; further, many engage in frequent sallies into the domain of Bacteria, to make use of the photosynthetic properties of Cyanobacteria, although these organisms are not called 'algae' any longer.

We are fortunate in having three outstanding and charming editors whose interests have allowed them a clear overview of a complex field and has allowed them to choose an excellent set of authors out of a army of great researchers in the field. Tony Larkum is basically a plant physiologist but has worked at all levels of photosynthesis form whole ecosystems such as coral reefs to genes for the light-harvesting proteins of dinoflagellates and prochlorophytes. Susan

† Deceased.

Douglas is a molecular biologist who has sequenced cryptophyte genes and most recently took a major role in sequencing the three chromosomes of the relic nucleus (nucleomorph) of the cryptophyte *Guillardia theta*. John Raven is an eclectic algal physiologist whose major contributions have been in quantifying the roles of various pathways in the carbon metabolism of algae as well as contributing prolifically to discussion on the evolution of cyanobacteria, algae and land plants.

Knowing the editors and the topic of the specific volume are important to me. The book includes brief biographies and photographs of the editors in this volume. My interest in algae dates back to the time when I was a graduate student of Robert Emerson (who himself was a student of Otto Warburg); the green alga *Chlorella* was the choice of research then. I have been fortunate to know Tony the most. I have been his guest once at his pleasant home in Sydney and enjoyed with him a 'walk in the ocean' that he led in Heron Island in 2001. The enjoyment of seeing the marine life there and in his laboratory has left an everlasting imprint on my mind. I have admired the work of Susan, but have yet to meet her personally. However, I met John at Urbana, Illinois, when he gave an exciting lecture wearing a Scottish kilt. (I have been too 'shy' (really?) to give a lecture ever wearing the Indian 'Kurta-Pajama & the Nehru Jacket; I could, of course, never wear a 'dhoti' for the fear it may fall down in public.)

The various chapters in this book have beautifully covered the major aspects of photosynthesis in algae; they are written by major authorities in the field. I am pleased to see inclusion of discussions on cyanobacteria, prochlorophytes (prokaryotes that have chlorophyll *b* as well as chlorophyll *a*) and newly discovered *Acaryochloris marina*, which possesses chlorophyll *d*. This book will serve graduate students, teachers and researchers in the areas of plant physiology, cellular and molecular biology, integrative biology, biochemistry, biophysics and global ecology.

The scope of the series

'Advances in Photosynthesis and Respiration' is a book series that provides, at regular intervals, a comprehensive and state-of-the-art account of research in various areas of photosynthesis and respiration. Photosynthesis is the process by which higher plants, algae, and certain species of bacteria transform and store solar energy in the form of energy-rich organic molecules. These compounds are in turn used as the energy source for all growth and reproduction in these and almost all other organisms. As such, virtually all life on the planet ultimately depends on photosynthetic energy conversion. Respiration, which occurs in mitochondria and in bacterial membranes, utilizes energy present in organic molecules to fuel a wide range of metabolic reactions critical for cell growth and development. In addition, many photosynthetic organisms engage in energetically wasteful *photorespiration* that begins in the chloroplast with an oxygenation reaction catalyzed by the same enzyme responsible for capturing carbon dioxide in photosynthesis. This series of books spans topics from physics to agronomy and medicine, from femtosecond (10^{-15} s) processes to season long production, from the photophysics of reaction centers, through the electrochemistry of intermediate electron transfer, to the physiology of whole organisms, and from X-ray crystallography of proteins to the morphology of organelles and intact organisms. The intent of the series is to offer beginning researchers, advanced undergraduate students, graduate students, and even research specialists, a comprehensive, up-to-date picture of the remarkable advances across the full scope of research on bioenergetics and carbon metabolism.

Future books

The readers of the current series are encouraged to watch for the publication of the forthcoming books:

(1) *Respiration in Archea and Bacteria*, 2 volumes (Davide Zannoni, editor);
(2) *Chlorophylls and Bacteriochlorophylls: Biochemistry, Biophysics and Biological Function* (Bernhard Grimm, Robert J. Porra, Wolfhart Rüdiger and Hugo Scheer, editors);
(3) *Chlorophyll* a *Fluorescence: A signature of Photosynthesis* (George Papageorgiou and Govindjee, editors);
(4) *Photosystem II: The Water/Plastoquinone Oxido-reductase in Photosynthesis* (Thomas J. Wydrzynski and Kimiyuki Satoh, editors);
(5) *Plant Respiration* (Miquel Ribas-Carbo and Hans Lambers, editors);
(6) *Photosystem I: The Plastocyanin/Ferredoxin Oxido-reductase in Photosynthesis* (John Golbeck, editor);

(7) *Photosynthesis: A Comprehensive Treatise; Biochemistry, Biophysics and Molecular Biology*, 2 volumes (Julian Eaton-Rye and Baishnab Tripathy, editors);
(8) *Photoprotection, Photoinhibition, Gene Regulation and Environment* (Barbara Demmig-Adams, William W. Adams III and Autar Mattoo, editors);
(9) *The Structure and Function of Plastids* (Kenneth Hoober and Robert Wise, editors);
(10) *History of Photosynthesis Research* (Govindjee, editor)

In addition to these contracted books, we are interested in publishing several other books. Topics under consideration are: Molecular Biology of Stress in Plants; Global Aspects of Photosynthesis and Respiration; Protein Complexes of Photosynthesis and Respiration; Biochemistry and Biophysics of Respiration; Protonation and ATP Synthesis; Functional Genomics; The Cytochromes; Laboratory Methods for Studying Leaves and Whole Plants; and C-3 and C-4 Plants.

Readers are requested to send their suggestions for these and future volumes (topics, names of future editors, and of future authors) to me by e-mail (gov@uiuc.edu) or fax (+1-217-244-7246).

In view of the interdisciplinary character of research in photosynthesis and respiration, it is my earnest hope that this series of books will be used in educating students and researchers not only in Plant Sciences, Molecular and Cell Biology, Integrative Biology, Biotechnology, Agricultural Sciences, Microbiology, Biochemistry, and Biophysics, but also in Bioengineering, Chemistry, and Physics.

I take this opportunity to thank Tony Larkum, Susan Douglas, John Raven, all the authors of Volume 14, Larry Orr, Jacco Flipsen, Noeline Gibson, Evan Delucia, and my wife Rajni Govindjee for their valuable help and support that made the publication of *Photosynthesis in Algae* possible.

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Photosynthesis in algae by A. W. D. Larkum, John A. Raven, December 31, 1899, Springer edition, Hardcover in English - 1 edition.Â Are you sure you want to remove Photosynthesis in Algae (Advances in Photosynthesis and Respiration) from your list? Photosynthesis in Algae (Advances in Photosynthesis and Respiration). 1 edition. by A. W. D. Larkum, John A. Raven. Published December 31, 1899 by Springer . Written in English. Subjects. Photosynthesis, Algae, Physiology. Editorial Advances in Photosynthesis and Respiration Volume 14: Photosynthesis in Algae I am extremely delighted to announce the publication of the long-awaited Photosynthesis in Algae edited by Anthony Larkum, Susan Douglas and John Raven. It is Volume 14 in our Series Advances in Photosynthesis and Respiration (AIPH) and is a sequel to the previous thirteen volumes in the series. Published Volumes (1). Molecular Biology ofCyanobacteria (Donald R. Bryant, editor, 1994); (2) Anoxygenic Photosynthesis Photobiochemistry and Photobiophysics (Advances in Photosynthesis and Respiration). 796 PagesÂ·2001Â·56.24 MBÂ·599 DownloadsÂ·New! in the Advances in Photosynthesis Series. It provides an overview of the light reactions and electron tra Photoprotection, Photoinhibition, Gene Regulation, and Environment Volume 21 (Advances in Photosynthesis and Respiration) (Advances in Photosynthesis and Respiration). 390 PagesÂ·2006Â·7.42 MBÂ·205 DownloadsÂ·New! and Respiration) (Advances in Photosynthesis and Respiration) Barbara Demmig-Adams (Editor ...Â 2,377 PagesÂ·2007Â·25.14 MBÂ·39,121 DownloadsÂ·New! sixth edition, March's Advanced Organic Chemistry remains the gold standard in organic chemistry Chlorophyll-a, the predominant photosynthesizing pigment in red and green algae, is an indicator of phytoplankton productivity in aquatic settings. Crassostrea virginica consumes first-tier plankton from the water columnâ€™s seston; thus analysis of chlorophyll-a content allows estimating phytoplankton concentrations, from which oyster filtration efficiency (FE) was quantified. Water conditions (temperature, dissolved oxygen, pH, salinity, turbidity, tide and flow rate) also were recorded.Â Photorespiration and Its Role in the Regulation of Photosynthesis and Plant Productivity. V. I. Chikov, G. A. Akhtyamova. DOI: 10.4236/ajps.2019.1012154 357 Downloads 604 Views Citations. Advances in Photosynthesis and Respiration VOLUME 12. Series Editor: GOVINDJEE University of Illinois, Urabna, Illinois, U.S.A.Â Advances in Photosynthesis and Respiration is a book series that provides a comprehensive and state-of-the-art account of research in photo- synthesis and respiration. Photosynthesis is the process by which higher plants, algae, and certain species of bacteria transform and store solar energy in the form of energy-rich organic molecules. These compounds are in turn used as the energy source for all growth and reproduction in these and almost all other organisms. As such, virtually all life on the planet ultimately depends on photosynthetic energy conversion.