

Contents

1 Chlorophyll Fluorescence Terminology: An Introduction	1
Jeff Cosgrove and Michael A. Borowitzka	
2 <i>In Situ</i> Measurement of Variable Fluorescence Transients	19
Samuel R. Laney	
3 Overview of Fluorescence Protocols: Theory, Basic Concepts, and Practice	31
Yannick Huot and Marcel Babin	
4 Fluorescence as a Tool to Understand Changes in Photosynthetic Electron Flow Regulation	75
Peter J. Ralph, Christian Wilhelm, Johann Lavaud, Torsten Jakob, Katherina Petrou, and Sven A. Kranz	
5 Microscopic Measurements of the Chlorophyll <i>a</i> Fluorescence Kinetics	91
Ondrej Komárek, Kristina Felcmanová, Eva Šetlíková, Eva Kotabová, Martin Trtílek, and Ondrej Prášil	
6 Estimating Aquatic Productivity from Active Fluorescence Measurements	103
David J. Suggett, C. Mark Moore, and Richard J. Geider	
7 Taxonomic Discrimination of Phytoplankton by Spectral Fluorescence	129
Hugh L. MacIntyre, Evelyn Lawrenz, and Tammi L. Richardson	
8 Flow Cytometry in Phytoplankton Research	171
Heidi M. Sosik, Robert J. Olson, and E. Virginia Armbrust	
9 The Use of the Fluorescence Signal in Studies of Seagrasses and Macroalgae	187
Susana Enríquez and Michael A. Borowitzka	

10 Chlorophyll Fluorescence in Reef Building Corals.....	209
Mark E. Warner, Michael P. Lesser, and Peter J. Ralph	
11 Assessing Nutrient Status of Microalgae Using Chlorophyll <i>a</i> Fluorescence	223
Kirsten Shelly, Daryl Holland, and John Beardall	
12 The Application of Variable Chlorophyll Fluorescence to Microphytobenthic Biofilms	237
R.G. Perkins, J.C. Kromkamp, J. Serôdio, J. Lavaud, B. Jesus, J.L. Mouget, S. Lefebvre, and R.M. Forster	
13 Chlorophyll Fluorescence Applications in Microalgal Mass Cultures	277
Jiří Masojídek, Avigad Vonshak, and Giuseppe Torzillo	
14 Delayed Fluorescence.....	293
Maja Berden-Zrimec, Luka Drinovec, and Alexis Zrimec	
15 The Study of Phytoplankton Photosynthesis by Photoacoustics	311
Yulia Pinchasov Grinblat and Zvy Dubinsky	
Index.....	317



<http://www.springer.com/978-90-481-9267-0>

Chlorophyll a Fluorescence in Aquatic Sciences:
Methods and Applications

Suggett, D.J.; Borowitzka, M.A.; Prášil, O. (Eds.)

2010, XVIII, 326 p., Hardcover

ISBN: 978-90-481-9267-0