BIBLIOGRAPHY

Bibliography of reviews and methods of photosynthesis – 89

Z. ŠESTÁK and J. ČATSKÝ

Institute of Experimental Botany, Academy of Sciences of the Czech Republic, Na Karlovce 1a, CZ-160 00 Praha 6, Czech Republic

REVIEW PAPERS

Adam, Z., Clarke, A.K.: Cutting edge of chloroplast proteolysis. – Trends Plant Sci. **7**: 451-456, 2002. [59 ref.]

Adam, Z., Zaltsman, A., Sinvany-Villalobo, G., Sakamoto, W.: FtsH proteases in chloroplasts and cyanobacteria. – Physiol. Plant. **123**: 386-390, 2005. [23 ref.]

Adams, S.R., Langton, F.A.: Photoperiod and plant growth: a review. – J. hort. Sci. Biotechnol. **80**: 2-10, 2005. [Ps, Chl; 77 ref.]

Adir, N.: Elucidation of the molecular structures of components of the phycobilisome: reconstituting a giant. – Photosynth. Res. **85**: 15-23, 2005. [113 ref.]

Albertsson, P.-Å., Andreasson, E.: The constant proportion of grana and stroma lamellae in plant chloroplasts. – Physiol. Plant. **121**: 334-342, 2004. [72 ref.]

Aldridge, C., Maple, J., Møller, S.G.: The molecular biology of plastid division in higher plants. – J. exp. Bot. **56**: 1061-1077, 2005. [129 ref.]

Allen, J.F.: Cytochrome b_6f: structure for signalling and vectorial metabolism. – Trends Plant Sci. **9**: 130-137, 2004. [50 ref.]

Amundson, R., Evett, R.R., Jahren, A.H., Bartolome, J.: Stable carbon isotope composition of Poaceae pollen and its potential in paleovegetational reconstructions. – Rev. Palaeobot. Palynol. **99**: 17-24, 1997. [C_3 and C_4 plants, $\delta^{13}C$; 31 ref.]

Anwaruzzaman, M., Chin, B.L., Li, X.-P., Lohr, M., Martinez, D.A., Niyogi, K.K.: Genomic analysis of mutants affecting xanthophyll biosynthesis and regulation of photosynthetic light harvesting in *Chlamydomonas reinhardtii*. – Photosynth. Res. **82**: 265-276, 2004. [57 ref.]

Apel, K., Hirt, H.: Reactive oxygen species: Metabolism, oxidative stress, and signal transduction. – Annu. Rev. Plant Biol. **55**: 373-399, 2004. [Ps; 133 ref.]

Arens, N.C., Jahren, A.H., Amundson, R.: Can C3 plants faithfully record the carbon isotopic composition of atmosphere carbon dioxide? – Paleobiology **26**: 137-164, 2000. [139 ref.]

Aro, E.-M., Suorsa, M., Rokka, A., Allakhverdieva, Y., Paakkarinen, V., Saleem, A., Battchikova, N., Rintamäki, E.: Dynamics of photosystem II: a proteomic approach to thylakoid protein complexes. – J. exp. Bot. **56**: 347-356, 2005. [73 ref.]

Athar, H.-R., Ashraf, M.: Photosynthesis under drought stress. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 793-809. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [171 ref.]

Avenson, T.J., Kanazawa, A., Cruz, J.A., Takizawa, K., Ettinger, W.E., Kramer, D.M.: Integrating the proton circuit into photosynthesis: progress and challenges. – Plant Cell Environ. **28**: 97-109, 2005. [99 ref.]

Axelrod, H.L., Okamura, M.Y.: The structure and function of the cytochrome c_2: reaction center electron transfer complex from *Rhodobacter sphaeroides*. – Photosynth. Res. **85**: 101-114, 2005. [66 ref.]

Baker, N.R., Oxborough, K.: Chlorophyll fluorescence as a probe of photosynthetic production. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 65-82. Springer, Dordrecht 2004. [89 ref.]

Barr, R., Crane, F.L.: Inhibition or inactivation of higher-plant chloroplast electron transport. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 149-166. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [208 ref.]

Bauer, C.: Regulation of photosystem synthesis in *Rhodobacter capsulatus*. – Photosynth. Res. **80**: 353-360, 2004. [69 ref.]

Bauer, J., Hiltbrunner, A., Kessler, F.: Molecular biology of chloroplast biogenesis: gene expression, protein import and intraorganellar sorting. – Cell. mol. Life Sci. **58**: 420-433, 2001. [116 ref.]

Beligni, M.V., Yamaguchi, K., Mayfield, S.P.: The translational apparatus of *Chlamydomonas reinhardtii*. – Photosynth. Res. **82**: 315-325, 2004. [43 ref.]

———

Abbreviations in the notes: BChl = bacteriochlorophyll; Bil = phycobilins; Car = carotenoids; CC = column chromatography; Chl = chlorophyll; Cyt = cytochrome; GC = gas chromatography; HPLC = high performance liquid chromatography; IRGA = infra-red gas analyser; LAI = leaf area index; PC = paper chromatography; PEPC = phosphoenolpyruvate carboxylase; PAR = photosynthetically active radiation; Ps = photosynthesis; RuBPCO = ribulose-1,5-bisphosphate carboxylase/oxygenase; TLC = thin-layer chromatography; Tr = transpiration; WUE = water use efficiency; ab = abstract; E = English; F = French; G = German; R = Russian; ref. = references.

Bertrand, M., Garrido, J.L., Schoefs, B.: Analysis of photosynthetic pigments: An update. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 657-668. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [111 ref.]

Bertrand, M., Schoefs, B.: Protochlorophyllide photoreduction – A review. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 97-107. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [90 ref.]

Bhagwat, A.S.: Photosynthetic carbon assimilation of C_3, C_4, and CAM pathways. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 367-389. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [159 ref.]

Biswal, B.: Formation and demolition of chloroplast during leaf ontogeny. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 109-122. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [122 ref.]

Biswal, B.: Photosynthetic response of green plants to environmental stress: Inhibition of photosynthesis and adaptational mechanisms. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 739-749. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [52 ref.]

Bock, R., Sarwar Khan, M.: Taming plastids for a green future. – Trends Biotechnol. **22**: 311-318, 2004. [60 ref.]

Buetow, D.E.: Plastid proteases. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 247-258. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [128 ref.]

Bukhov, N.G., Carpentier, R.: Effects of water stress on the photosynthetic efficiency of plants. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescen**ce.** A Signature of Photosynthesis. Pp. 623-635. Springer, Dordrecht 2004. [86 ref.]

Bungard, R.A.: Photosynthetic evolution in parasitic plants: insight from the chloroplast genome. – BioEssays **26**: 235-247, 2004. [90 ref.]

Carpentier, R.: Influence of high intensity on photosynthesis: Photoinhibition and energy dissipation. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 327-342. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [209 ref.]

Chen, M., Chory, J., Fankhauser, C.: Light signal transduction in higher plants. – Annu. Rev. Genet. **38**: 87-117, 2004. [Ps; 200 ref.]

Ciurli, S., Musiani, F.: High potential iron-sulfur proteins and their role as soluble electron carriers in bacterial photosynthesis: tale of a discovery. – Photosynth. Res. **85**: 115-131, 2005. [46 ref.]

Clarke, A.K., MacDonald, T.M., Sjögren, L.L.E.: The ATP-dependent Clp protease in chloroplasts of higher plants. – Physiol. Plant. **123**: 406-412, 2005. [40 ref.]

Cleg, R.M.: Nuts and bolts of excitation energy migration and energy transfer. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 83-105. Springer, Dordrecht 2004. [105 ref.]

Cramer, W.A., Yan, J., Zhang, H., Kurisu, G., Smith, J.L.: Structure of the cytochrome b_6f complex: new prosthetic groups, Q-space, and the "hors d'oeuvres hypothesis" for assembly of the complex. – Photosynth. Res. **85**: 133-144, 2005. [55 ref.]

Cruz, J.A., Avenson, T.J., Kanazawa, K., Takizawa, K., Edwards, G.E., Kramer, D.M.: Plasticity in light reactions of photosynthesis for energy production and photoprotection. – J. exp. Bot. **56**: 395-406, 2005. [100 ref.]

Demirevska-Kepova, K., Feller, U.: Heat sensitivity of Rubisco, Rubisco activase and Rubisco binding protein in higher plants. – Acta Physiol. Plant. **26**: 103-114, 2004. [88 ref.]

Demirevska-Kepova, K., Feller, U.: Heat sensitivity of Rubisco, Rubisco activase and Rubisco binding protein in higher plants. – Acta Physiol. Plant. **26**: 103-114, 2004. [88 ref.]

Denev, I.D., Yahubian, G.T., Minkov, I.N.: Recent advances in chloroplast development in higher plants. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 451-475. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [271 ref.]

Desikan, R., Cheung, M.-K., Bright, J., Henson, D., Hancock, J.T., Neill, S.J.: ABA, hydrogen peroxide and nitric oxide signalling in stomatal guard cells. – J. exp. Bot. **55**: 205-212, 2004. [59 ref.]

Dodds, W.K.: The role of periphyton in phosphorus renention in shallow freshwater aquatic systems. – J. Phycol. **39**: 840-849, 2003. [Ps; 98 ref.]

Drews, G.: Contributions of Theodor Wilhelm Engelmann on phototaxis, chemotaxis, and photosynthesis. – Photosynth. Res. **83**: 25-34, 2005. [38 ref.]

Dubey, R.S.: Photosynthesis in plants under stressful conditions. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 717-737. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [119 ref.]

Edwards, G.E., Franceschi, R.R., Voznesenskaya, E.V.: Single-cell C_4 photosynthesis versus the dual-cell (Kranz) paradigm. – Annu. Rev. Plant Biol. **55**: 173-196, 2004. [85 ref.]

Eggink, L.L., LoBrutto, R., Hoober, J.K.: Chlorophylls *b* and *c*: Why plants make them. – In: Nelson, W.M. (ed.): Agricultural Applications in Green Chemistry. Pp. 23-37. American Chemical Society, Washington 2004. [56 ref.]

Eggink, L.L., Park, H., Hoober, J.K.: The role of chlorophyll *b* in photosynthesis: Hypothesis. – BMC Plant Biol. **1**(2): http://www.biomedcentral.com/1471-2229/1/2, 2001. [50 ref.]

Finazzi, G.: The central role of the green alga *Chlamydomonas reinhardtii* in revealing the mechanism of state transitions. – J. exp. Bot. **56**: 383-388, 2005. [46 ref.]

Finazzi, G., Forti, G.: Metabolic flexibility of the green alga *Chlamydomonas reinhardtii* as revealed by the link between state transitions and cyclic electron flow. – Photosynth. Res. **82**: 327-338, 2004. [63 ref.]

Flexas, J., Bota, J., Loreto, F., Cornic, G., Sharkey, T.D.: Diffusive and metabolic limitations to photosynthesis under drought and salinity in C_3 plants. – Plant Biol. **6**: 269-279, 2004. [107 ref.]

Frank, H.A., Brudvig, G.W.: Redox function of carotenoids in photosynthesis. – Biochemistry **43**: 8607-8615, 2004. [102 ref.]

Fromme, P., Melkozernov, A., Jordan, P., Krauss, N.: Structure and function of photosystem I: interaction with its soluble electron carriers and external antenna systems. – FEBS Lett. **555**: 40-44, 2003. [34 ref.]

Gabryś, H.: Blue light-induced orientation movements of chloroplasts in higher plants: Recent progress in the study of their mechanisms. – Acta Physiol. Plant. **26**: 473-478, 2004. [29 ref.]

Gaspar, T., Franck, T., Bisbis, B., Kevers, C., Jouve, L., Hausman, J.F., Dommes, J.: Concepts in plant stress physiology. Application to plant tissue cultures. – Plant Growth Regul. **37**: 263-285, 2002. [Ps; 114 ref.]

Gechev, T., Gadjev, I., Dukiandjiev, S., Minkov, I.: Reactive oxygen species as signaling molecules controlling stress adaptation in plants. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 209-220. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [107 ref.]

Geiselmann, J., Houmard, J., Schoefs, B.: Regulation of phycobilisome biosynthesis and degradation in cyanobacteria. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 425-438. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [77 ref.]

Ghosh, A.K.: Passage of a young Indian physical chemist through the world of photosynthesis research at Urbana, Illinois, in the 1960s: a personal essay. – Photosynth. Res. **80**: 427-437, 2004. [95 ref.]

Giraud, E., Fleischman, D.: Nitrogen-fixing symbiosis between photosynthetic bacteria and legumes. – Photosynth. Res. **82**: 115-130, 2004. [90 ref.]

Govindjee: Chlorophyll *a* fluorescence: a bit of basics and history. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 1-41. Springer, Dordrecht 2004. [352 ref.]

Grotjohann, I., Fromme, P.: Structure of cyanobacterial Photosystem I. – Photosynth. Res. **85**: 51-72, 2005. [120 ref.]

Grzebyk, D., Schofield, O., Vetriani, C., Falkowski, P.G.: The mesozoic radiation of eukaryotic algae: The portable plastid hypothesis. – J. Phycol. **39**: 259-267, 2003. [69 ref.]

Hejazi, M.A., Wijffels, R.H.: Milking of microalgae. – Trends Biotechnol. **22**: 189-194, 2004. [β-carotene and astaxanthin production in bioreactors; 33 ref.]

Heddad, M., Adamska, I.: The evolution of light stress proteins in photosynthetic organisms. – Comp. funct. Genom. **3**: 504-510, 2002. [19 ref.]

Herrin, D.L., Nickelsen, J.: Chloroplast RNA processing and stability. – Photosynth. Res. **82**: 301-314, 2004. [92 ref.]

Heuer, B.: Photosynthetic carbon metabolism of crops under salt stress. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 779-792. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [196 ref.]

Hikosaka, K.: Interspecific difference in the photosynthesis-nitrogen relationship: patterns, physiological causes, and ecological importance. – J. Plant Res. **117**: 481-494, 2004. [162 ref.]

Hiyama, T.: Photosystem I: Structures and function. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 169-192. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [185 ref.]

Horton, P., Ruban, A.: Molecular design of the photosystem II light-harvesting antenna: photosynthesis and photo-protection. – J. exp. Bot. **56**: 365-373, 2005. [80 ref.]

Huchzermeyer, B., Koyro, H.W.: Salt and drought stress effects on photosynthesis. Enzyme cohesion and high turnover metabolite shuttling, essential for functioning of pathways, is impaired by changes in cytosolic water potential. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 751-777. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [232 ref.]

Hudák, J., Gálová, E., Zemanová, L.: Plastid morphogenesis. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 221-245. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [104 ref.]

Huesgen, P.F., Schuhmann, H., Adamska, I.: The family of Deg proteases in cyanobacteria and chloroplasts of higher plants. – Physiol. Plant. **123**: 413-420, 2005. [45 ref.]

Iglesias, A.A., Estrella, M.J., Pieckenstain, F.: Nitrogen assimilation and carbon metabolism. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 679-690. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [91 ref.]

Iglesias, A.A., Podestá, F.E.: Photosynthate formation and partitioning in crop plants. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 525-545. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [162 ref.]

Inoue, K.: Protein translocation across biological membranes: cost what it may. – Trends Plant Sci. **8**: 360-363, 2003. [Chloroplast; 14 ref.]

Iwata, S., Barber, J.: Structure of photosystem II and molecular architecture of the oxygen-evolving centre. – Curr. Opinion struct. Biol. **14**: 447-453, 2004. [46 ref.]

Izui, K., Matsumura, H., Furumoto, T., Kai, Y.: Phospho*enol*pyruvate carboxylase: A new era of structural biology. – Annu. Rev. Plant Biol. **55**: 69-84, 2004. [70 ref.].

Jarvis, P.: Intracellular signalling: The language dispatch of the chloroplast. – Curr. Biol. **13**: R314-R316, 2003. [20 ref.]

Jarvis, P.: Organellar proteomics: Chloroplasts in the spotlight. – Curr. Biol. **14**: R317-R319, 2004. [20 ref.]

Jensen, R.G.: Activation of Rubisco controls CO_2 assimilation in light: a perspective on its discovery. – Photosynth. Res. **82**: 187-193, 2004. [34 ref.]

Johnson, G.N.: Cyclic electron transport in C_3 plants: fact or artefact? – J. exp. Bot. **56**: 407-416, 2005. [61 ref.]

Jones, M.R., Fyfe, P.K.: Photosynthesis: A new step in oxygen ecolution. – Curr. Biol. **14**: R320-R322, 2004. [20 ref.]

Joshi, M.K., Mohanty, P.: Chlorophyll *a* fluorescence as a probe of heavy metal ion toxicity in plants. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 637-661. Springer, Dordrecht 2004. [333 ref.]

Keeling, P.J.: Diversity and evolutionary history of plastids and their hosts. – Amer. J. Bot. **91**: 1481-1493, 2004. [128 ref.]

Kessler, F., Schnell, D.J.: Chloroplast protein import: solve the GTPase riddle for entry. – Trends Cell Biol. **14**: 334-338, 2004. [28 ref.]

Kevers, C., Franck, T., Strasser, R.J., Dommes, J., Gaspar, T.: Hyperhydricity of micropropagated shoots: a typically stress-induced change of physiological state. – Plant Cell Tissue Organ Cult. **77**: 181-191, 2004. [Chl; 71 ref.]

Ki, H.K.: Cytochrome c_6 genes in cyanobacteria and higher plants. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 273-284. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [42 ref.]

Knox, R.S., Spring, B.Q.: Dipole strengths in the chlorophylls. – Photochem. Photobiol. **77**: 497-501, 2003. [37 ref.]

Koumandou, V.L., Nisbet, R.E.R., Barbrook, A.C., Howe, C.J.: Dinoflagellate chloroplasts – where have all the genes gone? – Trends Genet. **20**: 261-267, 2004. [59 ref.]

Krause, G.H., Jahns, P.: Non-photochemical energy dissipation determined by chlorophyll fluorescence quenching: Characterization and function. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 463-495. Springer, Dordrecht 2004. [310 ref.]

Krieger-Liszkay, A.: Singlet oxygen production in photosynthesis. – J. exp. Bot. **56**: 337-346, 2005. [80 ref.]

Kučera, T., Sofrová, D.: Oxygenic photoautotrophs: Phosphorylation and oligomeric state of photosystem 2. Responses to stress. A review. – Collect. czech. chem. Commun. **69**: 564-588, 2004. [182 ref.]

Kwok, E.Y., Hanson, M.R.: Stromules and the dynamic nature of plastid morphology. – J. Microscopy **214**: 124-137, 2004. [128 ref.]

Lara, M.V., Andreo, C.S.: Photosynthesis in nontypical C_4 species. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 391-421. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [159 ref.]

Leakey, A.D.B., Scholes, J.D., Press, M.C.: Physiological and ecological significance of sunflecks for dipterocarp seedlings. – J. exp. Bot. **56**: 469-482, 2005. [122 ref.]

Lemaire, S.D., Collin, V., Keryer, E., Issakidis-Bourguet, E., Lavergne, D., Miginiac-Maslow, M.: *Chlamydomonas reinhardtii*: a model organism for the study of the thioredoxin family. – Plant Physiol. Biochem. **41**: 513-521, 2003. [58 ref.]

Lemaire, S.D., Miginiac-Maslow, M.: The thioredoxin superfamily of *Chlamydomonas reinhardtii.* – Photosynth. Res. **82**: 203-240, 2004. [95 ref.]

León-Bañares, R., González-Ballester, D., Galván, A., Fernández, E.: Transgenic microalgae as green cell-factories. – Trends Biotechnol. **22**: 45-52, 2004. [64 ref.]

Lichtenthaler, H.K., Babani, F.: Light adaptation and senescence of the photosynthetic apparatus. Changes in pigment composition, chlorophyll fluorescence parameters and photosynthetic activity. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 713-736. Springer, Dordrecht 2004. [94 ref.]

Link, G.: Redox regulation of chloroplast transcription. – Antioxid. Redox Signal. **5**: 79-87, 2003. [89 ref.]

Long, S.P., Ainsworth, E.A., Rogers, A., Ort, D.R.: Rising atmospheric carbon dioxide: Plants face the future. – Annu. Rev. Plant Biol. **55**: 591-628, 2004. [222 ref.]

Lüning, K., Pang, S.: Mass cultivation of seaweeds: current aspects and approaches. – J. appl. Phycol. **15**: 115-119, 2003. [19 ref.]

Lüttge, U.: Ecophysiology of Crassulacean Acid Metabolism (CAM). – Ann. Bot. **93**: 629-652, 2004. [302 ref.]

Maliga, P.: Plastid transformation in higher plants. – Annu. Rev. Plant Biol. **55**: 289-313, 2004. [173 ref.]

Martínez-Vilalta, J., Sala, A., Piñol, J.: The hydraulic architecture of Pinaceae – a review. – Plant Ecol. **171**: 3-13, 2004. [$\delta^{13}C$; 57 ref.]

Melis, A., Seibert, M., Happe, T.: Genomics of green algal hydrogen research. – Photosynth. Res. **82**: 277-288, 2004. [Ps; 69 ref.]

Melkozernov, A.N., Blankenship, R.E.: Structural and functional organization of the peripheral light-harvesting system in Photosystem I. – Photosynth. Res. **85**: 33-50, 2005. [94 ref.]

Minagawa, J., Takahashi, Y.: Structure, function and assembly of Photosystem II and its light-harvesting proteins. – Photosynth. Res. **82**: 241-263, 2004. [152 ref.]

Mishra, S., Dubey, R.S.: Heavy metal toxicity induced alterations in photosynthetic metabolism in plants. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 845-863. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [212 ref.]

Montané, M.-H., Kloppstech, K.: The family of light-harvesting-related proteins (LHCs, ELIPs, HLIPs): was the harvesting of light their primary function? – Gene **258**: 1-8, 2000. [43 ref.]

Mostowska, A.: Leaf senescence and photosynthesis. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 691-714. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [157 ref.]

Müller, M., Klösgen, R.B.: The Tat pathway in bacteria and chloroplasts (Review). – Mol. Membrane Biol. **22**: 113-121, 2005. [99 ref.]

Mullineaux, C.W., Emlyn-Jones, D.: State transitions: an example of acclimation to low-light stress. – J. exp. Bot. **56**: 389-393, 2005. [27 ref.]

Nair, J.S., Ramaswamy, N.K.: Chloroplast proteases. – Biol. Plant. **48**: 321-326, 2004. [74 ref.]

Natesan, S.K.A., Sullivan, J.A., Gray, J.C.: Stromules: a characteristic cell-specific feature of plastid morphology. – J. exp. Bot. **56**: 787-797, 2005. [Chloroplast; 53 ref.]

Nátr, L., Lawlor, D.W.: Photosynthetic plant productivity. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 501-524. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [100 ref.]

Nelson, N., Ben-Shem, A.: The complex architecture of oxygenic photosynthesis. – Nature Rev. mol. Cell Biol. **5**: 971-982, 2004. [107 ref.]

Nixon, P.J., Barker, M., Boehm, M., de Vries, R., Komenda, J.: FtsH-mediated repair of the photosystem II complex in response to light stress. – J. exp. Bot. **56**: 357-363, 2005. [57 ref.]

Niyogi, K.K., Li, X.-P., Rosenberg, V., Jung, H.-S.: Is PsbS the site of non-photochemical quenching in photosynthesis? – J. exp. Bot. **56**: 375-382, 2005. [73 ref.]

Nogi, T., Hirano, Y., Miki, K.: Structural and functional studies on the tetraheme cytochrome subunit and its electron donor proteins: the possible docking mechanisms during the electron transfer reaction. – Photosynth. Res. **85**: 87-99, 2005. [72 ref.]

Nyitrai, P.: Development of functional thylakoid membranes: Regulation by light and hormones. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 343-363. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [219 ref.]

Öquist, G., Huner, N.P.A.: Photosynthesis of overwintering evergreen plants. – Annu. Rev. Plant Biol. **54**: 329-355, 2003. [126 ref.]

Ormerod, J.: 'Every dogma has its day': a personal look at carbon metabolism in photosynthetic bacteria. – Photosynth. Res. **76**: 135-143, 2003. [75 ref.]

Ort, D.R., Baker, N.R.: A photoprotective role for O_2 as an alternative electron sink in photosynthesis? – Curr. Opinion Plant Biol. **5**: 193-198, 2002. [Model; 44 ref.]

Páli, T., Garab, G., Horváth, L.I., Kóta, Z.: Functional significance of the lipid-protein interface in photosynthetic membranes. – Cell. mol. Life Sci. **60**: 1591-1606, 2003. [162 ref.]

Papageorgiou, G.C.: Fluorescence of photosynthetic pigments *in vitro* and *in vivo*. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 43-63. Springer, Dordrecht 2004. [194 ref.]

Papageorgiou, G.C., Stamatakis, K.: Water and solute transport in cyanobacteria as probed by chlorophyll fluorescence. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 663-678. Springer, Dordrecht 2004. [101 ref.]

Pfannschmidt, T.: Chloroplast redox signals: how photosynthesis controls its own genes. – Trends Plant Sci. **8**: 33-41, 2003. [92 ref.]

Poolman, M.G., Fell, D.A., Raines, C.A.: Elementary modes analysis of photosynthate metabolism in the chloroplast stroma. – Eur. J. Biochem. **270**: 430-439, 2003. [28 ref.]

Pospíšilová, J., Dodd, I.C.: Role of plant growth regulators in stomatal limitation to photosynthesis during water stress. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 811-825. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [141 ref.]

Prabhakar, M.: Structure, delimitation, nomenclature and classification of stomata. – Acta bot. sin. **46**: 242-252, 2004. [107 ref.]

Prince, R.C., Kheshgi, H.S.: The photobiological production of hydrogen: Potential efficiency and effectiveness as a renewable fuel. – Crit. Rev. Microbiol. **31**: 19-31, 2005. [119 ref.]

Raven, J.A., Maberly, S.C.: Plant productivity of inland waters. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 779-793. Springer, Dordrecht 2004. [78 ref.]

Rebeiz, C.A., Kopetz, K.J., Kolossov, V.L.: Probing the relationship between chlorophyll biosynthetic routes and the topography of chloroplast biogenesis by resonance excitation energy transfer determinations. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 55-95. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [42 ref.]

Richmond, A.: Principles for attaining maximal microalgal productivity in photobioreactors: an overview. – Hydrobiologia **512**: 33-37, 2004. [14 ref.]

Richter, S., Zhong, R., Lamppa, G.: Function of the stromal processing peptidase in the chloroplast import pathway. – Physiol. Plant. **123**: 362-368, 2005. [41 ref.]

Rodermel, S., Viret, J.-F., Krebbers, E.: Lawrence Bogorad (1921-2003), a pioneer in photosynthesis research: a tribute. – Photosynth. Res. **83**: 17-24, 2005. [60 ref.]

Rychter, A.M., Rao, I.M.: Role of phosphorus in photosynthetic carbon metabolism. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 123-148. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [228 ref.]

Sage, R.F.: C_4 photosynthesis in terrestrial plants does not require Kranz anatomy. – Trends Plant Sci. **7**: 283-285, 2002. [17 ref.]

Sage, R.F.: The evolution of C_4 photosynthesis. – New Phytol. **161**: 341-370, 2004. [208 ref.]

Sainis, J.K., Melzer, M.: Supramolecular organization of water-soluble photosynthetic enzymes along the thylakoid membranes in chloroplasts. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 259-272. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [81 ref.]

Sakamoto, W.: Leaf-variegated mutations and their responsible genes in *Arabidopsis thaliana*. – Genes genet. Syst. **78**: 1-9, 2003. [Chloroplast; 72 ref.]

Sarthou, G., Timmermans, K.R., Blain, S., Tréguer, P.: Growth physiology and fate of diatoms in the ocean: a review. – J. Sea Res. **53**: 25-42, 2005. [Ps; 207 ref.]

Sárvári, É.: Effects of heavy metals on chlorophyll-protein complexes in higher plants: Causes and consequences. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 865-888. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [244 ref.]

Sato, N.: Roles of the acidic lipids sulfoquinovosyl diacylglycerol and phosphatidylglycerol in photosynthesis: their specificity and evolution. – J. Plant Res. **117**: 495-505, 2004. [57 ref.]

Sauer, K., Yano, J., Yachandra, V.K.: X-ray spectroscopy of the Mn_4Ca cluster in the water-oxidation complex of Photosystem II. – Photosynth. Res. **85**: 73-86, 2005. [53 ref.]

Schoefs, B., Bertrand, M.: Chlorophyll biosynthesis – A review. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 37-54. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [163 ref.]

Schroda, M.: The *Chlamydomonas* genome reveals its secrets: chaperone genes and the potential roles of their gene products in the chloroplast. – Photosynth. Res. **82**: 221-240, 2004. [107 ref.]

Šesták, Z., Čatský, J.: Bibliography of reviews and methods of photosynthesis – 88. – Photosynthetica **42**: 619-640, 2004. [629 ref.]

Sharkey, T.D.: Effects of moderate heat stress on photosynthesis: importance of thylakoid reactions, rubisco deactivation, reactive oxygen species, and thermotolerance provided by isoprene. – Plant Cell Environ. **28**: 269-277, 2005. [96 ref.]

Smith, B.N.: Photosynthesis, respiration, and growth. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 671-677. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [27 ref.]

Smith, B.N.: Origin and evolution of C_4 photosynthesis. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 891-898. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [55 ref.]

Smith, J.L., Zhang, H., Yan, J., Kurisu, G., Cramer, W.A.: Cytochrome *bc* complexes: a common core of structure and function surrounded by diversity in the outlying provinces. – Curr. Opinion struct. Biol. **14**: 432-439, 2004. [Ps; 30 ref.]

Sojka, R.E., Oosterhuis, D.M., Scott, H.D.: Root oxygen deprivation and the reduction of leaf stomatal aperture and gas exchange. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 299-314. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [205 ref.]

Spalding, E.P., Folta, K.M.: Illuminating topics in plant photobiology. – Plant Cell Environ. **28**: 39-53, 2005. [Ps; 157 ref.]

Stauber, E.J., Hippler, M.: *Chlamydomonas reinhardtii* proteomics. – Plant Physiol. Biochem. **42**: 989-1001, 2004. [79 ref.]

Stessman, D., Spalding, M., Rodermel, S.: Short-term and long-term regulation of photosynthesis during leaf development. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 441-449. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [52 ref.]

Štroch, M., Špunda, V., Kurasová, I.: Non-radiative dissipation of absorbed excitation energy within photosynthetic apparatus of higher plants. – Photosynthetica **42**: 323-337, 2004. [163 ref.]

Subbarao, G.V., Ito, O., Berry, W.: Crop radiation use efficiency and photosynthate formation. – Avenues for genetic improvement. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 549-575. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [268 ref.]

Subbarao, G.V., Ito, O., Serraj, R., Crouch, J.J., Tobita, S., Okada, K., Hash, C.T., Ortiz, R., Berry, W.L.: Physiological perspectives on improving crop adaptation to drought. – Justification for a systemic component-based approach. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 577-594. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [104 ref.]

Sudhir, P., Murthy, S.D.S.: Effects of salt stress on basic processes of photosynthesis. – Photosynthetica **42**: 481-486, 2004. [98 ref.]

Tallman, G.: Are diurnal patterns of stomatal movement the result of alternating metabolism of endogenous guard cell ABA and accumulation of ABA delivered to the apoplast around guard cells by transpiration? – J. exp. Bot. **55**: 1963-1976, 2004. [149 ref.]

Tetlow, I.J., Morell, M.K., Emes, M.J.: Recent developments in understanding the regulation of starch metabolism in higher plants. – J. exp. Bot. **56**: 2131-2145, 2005. [136 ref.]

Tevini, M.: Plant responses to ultraviolet radiation stress. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 605-621. Springer, Dordrecht 2004. [197 ref.]

Tiwari, A., Kumar, P., Singh, S., Ansari, S.A.: Carbonic anhydrase in relation to higher plants. – Photosynthetica **43**: 1-11, 2005. [120 ref.]

Toyoshima, Y., Onda, Y., Shiina, T., Nakahira, Y.: Plastid transcription in higher plants. – Crit. Rev. Plant Sci. **24**: 59-81, 2005. [212 ref.]

Tyystjärvi, E., Vass, I.: Light emission as a probe of charge separation and recombination in the photosynthetic apparatus: relation of prompt fluorescence to delayed light emission and thermoluminescence. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 363-388. Springer, Dordrecht 2004. [222 ref.]

Utschig, L.M., Thurnauer, N.C.: Metal ion modulated electron transfer in photosynthetic proteins. – Accounts chem. Res. **37**: 439-447, 2004. [50 ref.]

Van Grondelle, R., Gobets, B.: Transfer and trapping of excitations in plant photosystems. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 107-132. Springer, Dordrecht 2004. [156 ref.]

Van Wijk, K.J.: Plastid proteomics. – Plant Physiol. Biochem. **42**: 963-977, 2004. [102 ref.]

Vasileuskaya, Z., Oster, U., Beck, C.F.: Involvement of tetrapyrroles in inter-organellar signaling in plants and algae. – Photosynth. Res. **82**: 289-299, 2004. [71 ref.]

Vass, I., Szilárd, A., Sicora, C.: Adverse effects of UV-B light on the structure and function of the photosynthetic apparatus. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 827-843. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [194 ref.]

Vu, J.C.V.: Rising atmospheric CO_2 and C_4 photosynthesis. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 315-326. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [155 ref.]

Wahid, A., Rasul, E.: Photosynthesis in leaf, stem, flower,

and fruit. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 479-497. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [189 ref.]

Walters, R.G.: Towards an understanding of photosynthetic acclimation. – J. exp. Bot. **56**: 435-447, 2005. [94 ref.]

Weber, A.P.M.: Solte transporters as connecting elements between cytosol and plastid stroma. – Curr. Opinion Plant Biol. **7**: 247-253, 2004. [Chloroplast; 57 ref.]

Weiss, M., Baret, F., Smith, G.J., Jonckheere, I., Coppin, P.: Review of methods for *in situ* leaf area index (LAI) determination. Part II. Estimation of LAI, errors and sampling. – Agr. Forest Meteorol. **121**: 37-53, 2004. [Review; 80 ref.]

White, J.W., McMaster, G.S., Edmeades, G.O.: Genomics and crop response to global change: what have we learned? – Field Crops Res. 9**0**: 165-169, 2004. [Ps; 20 ref.]

Whitehead, D., Beadle, C.L.: Physiological regulation of productivity and water use in *Eucalyptus*: a review. – Forest Ecol. Manage. **193**: 113-140, 2004. [Ps; 97 ref.]

Whitelegge, J.P.: Mass spectrometry for high throughput quantitative proteomics in plant research: lessons from thylakoid membranes. – Plant Physiol. Biochem. **42**: 919-927, 2004. [57 ref.]

Whitelegge, J.P.: Covalent modification of Photosystem II reaction center polypeptides. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 193-208. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [148 ref.]

Willows, R.D., Hansson, M.: Mechanism, structure, and regulation of magnesium chelatase. – In: Kadish, K.M., Smith, K.M., Guilard, R. (ed.): Chlorophylls and Bilins: Biosynthesis, Synthesis, and Degradation. Vol. 13. Pp. 1-47. Elsevier Science, Amsterdam 2003. [Chl synthesis; 204 ref.]

Winkel, B.S.J.: Metabolic channeling in plants. – Annu. Rev. Plant Biol. **55**: 85-107, 2004. [Calvin cycle; 112 ref.]

Woese, C.R.: A new biology for a new century. – Microbiol. mol. Biol. Rev. **68**: 173-186, 2004. [66 ref.]

Xu, D.-Q., Shen, Y.-K.: External and internal factors responsible for midday depression of photosynthesis. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 287-297. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [89 ref.]

Zeinalov, Y.: Mechanisms of photosynthetic oxygen evolution and fundamental hypotheses of photosynthesis. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 3-19. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [65 ref.]

METHODOLOGICAL PAPERS

A. Energy transformation, electron transfer, C fixation, and related methods

Allen, J.F.: State transitions – a question of balance. – Science **299**: 1530-1532, 2003. [Ps; model.]

Allen, J.F.: Superoxide as an obligatory, catalytic intermediate of photosynthetic reduction of oxygen by adrenaline and dopamine. – Antioxidants Redox Signal. **5**: 7-14, 2003. [Models.]

Allen, J.F., Mullineaux, C.W.: Probing the mechanism of state transitions in oxygenic photosynthesis by chlorophyll fluorescence spectroscopy, kinetics and imaging. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 447-461. Springer, Dordrecht 2004. [Review, 42 ref.]

Aro, E.-M., Rokka, A., Vener, A.V.: Determination of phosphoproteins in higher plant thylakoids. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 271-285. Humana Press, Totowa 2004.

Borodich, A., Rojdestvenski, I., Cottam, M., Anderson, J., Öquist, G.: Segregation of the photosystems in higher plant thylakoids and short- and long-term regulation by a mesoscopic approach. – J. theor. Biol. **225**: 431-441, 2003. [Model.]

Bruce, D., Vasil'ev, S.: Excess light stress: Multiple dissipative processes of excess excitation. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 497-523. Springer, Dordrecht 2004. [Review, models; 151 ref.]

Büchel, C., Kühlbrandt, W.: Structural differences in the inner part of Photosystem II between higher plants and cyanobacteria. – Photosynth. Res. **85**: 3-13, 2005. [Model.]

Buckley, T.N., Farquhar, G.D.: A new analytical model for whole-leaf potential electron transport rate. – Plant Cell Environ. **27**: 1487-1502, 2004.

Bumba, L., Havelková-Doušová, H., Hušák, M., Vácha, F.: Structural characterization of photosystem II complex from red alga *Porphyridium cruentum* retaining extrinsic subunits of the oxygen-evolving complex. – Eur. J. Biochem. **271**: 2967-2975, 2004. [Model.]

Chakrabarti, S., Bhattacharya, S., Bhattacharya, S.K.: A nonradioactive assay method for determination of enzymatic activity of D-ribulose-1,5-bisphosphate carboxylase/oxygenase (Rubisco). – J. biochem. biophys. Methods **52**: 179-187, 2002.

Chow, P.S., Landhäusser, S.M.: A method for routine measurements of total sugar and starch content in woody plant tissues. – Tree Physiol. **24**: 1129-1136, 2004.

Chung, E., Seong, E., Kim, Y.C., Chung, E.J., Oh, S.-K., Lee, S., Park, J.M., Joung, Y.H., Choi, D.: A method of high frequency virus-induced gene silencing in chili pepper (*Capsicum annuum* L. cv. Bukang). – Molecules Cells **17**: 377-380, 2004. [Ribulose-1,5-bisphosphate carboxylase small subunit (rbcS) genes.]

Ciobanu, M., Kincaid, H.A., Jennings, G.K., Cliffel, D.E.: Photosystem I pattering imaged by scanning electrochemical microscopy. – Langmuir **21**: 692-698, 2005.

Cuello, J., Quiles, M.J.: Fractionation of thylakoid membranes into grana and stroma thylakoids. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 1-9. Humana Press, Totowa 2004.

D'Souza, F., Smith, P.M., Zandler, M.E., McCarty, A.L., Itou, M., Araki, Y., Ito, O.: Energy transfer followed by electron transfer in a supramolecular triad composed of boron dipyrrin, zinc porphyrin, and fullerene: A model for the photosynthetic antena-reaction center complex. – J. amer. chem. Soc. **126**: 7898-7907, 2004.

Eaton-Rye, J.J.: The construction of gene knockouts in the cyanobacterium *Synechocystis* sp. PCC 6803. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 309-324. Humana Press, Totowa 2004.

Ford, R.C., Stoylova, S.S., Holzenburg, A.: An alternative model for photosystem II/light harvesting complex II in grana membranes based on cryo-electron microscopy studies. – Eur. J. Biochem. **269**: 326-336, 2002. [Model for grana ultrastructure.]

Fragata, M.: Photosystem II reconstitution into proteo-liposomes: Structure-function characterization. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 183-215. Humana Press, Totowa 2004.

Freeman, J., Hendry, G., Wydrzynski, T.: Extraction of the functional manganese and calcium from photosystem II. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 205-215. Humana Press, Totowa 2004.

Frigaard, N.-U., Sakuragi, Y., Bryant, D.A.: Gene inactivation in the cyanobacterium *Synechococcus* sp. PCC 7002 and the green sulfur bacterium *Chlorobium tepidum* using in vitro-made DNA constructs and natural transformation. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 325-340. Humana Press, Totowa 2004.

Garbusi, E., Frins, E.M., Ferrari, J.A.: Phase-shifting shearing interferometry with a variable polarization grating recorded on *Bacteriorhodopsin.* – Optics Commun. **241**: 309-314, 2004.

Golan, T., Li, X.-P., Müller-Moulé, P., Niyogi, K.K.: Using mutants to understand light stress acclimation in plants. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 525-554. Springer, Dordrecht 2004. [Review, 245 ref.]

Grabalska, M., Malec, P.: Blue light-induced chloroplast reorientations in *Lemna trisulca* L. (duckweed) are controlled by two separable cellular mechanisms as suggested by different sensitivity to wortmannin. – Photochem. Photobiol. **79**: 343-348, 2004.

Gradinaru, C.C., Martinsson, P., Aartsma, T.J., Schmidt, T.: Simultaneous atomic-force and two-photon fluorescence imaging of biological specimens *in vivo.* – Ultramicroscopy **99**: 235-245, 2004. [Scheme of the instrument; chloroplast.]

Guo, S., Schinner, K., Sattelmacher, B., Hansen, U.-P.: Different apparent CO_2 compensation points in nitrate- and ammonium-grown *Phaseolus vulgaris* and the relationship to non-photorespiratory CO_2 evolution. – Physiol. Plant. **123**: 288-301, 2005. [Model.]

Havelková-Doušová, H., Prášil, O., Behrenfeld, M.J.: Photoacclimation of *Dunaliella tertiolecta* (Chlorophyceae) under fluctuating irradiance. – Photosynthetica **42**: 273-281, 2004. [Model.]

Hideg, É.: Detection of free radicals and reactive oxygen species. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 249-260. Humana Press, Totowa 2004.

Hiyama, T.: Isolation of photosystem I particles from spinach. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 11-17. Humana Press, Totowa 2004.

Hiyama, T.: Isolation of photosystem I reaction center preparation from spinach. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 49-51. Humana Press, Totowa 2004.

Hiyama, T.: Isolation of photosystem I reaction center subunit polypeptides from spinach. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 63-66. Humana Press, Totowa 2004.

Huber, C.G., Walcher, W., Timperio, A.-M., Troiani, S., Porceddu, A., Zolla, L.: Multidimensional proteomic analysis of photosynthetic membrane proteins by liquid extraction-ultracentrifugation-liquid chromatography-mass spectrometry. – Proteomics **4**: 3909-3920, 2004.

Itoh, S., Sugiura, K.: Fluorescence of Photosystem I. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 231-250. Springer, Dordrecht 2004. [Review, 88 ref.]

Juneau, P., Green, B.R., Harrison, P.J.: Simulation of Pulse-Amplitude-Modulated (PAM) fluorescence: Limitations of some PAM-parameters in studying environmental stress effects. – Photosynthetica **43**: 75-83, 2005.

Kassies, R., van der Werf, K.O., Lenferink, A., Hunter, C.N., Olsen, J.D., Subramaniam, V., Otto, C.: Combined AFM and confocal fluorescence microscope for applications in bio-nanotechnology. – J. Microscopy **217** (Part 1): 109-116, 2005. [BChl complexes.]

Ko, B.S., Babcock, B., Jennings, G.K., Tilden, S.G., Peterson, R.R., Cliffel, D.: Effect of surface composition on the adsorption of Photosystem I onto alkanethiolate self-assembled monolayers on gold. – Langmuir **20**: 4033-438, 2004.

Kolbe, M., Besir, H., Essen, L.-O., Oesterhelt, D.: Structure of the light-driven chloride pump halorhodopsin at 1.8 Å resolution. – Science **288**: 1390-1396, 2000. [Models.]

Kramer, D.M., Avenson, T.J., Kanazawa, A., Cruz, J.A., Ivanov, B., Edwards, G.E.: The relationship between photosynthetic electron transfer and its regulation. –– In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 251-278. Springer, Dordrecht 2004. [Review, models; 261 ref.]

Lara, M.V., Drincovich, M.F., Andreo, C.S.: Induction of a crassulacean acid-like metabolism in the C_4 succulent plant, *Portulaca oleracea* L.: Study of enzymes involved in carbon fixation and carbohydrate metabolism. – Plant Cell Physiol. **45**: 618-626, 2004. [CO_2 fixation schemes.]

Levin, D.B., Pitt, L., Love, M.: Biohydrogen production: prospects and limitations to practical application. – Int. J, Hydrogen Energy **29**: 173-185, 2004. [Ps.]

Lórenz-Fonfria, V.A., Padrós, E.: Curve fitting overlapped bands: quantification and improvement of curve-fitting robustness in the presence of errors in the model and in the data. – Analyst **129**: 1243-1250, 2004. [Bacteriorhodopsin.]

Lupínková, L., Komenda, J.: Oxidative modifications of the photosystem II D1 protein by reactive oxygen species:

From isolated protein to cyanobacterial cells. – Photochem. Photobiol. **79**: 152-162, 2004. [Model of D1 polypeptide.]

Maly, J., Illiano, E., Sabato, M., De Francesco, M., Pinto, V., Masci, A., Masci, D., Masojidek, J., Sugiura, M., Franconi, R., Pilloton, R.: Immobilisation of engineered molecules on electrodes and optical surfaces. – Materials Sci. Eng. C **22**: 257-261, 2002. [PS2.]

Mohanty, S.K., Gupta, P.K.: Laser-assisted three-dimensional rotation of microscopic objects. – Rev. sci. Instrum. **75**: 2320-2322, 2004. [Chloroplast.]

Nam, Suk, Y., Kim, Y., Shin, W., Lee, W.H., Choi, J.-W.: Electrochemical property of immobilized spinach ferredoxin on HOPG electrode. – J. Microbiol. Biotechnol. **14**: 1043-1046, 2004.

Naqvi, K.R., Merzlyak, M.N., Melø, T.B.: Absorption and scattering of light by suspensions of cells and subcellular particles: an analysis in terms of Kramers-Kronig relations. – Photochem. Photobiol. Sci. **3**: 132-137, 2004. [Chloroplast.]

Navarro, J.A., Hervás, M., De la Rosa, M.A.: Purification of plastocyanin and cytochrome c_6 from plants, green algae, and cyanobacteria. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 79-92. Humana Press, Totowa 2004.

Osaki, M., Shinano, T., Yamada, M., Yamada, S.: Function of node unit in photosynthate distribution to root in higher plants. – Photosynthetica **42**: 123-131, 2004. [Phyton and node unit models.]

Poolman, M.G., Ölçer, H., Lloyd, J.C., Raines, C.A., Fell, D.A.: Computer modelling and experimental evidence for two steady states in the photosynthetic Calvin cycle. – Eur. J. Biochem. **268**: 2810-2816, 2001.

Pudlak, M., Pinčak, R.: Modeling charge tranfer in the photosynthetic reaction center. – Phys. Rev. E **68**(6): DOI: 10.1103/PhysRevE.68.061901, 2003.

Ramesh, V.M., Bingham, S.E., Webber, A.N.: A simple method for chloroplast transformation in *Chlamydomonas reinhardtii.* – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 301-307. Humana Press, Totowa 2004.

Ramesh, V.M., Webber, A.N.: Rapid isolation and purification of photosystem I chlorophyll-binding protein from *Chlamydomonas reinhardtii.* – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 19-28. Humana Press, Totowa 2004.

Rodríguez-Buey, M.L., Marco, E., Orús, M.I.: Isolation of *Synechococcus* PCC 7942 carboxysomes. – Ann. Microbiol. **55**: 81-84, 2005.

Rossel, J.B., Cuttriss, A., Identifying photoprotection mutants in *Arabidopsis thaliana.* – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 287-299. Humana Press, Totowa 2004.

Rouillon, R., Euzet, P., Carpentier, R.: Stabilization of photosynthetic materials. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 261-269. Humana Press, Totowa 2004.

Salem, K., van Waasbergen, L.G.: Photosynthetic electron transport controls expression of the high light inducible gene in the cyanobacterium *Synechococcus elongatus* strain PCC 7942. – Plant Cell Physiol. **45**: 651-658, 2004. [Model of electron transport.]

Sato, N., Tsuzuki, M.: Isolation and identification of chloroplast lipids. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 149-157. Humana Press, Totowa 2004.

Schleiff, E., Jelic, M., Soll, J.: A GTP-driven motor moves proteins across the outer envelope of chloroplasts. – Proc. nat. Acad. Sci. USA **100**: 4604-4609, 2003. [Model.]

Seibert, M., Yruela, I., Picorel, R.: Isolation of photosystem II reaction center complexes from plants. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 53-62. Humana Press, Totowa 2004.

Shinkarev, V.: Photosystem II: Oxygen evolution and chlorophyll *a* fluorescence induced by multiple flashes. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 197-229. Springer, Dordrecht 2004. [Review, 162 ref.]

Suzuki, T., Tada, O., Makimura, M., Tohri, A., Ohta, H., Yamamoto, Y., Enami, I.: Isolation and characterization of oxygen-evolving photosystem II complexes retaining the PsbO, P and Q proteins from *Euglena gracilis.* – Plant Cell Physiol. **45**: 1168-1175, 2004. [Purification of PS2.]

Timperio, A.M., Huber, C.G., Zolla, L.: Separation and identification of the light harvesting proteins contained in grana and stroma thylakoid membrane fractions. – J. Chromatogr. A **1040**: 73-81, 2004.

Tremmel, I.G., Kirchhoff, H., Weis, E., Farquhar, G.D.: Dependence of plastoquinol diffusion on the shape, size, and density of integral thylakoid proteins. – Biochim. biophys. Acta **1607**: 97-109, 2003. [Model.]

Tsitrone, A., Kirkpatrick, M., Levin, D.A.: A model for chloroplast capture. – Evolution **57**: 1776-1782, 2003.

Vavilin, D.V.: Isolation of functional photosystem II core particles from the cyanobacterium *Synechocystis* sp. PCC 6803. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 37-47. Humana Press, Totowa 2004.

Vyawahare, S., Eyal, S., Mathews, K.D., Quake, S.R.: Nanometer-scale fluorescence resonance optical waveguides. – Nano Lett. **4**: 1035-1039, 2004. [Ps structures as inspiration; fluorescence measurements in multi-FRET (fluorescence resonance energy transfer) systems; review, 28 ref.]

Waloszek, A., Więckowski, S.: Dioxygen uptake by isolated thylakoids from lettuce (*Lactuca sativa* L.): simultaneous measurements of dioxygen uptake, pH change of the medium and chlorophyll fluorescence parameters. – Photosynth. Res. **83**: 287-296, 2004. [Scheme of experimental set-up.]

Warnick, K.F., Francom, S.J., Humble, P.H., Kelly, R.T., Woolley, A.T., Lee, M.L., Tolley, H.D.: Field gradient electrophoresis. – Electrophoresis **26**: 405-414, 2005. [Bil.]

Yamamoto, Y., Nishi, Y., Yamasaki, H., Uchida, S., Ohira, H.: Assay of photoinhibition of photosystem II and protease activity. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 217-227. Humana Press, Totowa 2004.

Yamamoto, Y., Sakuma, S., Shen, J.-R.: Isolation of photosystem II-enriched membranes and the oxygen-

evolving complex subunit proteins from higher plants. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 29-36. Humana Press, Totowa 2004.

Yin, X., Van Oijen, M., Schapendonk, A.H.C.M.: Extension of a biochemical model for the generalized stoichiometry of electron transport limited C_3 photosynthesis. – Plant Cell Environ. **27**: 1211-1222, 2004.

Zhang, H., Cramer, W.A.: Purification and crystallization of the cytochrome b_6f complex in oxygenic photosynthesis. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 67-78. Humana Press, Totowa 2004.

Zolla, L., Rinalducci, S., Timperio, A.M., Huber, C.G.: Separation and identification of photosynthetic antenna membrane proteins by high performance liquid chromatography electrospray ionization mass spectrometry. – Eur. J. Mass Spectrometry **10**: 321-333, 2004. [Review; 58 ref.]

Zolla, L., Rinalducci, S., Timperio, A.M., Huber, C.G., Righetti, P.G.: Intact mass measurements for unequivocal identification of hydrophobic photosynthetic photosystems I and II antenna proteins. – Electrophoresis **25**: 1353-1366, 2004.

B. Analysis of chloroplast pigments and their *in vivo* complexes

Adams, W.W., III, Demmig-Adams, B.: Chlorophyll fluorescence as a tool to monitor plant response to the environment. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 583-604. Springer, Dordrecht 2004. [Review, 166 ref.]

Andreeva, A., Velitchkova, M.: Resonance Raman spectroscopy of carotenoids in Photosystem I particles. – Biophys. Chem. **114**: 129-135, 2005. [Review; 40 ref.]

Aulich, S., Nordmeyer, H.: Möglichkeiten einer Differenzierung von Umkrautarten mittels der Chlorophyllfluoreszenz-bildanalyse. – Z. Pflanzenkrankheiten Pflanzenchutz Sonderheft XIX: 363-369, 2004.

Barbini, R., Colao, F., de Dominicis, L., Fantoni, R., Fiorani, L., Palucci, A., Artamonov, E.S.: Analysis of simultaneous chlorophyll measurements by lidar fluorosensor, MODIS and SeaWiFS. – Int. J. remote Sensing **25**: 2095-2110, 2004. [Comparison of methods.]

Bhagwat, A.S., Bhattacharjee, S.K.: Thermoluminescence as a tool in the study of photosynthesis. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 21-34. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [Review, 85 ref.]

Bodemer, U.: Variability of phycobiliproteins in cyanobacteria detected by delayed fluorescence excitarion spectroscopy and its relevance for determination of phytoplankton composition of natural water samples. – J. Plankton Res. **26**: 1147-1162, 2004.

Borhan, M.S., Panigrahi, S., Lorenzen, J.H., Gu, H.: Multispectral and color imaging techniques for nitrate and chlorophyll determination of potato leaves in a controlled environment. – Transact. ASAE **47**: 599-608, 2004.

Bumba, L., Hušák, M., Vácha, F.: Interaction of photosystem 2-LHC2 supercomplexes in adjacent layers of stacked chloroplast thylakoid membranes. – Photosynthetica **42**: 193-199, 2004. [Model.]

Chen, J.P., Tai, C.Y., Chem, B.H.: Improved liquid chromatographic method for determination of carotenoids in Taiwanese mango (*Mangifera indica* L.). – J. Chromatogr. A **1054**: 261-268, 2004.

Christensen, R.L., Barney, E.A., Broene, R.D., Galinato, M.G.I., Frank, H.A.: Linear polyenes: models for the spectroscopy and photophysics of carotenoids. – Arch. Biochem. Biophys. **430**: 30-36, 2004.

Damjanović, A., Kosztin, I., Kleinekathöfer, U., Schulten, K.: Excitons in a photosynthetic light-harvesting system: A combined molecular dynamics, quantum chemistry, and polaron model study. – Phys. Rev. E **65**: DOI:10.1103/PhysRevE.65.031919, 2002.

Evain, S., Flexas, J., Moya, I.: A new instrument for passive remote sensing: 2. Measurement of leaf and canopy reflectance changes at 531 nm and their relationship with photosynthesis and chlorophyll fluorescence. – Remote Sens. Environ. **91**: 175-185, 2004.

Frackowiak, D., Ptak, A., Gryczynski, Z., Gryczynski, I., Targowski, P., Zelent, B.: Fluorescence polarization studies of B-phycoerythrin oriented in polymer film. – Photochem. Photobiol. **79**: 11-20, 2004. [Optical arrangement.]

Furukawa, N., Mair, C.E., Kleiman, V.D., Takeda, J.: Femtosecond real-time pump-probe imaging spectroscopy. – Appl. Phys. Lett. **85**: 4645-4647, 2004.

Gilbert, M., Wagner, H., Weingart, I., Skotnica, J., Nieber, K., Tauer, G., Bergmann, F., Fischer, H., Wilhelm, C.: A new type of thermoluminometer: A highly sensitive tool in applied photosynthesis research and plant stress physiology. – J. Plant Physiol. **161**: 641-651, 2004.

Gilmore, A.M.: Excess light stress: Probing excitation dissipation mechanisms through global analysis of time- and wavelength-resolved chlorophyll *a* fluorescence. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 555-581. Springer, Dordrecht 2004. [Review, 116 ref.]

Gilmore, A.M., Larkum, A.W.D., Salih, A., Itoh, S., Shibata, Y., Bena, C., Yamasaki, H., Papina, M., van Woesik, R.: Simultaneous time resolution of the emission spectra of fluorescent proteins and zooxanthellar chlorophyll in reef-building corals. – Photochem. Photobiol. **77**: 515-523, 2003.

Gruszecki, W.I.: Incorporation and analysis of LHCII in model system. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 173-181. Humana Press, Totowa 2004.

Hejazi, M.A., Holwerda, E., Wijffels, R.H.: Milking microalga *Dunaliella salina* for β-carotene production in two-phase bioreactors. – Biotechnol. Bioeng. **85**: 475-481, 2004.

Hejazi, M.A., Kleinegris, D., Wijffels, R.H.: Mechanism of extraction of β-carotene from microalga *Dunaliellea salina* in two-phase bioreactors. – Biotechnol. Bioeng. **88**: 593-600, 2004.

Heřman, P., Kleinekathöfer, U., Barvík, I., Schreiber, M.:

Influence of static and dynamic disorder on the anisotrophy of emission in the ring antenna subunits of purple bacteria photosynthetic systems. – Chem. Phys. **275**: 1-13, 2002. [Model.]

Hieber, A.D., Kawabata, O., Yamamoto, H.Y.: Significance of the lipid phase in the dynamics and functions of the xanthophyll cycle as revealed by PsbS overexpression in tobaco and *in-vitro* de-epoxidation in monogalactosyl-diacylglycerol micelles. – Plant Cell Physiol. **45**: 92-102, 2004. [Models of xanthophyll cycle operation.]

Hoober, J.K., Argyroudi-Akoyunoglou, J.H.: Assembly of light-harvesting complexes of Photosystem II and the role of chlorophyll *b*. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 679-712. Springer, Dordrecht 2004. [Review, models; 276 ref.]

Isailovic, D., Li, H.-W., Phillips, G.J., Yeung, E.S.: High-throughput single-cell fluorescence spectroscopy. – Appl. Spectroscopy **59**: 221-226, 2005. [Bil.]

Isailovic, D., Li, H.-W., Yeung, E.S.: Isolation and characterization of R-phycoerythrin subunits and enzymatic digests. – J. Chromatogr. A **1051**: 119-130, 2004.

Jackowski, G.: Separation, purification, and charecterization of polypeptide composition of subcomplexes of the main light-harvesting chlorophyll *a/b*-protein complex of photosystem II. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 115-128. Humana Press, Totowa 2004.

Jenkins, R.D., Andrews, D.L.: Multichromophore excitons and resonance energy transfer: Molecular quantum electrodynamics. – J. chem. Phys. **118**: 3470-3479, 2003. [Light-harvesting complexes, model.]

Jifon, J.L., Syvertsen, J.P., Whaley, E.: Growth environment and leaf anatomy affect nondestructive estimates of chlorophyll and nitrogen in *Citrus* sp. leaves. – J. amer. Soc. horticult. Sci. **130**: 152-158, 2005. [SPAD-502.]

Juneau, P., Green, B.R., Harrison, P.J.: Simulation of Pulse-Amplitude-Modulated (PAM) fluorescence: Limitations of some PAM-parameters in studying environmental stress effects. – Photosynthetica **43**: 75-83, 2005.

Kassies, R., van der Werf, K.O., Lenferink, A., Hunter, C.N., Olsen, J.D., Subramaniam, V., Otto, C.: Combined AFM and confocal fluorescence microscope for applications in bio-nanotechnology. – J. Microscopy **217** (Part 1): 109-116, 2005. [BChl complexes.]

Kleinekathöfer, U., Barvík, I., Heřman, P., Kondov, I., Schreiber, M.: Memory effects in the fluorescence depolarization dynamics studied within the B850 ring of purple bacteria. – J. phys. Chem. B **107**: 14094-14102, 2003. [Model.]

Kleinekathöfer, U., Schröder, M., Schreiber, M.: Absorption spectra for a model light-harvesting system using non-Markovian theories. – J. Luminescence **112**: 461-464, 2005. [BChl.]

Kolossov, V.L., Kopetz, K.J., Rebeiz, C.A.: Chloroplast biogenesis 87: Evidence of resonance excitation energy transfer between tetrapyrrole intermediates of the chlorophyll biosynthetic pathway and chlorophyll *a*. – Photochem. Photobiol. **78**: 184-196, 2003. [Model.]

Kunieda, M., Mizoguchi, T., Tamiaki, H.: Diastereoselective self-aggregation of synthetic 3-(1-hydroxyethyl)-bacteriochlorophyll-*a* as a novel photosynthetic antenna model absorbing near the infrared region. – Photochem. Photobiol. **79**: 55-61, 2004.

Lazár, D., Kaňa, R., Klinkovský, T., Nauš, J.: Experimental and theoretical study on high temperature induced changes in chlorophyll *a* fluorescence oscillations in barley leaves upon 2 % CO_2. – Photosynthetica **43**: 13-27, 2005. [Model.]

Lee, Z.P., Carder, K.L.: Absorption spectrum of phytoplankton pigments derived from hyperspectral remote-sensing reflectance. – Remote Sensing Environ. **89**: 361-368, 2004.

Levizou, E., Petropoulou, Y., Manetas, Y.: Total carotenoid amount in crude twig extracts may be overestimated due to interference by high contents of co-extracted phenolics. – Photosynthetica **42**: 295-297, 2004.

Lewitus, A.J., White, D.L., Tymowski, R.G., Geesey, M.E., Hymel, S.N., Noble, P.A.: Adapting the CHEMTAX method for assessing phytoplankton taxonomic composition in southeastern US estuaries. – Estuaries **28**: 160-172, 2005. [Chl, Car.]

Liu, H.L., Kao, T.H., Chen, B.H.: Determination of carotenoids in the Chinese medical herb Jiao-Gu-Lan (*Gynostemma pantaphyllum* MAKINO) by liquid chromatography. – Chromatografia **60**: 411-417, 2004.

Macías-Sánchez, M.G., Mantell, C., Rodríguez, M., de la Ossa, E.M., Lubián, L.M., Montero, O.: Supercritical fluid extraction of carotenoids and chlorophyll *a* from *Nannochloropsis gaditana*. – J. Food Eng. **66**: 245-251, 2005.

Martínez, D.E., Guiamet, J.J.: Distortion of the SPAD 502 chlorophyll meter readings by changes in irradiance and leaf water status. – Agronomie **24**: 41-46, 2004. [Effect of environmental conditions on determined values.]

Mimuro, M.: Photon capture, excitation migration and trapping and fluorescence emission in cyanobacteria and red algae. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 173-195. Springer, Dordrecht 2004. [Review, 127 ref.]

Moya, I., Cerovic, Z.G.: Remote sensing of chlorophyll fluorescence: Instrumentation and analysis. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 429-445. Springer, Dordrecht 2004. [Review, 72 ref.]

Murphy, R.J., Tolhurst, T.J., Chapman, M.G., Underwood, A.J.: Estimation of surface chlorophyll on an exposed mudflat using digital colour-infrared (CIR) photography. – Estuar. coast. Shelf Sci. **59**: 625-638, 2004.

Nam, Y.S., Choi, J.-W., Lee, W.-H.: Photoswitching characteritics of biodevice consisting of chlorophyll *a* Langmuir-Blodgett film. – J. Microbiol. Biotechnol. **14**: 1038-1042, 2004.

Naqvi, K.R., Hassan, T.H., Naqvi, Y.A.: Expeditious implimentation of two new methods for analysing the pigment composition of photosynthetic specimens. – Spectrochim. Acta A **60**: 2783-2791, 2004.

Nedbal, L., Whitmarsh, J.: Chlorophyll fluorescence imaging of leaves and fruits. – In: Papageorgiou, G.C.,

Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 389-407. Springer, Dordrecht 2004. [Review, 103 ref.]

Netto, A.T., Campostrini, E., de Oliveira, J.G., Bressan-Smith, R.E.: Photosynthetic pigments, nitrogen, chlorophyll *a* fluorescence and SPAD-502 readings in coffee leaves. – Scientia Horticult. **104**: 199-209, 2005.

Oxborough, K.: Using chlorophyll *a* fluorescence imaging to monitor photosynthetic performance. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 409-428. Springer, Dordrecht 2004. [Review, 51 ref.]

Parésys, G., Rigart, C., Rousseau, B., Wong, A.W.M., Fan, F., Barbier, J.-P., Lavaud, J.: Quantitative and qualitative evaluation of phytoplankton communities by trichromatic chlorophyll fluorescence excitation with special focus on cyanobacteria. – Water Res. **39**: 911-921, 2005. [Newly developed fluorometer.]

Picorel, R., Alfonso, M., Seibert, M.: Isolation of CP43 and CP47 photosystem II proximal antenna complexes from plants. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 129-135. Humana Press, Totowa 2004.

Pocock, T., Król, M., Huner, N.P.A.: The determination and quantification of photosynthetic pigments by reverse phase high-performance liquid chromatography, thin-layer chromatography, and spectrophotometry. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 137-148. Humana Press, Totowa 2004.

Quach, H.T., Steeper, R.L., Griffin, G.W.: An improved method for the extraction and thin-layer chromatography of chlorophyll *a* and *b* from spinach. – J. chem. Educ. **81**: 385-387, 2004.

Reineker, P., Barvík, I., Warns, C., Neidlinger, T.: Modeling excitonic line shapes of photosynthetic light harvesting systems: influence of quasi-static and dynamic disorder. – J. Luminescence **87-89**: 806-808, 2000.

Reineker, P., Supritz, C., Warns, C., Barvík, I.: Photosynthetic antennae systems: energy transport and optical absorption. – J. Luminescence **108**: 149-152, 2004. [Model.]

Reineker, P., Warns, C., Neidlinger, T., Barvík, I.: Cyclic molecular aggregates: influence of quasi-static and dynamic disorder on their excitonic line shapes. – J. mol. Liquids **86**: 285-292, 20000. [Model of bacterial photosynthetic unit.]

Reineker, P., Warns, C., Supritz, C., Barvík, I.: Exciton dynamics in light harvesting systems. – J. Luminescence **102-103**: 802-806, 2003. [Ps bacteria; model.]

Roldán, M., Thomas, F., Castel, S., Quesada, A., Hernández-Mariné, M.: Noninvasive pigment identification in single cells from living phototrophic biofilms by confocal imaging spectrofluorometry. – Appl. environ. Microbiol. **70**: 3745-3750, 2004.

Rühle, W., Paulsen, H.: Preparation of native and recombinant light-harvesting chlorophyll-*a/b* complex. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 93-103. Humana Press, Totowa 2004.

Runcie, J.W., Riddle, M.J.: Measuring variability in chlo rophyll-fluorescence-derived photosynthetic parameters *in situ* with a programmable multi-channel fluorometer. – Funct. Plant Biol. **31**: 559-562, 2004.

Salverda, J.M., Vengris M., Krueger, B.P., Scholes, G.D., Czamoleski, A.R., Novoderezhkin, V., van Amerongen, H., van Grondelle, R.: Energy transfer in light-harvesting complexes LHCII and CP29 of spinach studied with three pulse echo peak shift and transient grating. – Biophys. J. **84**: 450-465, 2003. [Model.]

Sane, P.V.: Thermoluminescence. A technique for probing photosystem II. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 229-248. Humana Press, Totowa 2004.

Schreiber, U.: Pulse-amplitude-modulation (PAM) fluorometry and saturation pulse method: An overview. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 279-319. Springer, Dordrecht 2004. [Review, 224 ref.]

Simidjiev, I., Várkonyi, Z., Garab, G.: Isolation and characterization of lamellar aggregates of LHCII and LHCII-lipid macro-assemblies with light-inducible structural transitions. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 105-114. Humana Press, Totowa 2004.

Sokoletsky, L., Dubinsky, Z., Shoshany, M., Stambler, N.: Single-wavelength algorithms for *in situ* or remote sensing estimation of mean pigment concentration. – Int. J. remote Sensing **25**: 1517-1525, 2004.

Stich, H.B., Brinker, A.: Less is better: Uncorrected versus pheopigment-corrented photometric chlorophyll-*a* estimation. – Arch. Hydrobiol. **162**: 111-120, 2005.

Strasser, R.J., Tsimilli-Michael, M., Srivastava, A.: Analysis of the chlorophyll *a* fluorescence transient. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 321-362. Springer, Dordrecht 2004. [Review, 124 ref.]

Sušila, P., Lazár, D., Ilík, P., Tomek, P., Nauš, J.: The gradient of exciting radiation within a sample affects the relative height of steps in the fast chlorophyll *a* fluorescence rise. – Photosynthetica **42**: 161-172, 2004. [Model.]

Tada, K., Yamaguchi, H., Montani, S.: Comparison of chlorophyll *a* concentrations obtained with 90 % acetone and *N*,*N*-dimethylformamide extraction in coastal sea-water. – J. Oceanogr. **60**: 259-261, 2004.

Tajmir-Riahi, H.-A., Neault, J.-F., Diamantoglou, S.: DNA adducts with chlorophyll and chlorophyllin as antimutagenic agents: Synthesis, stability, and structural features. – In: Carpentier, R. (ed.): Photosynthesis Research Protocols. Pp. 159-171. Humana Press, Totowa 2004.

Tsao, R., Deng, Z.: Separation procedures for naturally occurring antioxidant phytochemicals. – J. Chromatogr. B **812**: 85-99, 2004. [Car; review, 218 ref.]

Valderrama, J.O., Perrut, M., Majewski, W.: Extraction of astaxantine and phycocyanine from microalgae with supercritical carbon dioxide. – J. chem. Eng. Data **48**: 827-830, 2003. [Flow sheet of the apparatus.]

van den Berg, A.K., Perkins, T.D.: Evaluation of a portable chlorophyll meter to estimate chlorophyll and nitrogen contents in sugar maple (*Acer saccharum* Marsh.) leaves. – Forest Ecol. Manage. **200**: 113-117, 2004.

Vredenberg, W.J.: System analysis and photoelectro-

chemical control of chlorophyll fluorescence in terms of trapping models of Photosystem II: A challenging view. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 133-172. Springer, Dordrecht 2004. [Review, 142 ref.]

Vredenberg, W.J., Bulychev, A.: Photoelectric effects on chlorophyll fluorescence of photosystem II *in vivo*. Kinetics in the absence and presence of valinomycin. – Bioelectrochemistry **60**: 87-95, 2003. [Model.]

Warnick, K.F., Francom, S.J., Humble, P.H., Kelly, R.T., Woolley, A.T., Lee, M.L., Tolley, H.D.: Field gradient electrophoresis. – Electrophoresis **26**: 405-414, 2005. [Bil.]

Warns, C., Reineker, P., Barvík, I.: Excitonic optical line shapes of cyclic and elliptically deformed molecular aggregates with 18 units: influence of quasi-static and dynamic disorder. – Chem. Phys. **290**: 1-14, 2003. [Bacterial Ps antenna systems; model.]

Wilson, M.A., Hodgson, D.A., Keely, B.J.: Atmospheric pressure chemical ionisation liquid chromatography/ multistage mass spectrometry for assignment of sedimentary bacteriochlorophyll derivatives. – Rapid Commun. Mass Spectrometry **19**: 38-46, 2005.

C. Analysis of gas exchange and accumulation of dry matter and energy

Bauerle, W.L., Toler, J.E., Wang, G.G.: Stomatal conductance of *Acer rubrum* ecotypes under varying soil and atmospheric water conditions: predicting stomatal responses with an abscisic acid-based model. – Tree Physiol. **24**: 805-811, 2004.

Bremer, D.J., Ham, J.M.: Measurement and partitioning of *in situ* carbon dioxide fluxes in turfgrasses using a pressurized chamber. – Agron. J. **97**: 627-632, 2005.

Cavender-Bares, J., Bazzaz, F.A.: From leaves to ecosystems: Using chlorophyll fluorescence to assess photosynthesis and plant function in ecological studies. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 737-755. Springer, Dordrecht 2004. [Review, 109 ref.]

Davenport, J.R., Perry, E.M., Lang, N.S., Stevens, R.G.: Leaf spectral reflectance for nondestructive measurement of plant nutrient status. – Horttechnology **15**: 31-35, 2005. [Chl.]

Davey, P.A., Hunt, S., Hymus, G.J., DeLucia, E.H., Drake, B.G., Karnosky, D.F., Long, S.P.: Respiratory oxygen uptake is not decreased by an instantaneous elevation of [CO_2], but is increased with long-term growth in the field at elevated [CO_2]. – Plant Physiol. **134**: 520-527, 2004. [Problems in measurement of respiration rate.]

Dayan, E., Presnov, E., Fuchs, M.: Prediction and calculation of morphological characteristics and distribution of assimilates in the ROSGRO model. – Mathematics Computers Simulation **65**: 101-116, 2004.

Handa, I.T., Körner, C., Hättenschwiler, S.: A test of the treeline carbon limitation hypothesis by *in situ* CO_2 enrichment and defoliation. – Ecology **86**: 1288-1300, 2005. [Review; 70 ref.]

Jahren, A.H.: The carbon stable isotope composition of pollen. – Rev. Palaeobot. Palynol. **132**: 291-313, 2004. [C_3 and C_4 plants, $\delta^{13}C$; review, 67 ref.]

Küpper, H., Šetlík, I., Hlásek, M.: A versatile chamber for simultaneous measurements of oxygen exchange and fluorescence in filamentous and thallous algae as well as higher plants. – Photosynthetica **42**: 579-583, 2004.

Kuroiwa, H., Mori, T., Takahara, M., Miyagishima, S., Kuroiwa, T.: Chloroplast division machinery as revealed by immunofluorescence and electron microscopy. – Planta **215**: 185-190, 2002. [Model.]

Leonardos, E.D., Grodzinski, B.: Whole-plant CO_2 exchage as a noninvasive tool for measuring growth. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 597-616. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [Review, 220 ref.]

Levizou, E., Drilias, P., Psaras, G.K., Manetas, Y.: Nondestructive assessment of leaf chemistry and physiology through spectral reflectance measurements may be misleadings when changes in trichome density co-occur. – New Phytol. **165**: 463-472, 2005.

Masarovičová, E., Kráľová, K.: Approaches to measuring plant photosynthetic activity. – In: Pessarakli, M. (ed.): Handbook of Photosynthesis. 2nd Ed. Pp. 617-656. Taylor & Francis Group, Boca Raton – London – New York – Singapore 2005. [Review, 118 ref.]

Merzlyak, M.N., Melø, T.B., Naqvi, K.R.: Estimation of leaf transmittance in the mear infrared region through reflectance measurements. – J. Photochem. Photobiol. B **74**: 145-150, 2004.

Mezzanotte, V., Colombo, C., Ficara, E., Rozzi, A.: Initial results on the use of pH-stat titration (AIDA method) for the measurement of algal photosynthesis. – Water SA **30**: 347-352, 2004. [Scheme of the apparatus.]

Oguchi, R., Hikosaka, K., Hirose, T.: Does the photosynthetic light-acclimation need change in leaf anatomy? – Plant Cell Environ. **26**: 505-512, 2003. [Model.]

Peri, P.L., Moot, D.J., McNeil, D.L.: Modelling photosynthetic efficiency (α) for the light-response curve of cocksfoot leaves grown under temperate field conditions. – Eur. J. Agron. **22**: 277-292, 2005.

Shinkarev, V.P.: Oxygen evolution in photosynthesis: Simple analytical solution for the Kok model. – Biophys. J. **85**: 435-441, 2003.

Schulze, B., Wirth, C., Linke, P., Brand, W.A., Kuhlmann, I., Horna, V., Schulze, E.-D.: Laser ablation-combustion-GC-IRMS—a new method for online analysis of intra-annual variation of $\delta^{13}C$ in tree rings. – Tree Physiol. **24**: 1193-1201, 2004.

Thornton, L.E., Keren, N., Ohad, I., Pakrasi. H.B.: *Physcomitrella patens* and *Ceratodon purpureus*, mosses as model organisms in photosynthesis studies. – Photosynth. Res. **83**: 87-96, 2005.

Uddling, J., Pleijel, H., Karlsson, P.E.: Measuring and modelling leaf diffusive conductance in juvenile silver birch, *Betula pendula*. – Trees **18**: 686-695, 2004.

Waren, C.R., Livingston, N.J., Turpin, D.H.: Water stress

decreases the transfer conductance of Douglas-fir (*Pseudotsuga menziesii*) seedlings. – Tree Physiol. **24**: 971-979, 2004.

Yamada, T., Arakawa, H., Okajima, T., Shimada, T., Ikai, A.: Use of AFM for imaging and measurement of the mechanical properties of light-convertible organelles in plants. – Ultramicroscopy **91**: 261-268, 2002. [Chloroplast.]

Yu, Q., Zhang, Y., Liu, Y., Shi, P.: Simulation of the stomatal conductance of winter wheat in response to light, temperature and CO_2 changes. – Ann. Bot. **93**: 435-441, 2004.

Yun, Y.-S., Park, J.M.: Kinetic modeling of the light-dependent photosynthetic activity of the green microalga *Chlorella vulgaris*. – Biotechnol. Bioeng. **83**: 303-311, 2003.

Zavala, M.A.: Integration of drought tolerance mechanisms in Mediterranean sclerophylls: a functional interpretation of leaf gas exchange simulators. – Ecol. Modelling **176**: 211-226, 2004.

Zuidema, P.A., Leffelaar, P.A., Gerritsma, W., Mommer, L., Anden, N.P.R.: A physiological production model for cocoa (*Theobroma cacao*): model presentation, validation and application and application. – Agr. Systems **84**: 195-225, 2005. [Review; 95 ref.]

D. Canopies and aquatic communities: analysis of structure, production, and mass and energy exchange

Allen, J.I., Siddorn, J.R., Blackford, J.C., Gilbert, F.J.: Turbulence as a control on the microbial loop in a temperate seasonally stratified marine systems model. – J. Sea Res. **52**: 1-20, 2004.

Almeida, A.C., Landsberg, J.J., Sands, P.J.: Parameterisation of 3-PG model for fast-growing *Eucalyptus grandis* plantations. – Forest Ecol. Manage. **193**: 179-195, 2004.

Arhonditsis, G., Eleftheriadou, M., Karydis, M., Tsirtsis, G.: Eutrophication risk assessment in coastal embayments using simple statistical models. – Mar. Pollution Bull. **46**: 1174-1178, 2003.

Arrigo, K.R., Lubin, D., van Dijken, G.L., Holm-Hansen, O., Morrow, E.: Impact of a deep ozone hole on Southern Ocean primary production. – J. geophys. Res. **108**(C5): 3154, doi:10.1029/2001JC001226, 2003. [Model.]

Baird, M.E., Oke, P.R., Suthers, I.M., Middleton, J.H.: A plankton population model with biomechanical descriptions of biological processes in an idealised 2D ocean basin. – J. mar. Systems **50**: 199-222, 2004.

Baird, M.E., Walker, S.J., Wallace, B.B., Webster, I.T., Parslow, J.S.: The use of mechanistic descriptions of algal growth and zooplankton grazing in an estuarine eutrophication model. – Estuar. coast. Shelf Sci. **56**: 685-695, 2003.

Banse, K., Postel, J.R.: On using pigment-normalized, light-saturated carbon uptake with satellite-derived pigment for estimating column photosynthesis. – Global biogeochem. Cycles **17**(3): 1079, doi:10.1029/2002GB002021, 2003. [Model.]

Beckmann, A., Hense, I.: Torn between extremes: the ups and downs of phytoplankton. – Ocean Dynamics **54**: 581-592, 2004. [Model.]

Binding, C.E., Bowers, D.G., Mitchelson-Jacob, E.G.: Estimating suspended sediment concentrations from ocean colour measurements in moderately turbid waters; the impact of variable particle scattering properties. – Remote Sensing Environ. **94**: 373-383, 2005.

Blackford, J.C., Allen, J.I., Gilbert, F.J.: Ecosystem dynamics at six contrasting sites: a generic modelling study. – J. mar. Systems **52**: 191-215, 2004.

Blondeau-Patissier, D., Tilstone, G.H., Martinez-Vicente, V., Moore, G.F.: Comparison of bio-physical marine products from SeaWiFS, MODIS and a bio-optical model with *in situ* measurements from Northern European waters. – J. Optics A **6**: 875-889, 2004.

Bond-Lamberty, B., Gower, S.T., Ahl, D.E., Thornton, P.E.: Reimplementation of the Biome-BGC model to simulate successional change. – Tree Physiol. **25**: 413-424, 2005. [Ps.]

Borsuk, M.E., Stow, C.A., Reckhow, K.H.: Confounding effect of flow on estuarine response to nitrogen loading. – J. environ. Eng. **130**: doi.10.1061/(ASCE)0733-9372, 2004. [Model.]

Bowers, D.G., Evans, D., Thomas, D.N., Ellis, K., Williams, P.J. le B.: Interpreting the colour of an estuary. – Estuar. coast. Shelf Sci. **59**: 13-20, 2004.

Brando, V.E., Dekker, A.G.: Satellite hyperspectral remote sensing for estimating estuarine and coastal water quality. – IEEE Transact. Geosci. remote Sensing **41**: 1378-1387, 2003. [Chl.]

Braswell, B.H., Sacks, W.J., Linder, E., Schimel, D.S.: Estimating diurnal to annual ecosystem parameters by synthesis of a carbon flux model with eddy covariance net ecosystem exchange observations. – Global Change Biol. **11**: 335-355, 2005.

Broström, G., Drange, H.: On the mathematical formulation and parameter estimation of the Norwegian Sea plankton system. – Sarsia **85**: 211-225, 2000.

Buonomo, B., Falcucci, M., Hull, V., Rionero, S.: A mathematical model for an integrated experimental aquaculture plant. – Ecol. Modelling **183**: 11-28, 2005.

Calvet, J.C., Rivalland, V., Picon-Cochard, C., Guehl, J.-M.: Modelling forest transpiration and CO_2 fluxes – response to soil moisture stress. – Agr. Forest Meteorol. **124**: 143-156, 2004.

Cerezo, E., Seron, F.J.: An approach to the simulation of the sea as participating medium. – Comput. Graphics **27**: 487-501, 2003. [Model.]

Cerezo, E., Seron, F.J.: Inelastic scattering and participating media. Application to the ocean. – In: Chover, M., Hagen, H., Tost, D. (ed.): Eurographics 2003. Short Presentations. Pp. 307-314. Eurographics Association, Granada 2003. [Chl fluorescence, oceans; models.]

Cerezo, E., Seron, F.J.: Rendering natural waters taking fluorescence into account. – Computer Animation virtual Worlds **15**: 471-484, 2004. [Chl.]

Chen, D.-X., Coughenour, M.B.: Photosynthesis, transpiration, and primary productivity: Scaling up from

leaves to canopies using process models and remotedly sensed data. – Global biogeochem. Cycles **18**(4) GB4033, doi:10.1029/2002GB001979, 2004.

Chen, Q., Mynett, A.E.: A robust fuzzy logic approach to modelling algae biomass. Une approche robuste de logique floue pour modéliser la biomasse d´algues. – J. hydraulic Res. **42**: 303-309, 2004.

Christian, J.R.: Biogeochemical cycling in the oligotrophic ocean: Redfield and non-Redfield models. – Limnol. Oceanogr. **50**: 646-657, 2005.

Dall'Olmo, G., Gitelson, A.A.: Effect of bio-optical parameter variability on the remote estimation of chlorophyll-*a* concentration in turbid productive waters: experimental results. – Appl. Opt. **44**: 412-422, 2005.

Darecki, M., Stramski, D.: An evaluation of MODIS and SeaWiFS bio-optical algorithms in the Baltic Sea. – Remote Sens. Environ. **89**: 326-350, 2004.

Dash, J., Curran, P.J.: The MERIS terrestrial chlorophyll index. – Int. J. remote Sensing **25**: 5403-5413, 2004.

Deckmyn, G., Laureysens, I., Garcia, J., Muys, B., Ceulemans, R.: Poplar growth and yield in short rotation coppice: model simulations using the process model SECRETS. – Biomass Bioenergy **26**: 221-227, 2004.

Delire, C., Foley, J.A., Thompson, S.: Evaluating the carbon cycle of a coupled atmosphere–biosphere model. – Global biochem. Cycles **17(**1) 1012, doi:10.1029/ 2002GB001870, 2003.

Delire, C., Foley, J.A., Thompson, S.: Long-term variability in a coupled atmosphere–biosphere model. – J. Climate **17**: 3947-3959, 2004.

Dierssen, H.M., Zimmerman, R.C., Leathers, R.A., Downes, T.V., Davis, C.O.: Ocean color remote sensing of seagrass and bathymetry in the Bahamas Banks by high-resolution airborne imagery. – Limnol. Oceanogr. **48**: 444-455, 2003. [Model.]

Dransfeld, S., Tatnall, A.R., Robinson, I.S., Mobley, C.D.: A comparison of Multi-layer Perceptron and multilinear regression algorithms for the inversion of synthetic ocean colour spectra. – Int. J. remote Sensing **25**: 4829-4834, 2004.

Elliott, J.A., Thackeray, S.J.: The simulation of phytoplankton in shallow and deep lakes using PROTECH. – Ecol. Modell. **178**: 357-369, 2004.

Engel, A., Thoms, S., Riebesell, U., Rochelle-Newall, E., Zondervan, I.: Polysaccharide aggregation as a potential sink of marine dissolved organic carbon. – Nature **428**: 929-932, 2004. [Model.]

Falkowski, P.G., Koblížek, M., Gorbunov, M., Kolber, Z.: Development and application of variable chlorophyll fluorescence techniques in marine ecosystems. – In: Papageorgiou, G.C., Govindjee (ed.): Chlorophyll *a* Fluorescence. A Signature of Photosynthesis. Pp. 757-778. Springer, Dordrecht 2004. [Review, 69 ref.]

Fang, H., Liang, S.: A hybrid inversion method for mapping leaf area index from MODIS data: experiments and application to broadleaf and needleleaf canopies. – Remote Sens. Environ. **94**: 405-424, 2005.

Fear, J., Gallo, T., Hall, N., Loftin, J., Paerl, H.: Predicting benthic microalgal oxygen and nutrient flux responses to a nutrient reduction management strategy for the eutrophic Neuse River Estuary, North Carolina, USA. – Estuar. coast. Shelf Sci. **61**: 491-506, 2004. [Core flux chamber.]

Fennel, K., Abbott, M.R., Spitz, Y.H., Richman, J.G., Nelson, D.M.: Impacts of iron control on phytoplakton production in the modern and glacial Southern Ocean. – Deep-Sea Res. II **50**: 833-851, 2003. [Model.]

Ferencz, C., Bognár, P., Lichtenberger, J., Hamar, D., Tarscai, Gy., Timár, G., Molnár, G., Pásztor, Sz., Steinbach, P., Székely, B., Ferencz, O.E., Ferencz-Árkos, I.: Crop yield estimation by satellite remote sensing. – Int. J. remote Sensing **25**: 4113-4149, 2004. [Review, 53 ref.; comparison of two methods.]

Ficek, D., Kaczmarek, S., Stoń-Egiert, J., Woźniak, B., Majchrowski, R., Dera, J.: Spectra of light absorption by phytoplankton pigments in the Baltic; conclusions to be drawn from a Gaussian analysis of empirical data. – Oceanologia **46**: 533-555, 2004. [Model.]

Franklin, S.E., Hall, R.J., Smith, L., Gerylo, G.R.: Discrimination of conifer height, age and crown closure classes using Landsat-5 TM imagery in the Canadian Northwest Territories. – Int. J. remote Sens. **24**: 1823-1834, 2003.

Fulton, E.A., Parslow, J.S., Smith, A.D.M., Johnson, C.R.: Biogeochemical marine ecosystem models II: the effect of physiological detail on model performance. – Ecol. Modell. **173**: 371-406, 2004.

Fulton, E.A., Smith, A.D.M.: Lessons learnt from a comparison of three ecosystem models for Port Phillip Bay, Australia. – Afr. J. mar. Sci. **26**: 219-243, 2004.

Fulton, E.A., Smith, A.D.M., Johnson, C.R.: Biogeochemical marine ecosystem models I: IGBEM—a model of marine bay ecosystems. – Ecol. Modell. **174**: 267-307, 2004.

Gitelson, A.A., Viña, A., Ciganda, V., Rundquist, D.C., Arkebauer, T.J.: Remote estimation of canopy chlorophyll content in crops. – Geophys. Res. Lett. **32**: L08403, doi: 10.1029/2005GL022688, 2005.

Gurney, K.R., Law, R.M., Denning, A.S., Rayner, P.J., Pak, B.C., Baker, D., Bousquet, P., Bruhwiler, L., Chen, Y.-H., Ciais, P., Fung, I.Y., Heimann, M., John, J., Maki, T., Maksyutov, S., Peylin, P., Prather, M., Taguchi, S.: Transcom 3 inversion intercomparison: Model mean results for the estimation of seasonal carbon sources and sinks. – Global Biogeochem. Cycles **18**(1): GB1010, doi: 101029/2003GB002111, 2004.

Hagy, J.D., III, Boynton, W.R., Jasinski, D.A.: Modelling phytoplankton deposition to Chesapeake Bay sediments during winter-spring: interannual variability in relation to river flow. – Estuar. coast. Shelf Sci. **62**: 25-40, 2005.

Håkanson, L.: Break-through in predictive modelling opens new possibilities for aquatic ecology and management – a review. – Hydrobiologia **518**: 135-157, 2004. [44 ref.]

Håkanson, L., Blenckner, T., Malmaeus, J.M.: New, general methods to define the depth separating surface water from deep water, outflow and internal loading for mass-balance models for lakes. – Ecol. Modell. **175**: 339-352, 2004.

Håkanson, L., Boulion, V.V.: A general dynamic model to predict biomass and production of phytoplankton in lakes. – Ecol. Model. **165**: 285-301, 2003.

Håkanson, L., Boulion, V.V.: Empirical and dynamical models of production and biomass of benthic algae in

lakes. – Hydrobiologia **522**: 75-97, 2004.

Håkanson, L., Mikrenska, M., Petrov, K., Foster, I.: Suspended particulate matter (SPM) in rivers: empirical data and models. – Ecol. Model. **183**: 251-267, 2005.

Håkanson, L., Ostapenia, A.P., Boulion, V.V.: A mass-balance model for phosphorus in lakes accounting for biouptake and retention in biota. – Freshwater Biol. **48**: 928-950, 2003.

Hanson, P.J., Amthor, J.S., Wulschleger, S.D., Wilson, K.B., Grant, R.E., Hartley, A., Hui, D., Hunt, E.R., Jr., Johnson, D.W., Kimball, J.S., King, A.W., Luo, Y., McNulty, S.G., Sun, G., Thornton, P.E., Wang, S., Williams, M., Baldocchi, D.D., Cushman, R.M.: Oak forest carbon and water simulations: Model intercomparisons and evaluations against independent data. – Ecol. Monogr. **74**: 443-489, 2004.

Havskum, H., Schlüter, L., Scharek, R., Berdalet, E., Jacquet, S.: Routine quantification of phytoplankton groups – microscopy or pigment analyses? – Mar. Ecol. Progr. Ser. **273**: 31-42, 2004.

Hedger, R.D., Olsen, N.R.B., George, D.G., Malthus, T.J., Atkinson, P.M.: Modelling spacial distributions of *Ceratium hirundnella* and *Microcystis* spp. in a small productive British lake. – Hydrobiologia **528**: 217-227, 2004.

Henning, J.G., Burk, T.E.: Improving growth and yield estimates with a process model derived growth index. – Can. J. Forest Res. **34**: 1274-1282, 2004.

Hicke, J.A.: MCEP and GISS solar radiation data sets available for ecosystem modeling: Description, differences, and impacts on net primary production. – Global biogeochem. Cycles **19**(2) GB2006, doi: 10.1029/2004GB002391, 2005.

Hollinger, D.Y., Richardson, A.D.: Uncertainty in eddy covariance measurements and its application to physiological models. – Tree Physiol. **25**: 873-885, 2005.

Hui, D., Luo, Y., Katul, G.: Partitioning interannual variability in net ecosystem exchange between climatic variability and functional change. – Tree Physiol. **23**: 433-442, 2003. [Model.]

Huisman, J., Arrayás, M., Ebert, U., Sommeijer, B.: How do sinking phytoplankton species manage to persist? – Amer. Natur. **159**: 245-254, 2002.

Humborg, C., Fennel, K., Pastuszak, M., Fennel, W.: A box model approach for a long-term assessment of estuarine eutrophication, Szczecin Lagoon, southern Baltic. – J. mar. Syst. **25**: 387-403, 2000.

Hunt, E.R., Everitt, J.H., Ritchie, J.C., Moran, M.S., Booth, D.T., Anderson, G.L., Clark, P.E., Seyfried, M.S.: Applications and research using remote sensing for rangeland management. – Photogrammetric Eng. remote Sensing **69**: 675-693, 2003.

Hunt, L.A., Reynolds, M.P., Sayre, K.D., Rajaram, S., White, J.W., Yan, W.: Crop modeling and the identification of stable coefficients that may reflect significant groups of genes. – Agron. J. **95**: 20-31, 2003.

Jakob, T., Schreiber, U., Kirchesch, V., Langner, U., Wilhelm, C.: Estimation of chlorophyll content and daily primary production of the major algal groups by means of multiwavelength-excitation PAM chlorophyll fluorometry: performance and methodological limits. – Photosynth. Res. **83**: 343-361, 2005.

Jonckheere, I., Muys, B., Coppin, P., Allometry and evaluation of *in situ* optical LAI determination in Scots pine: a case study in Belgium. – Tree Physiol. **25**: 723-732, 2005. [Comparison of methods.]

Kara, A.B., Hurlburt, H.E., Rochford, P.A.: The impact of water turbidity on interannual sea surface temperature simulations in a layered global ocean model. – J. phys. Oceanogr. **34**: 345-359, 2004.

Kelly-Gerreyn, B.A., Anderson, T.R.: Holt, J.T., Gowen, R.J., Proctor, R.: Phytoplankton community structure ar contrasting sites in the Irish Sea: a modelling investigation. – Estuar. coast. Shelf Sci. **59**: 363-383, 2004.

Kirschbaum, M.U.F.: A modeling analysis of the interaction between forest age and forest responsiveness to increasing CO_2 concentration. – Tree Physiol. **25**: 953-963, 2005.

Kishi, M.J., Okunishi, T., Yamanaka, Y.: A comparison of simulated particle fluxes using NEMURO and other ecosystem models in the western North Pacific. – J. Oceanogr. **60**: 63-73, 2004.

Komatsu, H., Kumagai, T., Hotta, N.: Is surface conductance theoretically independent of reference height? – Hydrolog. Processes **19**: 339-347, 2005.

Korpinen, P., Kiirikki, M., Koponen, J., Peltoniemi, H., Sarkkula, J.: Evaluation and control of eutrophication in Helsinki sea area with the help of a nested 3D-ecohydrodynamic model. – J. mar. Systems **45**: 255-265, 2004.

Kovacs, J.M., Wang, J., Flores-Verdugo, F.: Mapping mangrove leaf area index at the species level using IKONOS and LAI-2000 sensors for the Agua Brava Lagoon, Mexical Pacific. – Estuar. coast. Shelf Sci. doi:10.1016/ecss.2004.09.027

Kowalewska, G.: Algal pigments in sediments as a measure of eutrophication in the Baltic environment. – Quaternary int. **130**: 141-151, 2005.

Kuroda, H., Kishi, M.J.: A data assimilation technique applied to estimate parameters for the NEMURO marine ecosystem model. – Ecol. Modell. **172**: 69-85. 2004.

Landsberg, J., Mäkelä, A., Sievänen, R., Kukkola, M.: Analysis of biomass accumulation and stem size distributions over long periods in managed stands of *Pinus silvestris* in Finland using the 3-PG model. – Tree Physiol. **25**: 781-792, 2005.

Larson, C., Passy, S.I.: Spectral fingerprinting of algal communities: a novel approach to biofilm analysis and biomonitoring. – J. Phycol. **41**: 439-446, 2005.

Laws, E.A.: New production in the equatorial Pacific: a comparison of field data with estimates derived from empirical and theoretical models. – Deep-Sea Res. I **51**: 205-211, 2004.

Le Maire, G., Davi, H., Soudani, K., François, C., Le Dantec, V., Dufrêne, E.: Modeling annual production and carbon fluxes of a large managed temperate forest using forest inventories, satellite data and field measurements. – Tree Physiol. **25**: 859-872, 2005.

Lee, J.H.W., Huang, Y., Jayawardena, A.W.: Comment on "Comparative application of artificial nueral networks and genetic algorithms for multivariate time-series modelling

of algal blooms in freshwater lakes". – J. Hydroinformatics **5**: 71-74, 2003.

Lee, Z.-P., Carder, K.L., Arnone, R.: Deriving inherent optical properties from water color: a multiband quasi-analytical algorithm for optically deep waters. – Appl. Optics **41**: 5755-5772, 2002. [Model.]

Lee, Z.-P., Du, K.-P., Arnone, R.: A model for the diffuse attenuation coefficient of downwelling irradiance. – J. geophys. Res. **110**(C2): C02016, doi:10.1029/2004JC002275, 2005.

Lehmann, M.K., Davis, R.F., Huot, Y., Cullen, J.J.: Spectrally weighted transparency in models of water-column photosynthesis and photoinhibition by ultraviolet radiation. – Mar. Ecol. Progr. Ser. **269**: 101-110, 2004.

Lehtonen, A.: Estimating foliage biomass in Scots pine (*Pinus sylvestris*) and Norway spruce (*Picea abies*) plots. – Tree Physiol. **25**: 803-811, 2005.

Liboriussen, L., Landkildehus, F., Meerhoff, M., Bramm, M.E., Søndergaard, M., Christoffersen, K., Richardson, K., Søndergaard, M., Lauridsen, T.L., Jeppesen, E.: Global warming: Design of a flow-through shallow lake mesocosm climate experiment. – Limnol. Oceanogr. Methods **3**: 1-9, 2005.

Longdoz, B., Aubinet, M., François, L.M.: Model of forest carbon sequestration incorporating aerial wood radiative budget. – Agr. Forest Meteorol. **125**: 83-104, 2004.

Losa, S.N., Kivman, G.A., Ryabchenko, V.A.: Weak constraint parameter estimation for a simple ocean ecosystem model: what can we learn about the model and data? – J. mar. Systems **45**: 1-20, 2004.

Lousteau, D., Bosc, A., Colin, A., Ogée, J., Davi, H., François, C., Dufrêne, E., Déqué, M., Cloppet, E., Arrouays, D., Le Bas, C., Saby, N., Pignard, G., Hamza, N., Granier, A., Bréda, N., Ciais, P., Viovy, N., Delage, F.: Modeling climate change effects on the potential production of French plains forests at the sub-regional level. – Tree Physiol. **25**: 813-823, 2005.

Magnuson, A., Harding, L.W., Jr., Mallonee, M.E., Adolf, J.E.: Bio-optical model for Chesapeake Bay and the Middle Atlantic Bight. – Estuar. coast. Shelf Sci. **61**: 403-424, 2004.

Mäkelä, A., Hari, P., Berninger, F., Hänninen, H., Nikinmaa, E.: Acclimation of photosynthetic capacity in Scots pine to the annual cycle of temperature. – Tree Physiol. **24**: 369-376, 2004. [Model.]

Maritorena, S., Siegel, D.A.: Consistent merging of satellite ocean color data sets using a bio-optical model. – Remote Sensing Environ. **94**: 429-440, 2005.

Matheson, S., Ellingson, D.J., McCarlie, V.W., Smith, B.N., Criddle, R.S., Rodier, L., Hansen, L.D.: Determination of growth and maintenance coefficients by calorespirometry. – Funct. Plant Biol. **31**: 929-939, 2004. [Models.]

McBride, G.B., Chapra, S.C.: Rapid calculation of oxygen in streams: Approximate delta method. – J. environ. Eng. **131**: 336-342, 2005.

Medlyn, B.E., Robinson, A.P., Clement, R., McMurtrie, R.E.: On the validation of models of forest CO_2 exchange using eddy covariance data: some perils and pitfalls. – Tree Physiol. **25**: 839-857, 2005.

Merico, A., Tyrrell, T., Lessard, E.J., Oguz, T., Stabeno, P.J., Zeeman, S.I., Whitledge, T.E.: Modelling phyto-plankton succession on the Bering Sea shelf: role of climate influences and trophic interactions in generating *Emiliania huxleyi* blooms 1997-2000. – Deep-Sea Res. I **51**: 1803-1826, 2004.

Minor, E.C., Nallathamby, P.S.: "Cellular" vs. "detrital" POM: a preliminary study using fluorescent stains, flow cytometry, and mass spectrometry. – Mar. Chem. **92**: 9-21, 2004.

Misson, L., Panek, J.A., Goldstein, A.H.: A comparison of three approaches to modeling leaf gas exchange in annually drought-stressed ponderosa pine forests. – Tree Physiol. **24**: 529-541, 2004.

Moorhead, D., Schmeling, J., Hawes, I.: Modelling the contribution of benthic microbial mats to net primary production in Lake Hoare, McMurdo Dry Valleys. – Antarct. Sci. **17**: 33-35, 2005.

Nayar, S., Chou, L.M.: Relative efficiencies of different filters in retaining phytoplakton for pigment and productivity studies. – Estuar. coast. Shelf Sci. **58**: 241-248, 2003.

Newell, R.I.E., Koch, E.W.: Modeling seagrass density and distribution in response to changes in turbidity stemming from bivalve filtration and seagrass sediment stabilization. – Estuaries **27**: 793-806, 2004.

Niinemets, Ü., Sonninen, E., Tobias, M.: Canopy gradients in leaf intercellular CO_2 mole fractions revisited: interactions between leaf irradiance and water stress need consideration. – Plant Cell Environ. **27**: 569-583, 2004.

Nowak, R.S., Ellsworth, D.S., Smith, S.D.: Functional responses of plants to elevated atmospheric CO_2 – do photosynthetic and productivity data from FACE experiments support early predictions? – New Phytol. **162**: 253-280, 2004. [Review, 150 ref.]

Olascoaga, M.J., Idrisi, N., Romanou, A.: Biophysical isopycnic-coordinate modelling of plankton dynamics in the Arabian Sea. – Ocean Model. **8**: 55-80, 2005.

Oliver, M.J., Glenn, S., Kohut, J.T., Irwin, A.J., Schofield, O.M., Moline, M.A., Bissett, W.P.: Bioinformatic approaches for objective detection of water masses on continental shelves. – J. geophys. Res. **109**: C07S04, doi:10.1029/2003JC002072, 2004.

Oliver, M.J., Schofield, O., Bergmann, T., Glenn, S., Orrico, C., Moline, M.: Deriving *in situ* phytoplankton absorption for bio-optical productivity models in turbid waters. – J. geophys. Res. **109** (C7): C07S11, doi:10.1029/2002JC001627, 2004.

Onitsuka, G., Yanagi, T.: Differences in ecosystem dynamics between the northern and southern parts of the Japan Sea: Analyses with two ecosystem models. – J. Oceanogr. **61**: 415-433, 2005.

Ono, E., Cuello, J.L.: Design parameters of solar concentrating systems for CO_2-mitigating algal photobioreactors. – Energy **26**: 1651-1657, 2004.

Ono, T., Saino, T., Kurita, N., Sasaki, K.: Basin-scale extra-polation of shipboard pCO_2 data by using satellite SST and Ch1*a*. – Int. J. remote Sensing **25**: 3803-3815, 2004.

Oschlies, A., Schartau, M.: Basin-scale performance of a locally optimized marine ecosystem model. – J. mar. Res. **63**: 335-358, 2005.

Pahlow, M.: Linking chlorophyll-nutrient dynamics to the Redfield N:C ratio with a model of optimal phytoplankton growth. – Mar. Ecol. Progr. Ser **27**: 33-43, 2005.

Pel, R., Floris, V., Hoogveld, H.: Analysis of planktonic community structure and trophic interactions using refined isotopic signatures determined by combining fluorescence-activated cell sorting and isotope-ratio mass spectrometry. – Freshwater Biol. **49**: 546-562, 2004.

Peña, J.P., Tarara, J.: A portable whole canopy gas exchange system for several mature field-grown grapevines. – Vitis **43**: 7-14, 2004.

Pietsch, S.A., Hasenauer, H.: Using ergodic theory to assess the performance of ecosystem models. – Tree Physiol. **25**: 825-837, 2005.

Pitta, P., Karakassis, I.: Size distribution in ultraphyto-plankton: A comparative analysis of counting methods. – Environ. Monitoring Assessment **102**: 85-101, 2005.

Popova, E.E., Ryabchenko, V.A., Fasham, M.J.R.: Biological pump and vertical mixing in the Southern Ocean: Their impact on atmospheric CO_2. – Global biogeochem. Cycles **14**: 477-498, 2000. [Model.]

Raateoja, M.P.: Fast repetition rate fluorometry (FRRF) measuring phytoplankton productivity: A case study at the entrance to the Gulf of Finland, Baltic Sea. – Boreal Environ. Res. **9**: 263-276, 2004.

Rahman, A.F., Cordova, V.D., Gamon, J.A., Schmid, H.P., Sims, D.A.: Potential of MODIS ocean bands for estimating CO_2 flux from terrestrial vegetation: A novel approach. – Geophys. Res. Lett. **31**(10): L10503, doi: 10.1029/2004GL019778, 2004.

Rascher, U., Bobich, E.G., Lin, G.H., Walter, A., Morris, T., Naumann, M., Nichol, C.J., Pierce, D., Bil, K., Kudeyarov, V., Berry, J.A.: Functional diversity of photosynthesis during drought in a model tropical rainforest – the contributions of leaf area, photosynthetic electron transport and stomatal conductance to reduction in net ecosystem carbon exchange. – Plant Cell Environ. **27**: 1239-1256, 2004.

Robinson, A.P., Duursma, R.A., Marshall, J.D.: A regression-based equivalence test for model validation: shifting the burden of proof. – Tree Physiol. **25**: 903-913, 2005.

Roslev, P., Larsen, M.B., Jørgensen, D., Hesselsoe, M.: Use of heterotrophic CO_2 assimilation as a measure of metabolic activity in planktonic and sessile bacteria. – J. microbiol. Methods **59**: 381-393, 2004.

Saito, Y., Saito, R., Kawahara, T.D., Nomura, A., Takeda, S.: Development and performance characteristics of laser-induced fluorescence imaging lidar for forestry applications. – Forest Ecol. Manage. **128**: 129-137, 2000. [Chl.]

Sarma, V.V.S.S.: Net plankton community production in the Arabian Sea based on O_2 mass balance model. – Global biogeochem. Cycles **18**(4): GB4001, doi:10.1029/ 2003GB002198, 2004.

Schartau, M., Oschlies, A.: Simultaneous data-based optimization of a 1D-ecosystem model at three locations in the North Atlantic: Part I – Method and parameter estimates. – J. mar. Res. **61**: 765-793, 2003.

Schartau, M., Oschlies, A.: Simultaneous data-based optimization of a 1D-ecosystem model at three locations in the North Atlantic: Part II – Standing stocks and nitrogen fluxes. – J. mar. Res. **61**: 795-821, 2003.

Schernewski, G., Neumann, T.: The trophic state of the Baltic Sea a century ago: a model simulation study. – J. mar. Systems **53**: 109-124, 2005.

Schwalm, C.R., Ek, A.R.: A process-based model of forest ecosystems driven by meteorology. – Ecol. Modelling **179**: 317-348, 2004.

Scotford, I.M., Miller, P.C.H.: Estimating tiller density and leaf area index of winter wheat using spectral reflectance and ultrasonic sensing techniques. – Biosystems Eng. **89**: 395-408, 2004.

Serrano, L., Peñuelas, J.: Assessing forest structure and function from spectral transmittance measurements: a case study in a Mediterranean holm oak forest. – Tree Physiol. **25**: 67-74, 2005.

Shibayama, M.: Seasonal profiles of polarized reflectance and leaf inclination distribution of wheat canopies. – Plant Product. Sci. **7**: 397-405, 2004. [Scheme of 3-dimensional measurements.]

Simis, S.G.H., Peters, S.W.M., Gons, H.J.: Remote sensing of the cyanobacterial pigment phycocyanin in turbid inland water. – Limnol. Oceanogr. **50**: 237-245, 2005.

Smith, S.L., Yamanaka, Y., Kishi, M.J.: Attempting consistent simulations of Stn. ALOHA with a multi-element ecosystem model. – J. Oceanogr. **61**: 1-23, 2005.

Solidoro, C., Crise, A., Crispi, G., Pastres, R.: An *a priori* approach to assimilation of ecological data in marine ecosystem models. – J. mar. Systems **40**: 79-97, 2003.

Soyupak, S., Chen, D.-G. (Din): Fuzzy logic model to estimate seasonal pseudo steady state chlorophyll-*a* concentrations in reservoirs. – Environ. Model. Assessment **9**: 51-59, 2004.

Staehr, P.A., Markager, S.: Parameterization of the chlorophyll *a*-specific *in vivo* light absorption coefficient covering estuarine, coastal and oceanic waters. – Int. J. remote Sens. **25**: 5117-5130, 2004.

Stoy, P.C., Katul, G.G., Siqueira, M.B.S., Juang, J.-Y., McCarthy, H.R., Kim, H.-S., Oishi, A.C., Oren, R.: Variability in net ecosystem exchange from hourly to inter-annual time scales at adjacent pine and hardwood forests: a walvelet analysis. – Tree Physiol. **25**: 887-902, 2005.

Tanaka, T., Park, H., Hattori, S.: Distinguishing foliage from branches in the non-destructive measurement of the three-dimensional structure of mountain forest canopies. – Forest. Chronicle **79**: 313-317, 2003.

Tao, F., Yokozawa, M., Zhang, Z., Xu, Y., Hayashi, Y.: Remote sensing of crop production in China by production efficiency models: models comparisons, estimates and uncertainties. – Ecol. Modell. **183**: 385-396, 2005.

Teske, M.E., Thistle, H.W.: A library of forest canopy structure for use in interception modeling. – Forest Ecol. Manage. **198**: 341-350, 2004. [Review, 38 ref.]

Thornley, J.H.M., Cannell, M.G.R.: Long-term effects of fire frequency on carbon storage and productivity of boreal forests: a modeling study. – Tree Physiol. **24**: 765-773, 2004.

Valavanis, V.D., Kapantagakis, A., Katara, I., Palialexis, A.:

Critical reagions: A GIS-based model of marine productivity hotspots. – Aquat. Sci. **66**: 139-148, 2004.

van Oijen, M., Rougier, J., Smith, R.: Bayesian calibration of process-based forest models: bridging the gap between models and data. – Tree Physiol. **25**: 915-927, 2005.

van Puijenbroek, P.J.T.M., Janse, J.H., Knoop, J.M.: Integrated modelling for nutrient loading and ecology of lakes in The Netherlands. – Ecol. Modell. **174**: 127-141, 2004.

Vanninen, P., Mäkelä, A.: Carbon budget for Scots pine trees: effects of size, competition and site fertility on growth allocation and production. – Tree Physiol. **25**: 17-30, 2005.

Veldhuis, M.J.W., Kraay, G.W.: Phytoplankton in the subtropical Atlantic Ocean: towards a better assessment of biomass and composition. – Deep-Sea Res. I **51**: 507-530, 2004. [Comparison of methods.]

Voss, K.J., Morel, A.: Bidirectional reflectance function for oceanic waters with varying chlorophyll concentrations: Measurements versus predictions. – Limnol. Oceanogr. **50**: 698-705, 2005.

Wallman, P., Svensson, M.G.E., Sverdrup, H., Belyazid, S.: ForSAFE—an integrated process-oriented forest model for long-term sustainability assessments. – Forest Ecol. Manage. **207**: 19-36, 2005.

Wang, E., Robertson, M.J., Hammer, P.S., Carberry, P.R., Holzworth, D., Meinke, H., Chapman, S.C., Hargreaves, J.N.G., Huth, N.I., McLean, G.: Development of a generic crop model template in the cropping system model APSIM. – Eur. J. Agron. **18**: 121-140, 2002.

Whitehead, D., Griffin, K.L., Turnbull, M.H., Tissue, D.T., Engel, V.C., Brown, K.J., Schuster, W.S.F., Walcroft, A.S.: Response of total night-time respiration to differences in total daily photosynthesis for leaves in a *Quercus rubra* L. canopy: implications for modelling canopy CO_2 exchange. – Global Change Biol. **10**: 925-938, 2004.

Whitehead, D., Walcroft, A.S., Scott, N.A., Townsend, J.A., Trotter, C.M., Rogers, G.N.D.: Characteristics of photosynthesis and stomatal conductance in the shrubland species mānuka (*Leptospermum scoparium*) and kānuka (*Kunzea ericoides*) for the estimation of annual canopy carbon uptake. – Tree Physiol. **24**: 795-804, 2004. [Model.]

Xiao, X., Hollinger, D., Aber, J., Goltz, M., Davidson, E.A., Zhang, Q., Moore, B., III: Satellite-based modeling of gross primary production in an evergreen needleleaf forest. – Remote Sensing Environ. **89**: 519-534, 2004.

Xiao, X., Zhang, Q., Saleska, S., Hutyra, L., De Camargo, P., Wofsy, S., Frolking, S., Boles, S., Keller, M., Moore, B., III: Satellite-based modeling of gross primary production in a seasonally moist tropical evergreen forest. – Remote Sensing Environ. **94**: 105-122, 2005.

Yuste, J.C., Konôpka, B., Janssens, I.A., Coenen, K., Xiao, C.W., Ceulemans, R.: Contrasting net primary productivity and carbon distribution between neighboring stands of *Quercus robur* and *Pinus sylvestris*. – Tree Physiol. **25**: 701-712, 2005.

Zarco-Tejada, P.J., Miller, J.R., Harron, J., Hu, B., Noland, T.L., Goel, N., Mohammed, G.H., Sampson, P.: Needle chlorophyll content estimation through model inversion using hyperspectral data from boreal conifer forest canopies. – Remote Sens. Environ. **89**: 189-199, 2004.

Zeide, B.: How to measure stand density. – Trees **19**: 1-14, 2005.

F. PAR and environmental measurements

Gascon, F., Gastellu-Etchegorry, J.-P., Lefèvre-Fonollosa, M.-J., Dufrène, E.: Retrieval of forest biophysical variables by inverting a 3-D radiative transfer model and using high and very high resolution imagery. – Int. J. remote Sens. **25**: 5601-5616, 2004.

Hardy, J.P., Melloh, R., Koenig, G., Marks, D., Winstral, A., Pomeroy, J.W., Link, T.: Solar radiation transmission through conifer canopies. – Agr. Forest Meteorol. **126**: 257-270, 2004.

Ibaraki, Y., Nozaki, Y.: Estimation of light intensity distribution in a culture vessel. – Plant Cell Tissue Organ Cult. **80**: 111-113, 2005. [PAR.]

Kovacs, J.M., Flores-Verdugo, F., Wang, J., Aspden, L.P.: Estimating leaf area index of a degraded mangrove forest using high spatial resolution satellite data. – Aquat. Bot. **80**: 13-22, 2004.

Link, T.E., Marks, D., Hardy, J.P.: A deterministic method to characterize canopy radiative transfer properties. – Hydrol. Processes **18**: 3583-3594, 2004.

Pilarski, J., Rajba, S.: Measurement of light gradiant in plant organs with a fiber optic microprobe. – Acta Physiol. Plant. **26**: 405-410, 2004.

Pohlert, T.: Use of empirical global radiation models for maize growth simulation. – Agr. Forest Meteorol. **126**: 47-58, 2004.

Song, C., Band, L.E.: MVP: a model to simulate the spatial patterns of photosynthetically active radiation under distrete forest canopies. – Can. J. Forest Res. **34**: 1192-1203, 2004.

Sonohat, G., Balandier, P., Ruchaud, F.: Predicting solar radiation transmittance in the understory of even-aged coniferous stands in temperate forests. – Ann. Forest Sci. **61**: 629-641, 2004.

Tovar-Pescador, J., Pozo-Vazquez, D., Battles, J., López, G., Muñoz-Vicente, D.: Proposal of a function for modelling the hourly frequency disctributions of photosynthetically active radiation. – Theor. appl. Climatol. **29**: 71-79, 2004.

Vogtschaller, J., Wise, R.R.: Simple light guide for measuring irradiance in an aqueous oxygen electrode chamber. – Photosynth. Res. **82**: 195-196, 2004.

G. Cultivation of experimental material and phytotronics

Franck, T., Kevers, C., Gaspar, T., Dommes, J., Deby, C., Greimers, R., Serteyn, D., Deby-Dupont, G.: Hyperhydricity of *Prunus avium* shoots cultured on gerlite: a controlled stress response. – Plant Physiol. Biochem. **42**: 519-527, 2004. [Review, 40 ref.]

Gabric, A.J., Simó, R., Cropp, R.A., Hirst, A.C., Dachs, J.: Modeling estimates of the global emission of dimethylsulfide under enhanced greenhouse conditions. – Global biogeochem. Cycles **18**(2): doi:10.1029/ 2003GB002183, 2004. [Ps, Chl.]

Liedgens, M., Richner, W.: Relation between maize (*Zea mays* L.) leaf area and root density observed with minirhizotrons. – Eur. J. Agron. **15**: 131-141, 2001.

Luo, H.-P., Al-Dahhan, M.H.: Analyzing and modeling of photobioreactors by combining first principles of physiology and hydrodynamics. – Biotechnol. Bioeng. **85**: 382-393, 2004.

Mirón, A.S., García, M.C.C., Gómez, A.C., Camacho, F.G., Grima, E.M., Chisti, Y.: Shear stress tolerance and biochemical characterization of *Phaeodactylum tricornutum* in quasi steady-state continuous culture in outdoor photobioreactors. – Biochem. Eng. J. **16**: 287-297, 2003. [Three kinds of photobioreactors, continuous culture set-up.]

Pang, S., Lüning, K.: Photoperiodic long-day control of sporophyll and hair formation in the brown alga *Undaria pinnatifida.* – J. appl. Phycol. **16**: 83-92, 2004. [Cultivation tanks.]

Pang, S., Lüning, K.: Tank cultivation of the red alga *Palmaria palmata*: Effects of intermittent light on growth rate, yield and growth kinetics. – J. appl. Phycol. **16**: 93-99, 2004. [Scheme of tank system.]

Walter, C., Steinau, T., Gerbsch, N., Buchholz, R.: Monoseptic cultivation of phototrophic microorganisms—development and scale-up of a photobioreactor system with thermal sterilization. – Biomol. Eng. **20**: 261-271, 2003.

H. Choice of useful tools and laboratory equipment

Cen, Y.-P., Layzell, D.B.: Does oxygen limit nitrogenase activity in soybean exposed to elevated CO_2? – Plant Cell Environ. **27**: 1229-1238, 2004. [Scheme of gas exchange system for measuring nitrogenase activity.]

De Temmerman, J., Deprez, K., Anthonis, J., Ramon, H.: Conceptual cab suspension system for a self-propelled agricultural machine, Part 1: Development of a linear mathematical model. – Biosystems Eng. **89**: 409-416, 2004.

Feijó, J.A., Moreno, N.: Imaging plant cells by two-photon excitation. – Protoplasma **223**: 1-32, 2004. [Review, 87 ref.]

Jahren, A.H., Sternberg, L.S.L.: Eocene meridional weather patterns reflected in the oxygen isotopes of arctic fossil wood. – GSA Today **12**(1): 4-9, 2002. [$\delta^{18}O$.]

Kitayama, Y., Kondo, T., Nakahira, Y., Nishimura, H., Ohmiya, Y., Oyama, T.: An *in vivo* dual-reporter system of cyanobacteria using two railroad-worm luciferases with different color emissions. – Plant Cell Physiol. **45**: 109-113, 2004. [Device monitoring gene expression.]

Komatsu, H.: A general method of parameterizing the big-leaf model to predict the dry-canopy evaporation rate of individual coniferous forest stands. – Hydrol. Processes **18**: 3019-3036, 2004. [Review, 115 ref.]

Lamboursain, L., Jolicoeur, M.: Determination of cell concentration in a plant cell suspension using a fluorescence microplate reader. – Plant Cell Rep. **23**: 665-672, 2005.

Matyushov, D.V.: A phenomenological model of dynamical arrest of electron transfer in solvents in the glass-transition region. – J. chem. Phys. **122**(8) (084507) 2005. [Review, 69 ref.]

Mérida, W., Maness, P.-C., Brown, R.C., Levin, D.B.: Enhanced hydrogen production from indirectly heated, gasified biomass, and removal of carbon gas emissions using a novel biological gas reformer. – Int. J. Hydrogen Energy **29**: 283-290, 2004.

Ortega-Farias, S., Olioso, A., Antonioletti, R., Brisson, N.: Evaluation of the Penman-Monteith model for estimating soybean evapotranspiration. – Irrigation Sci. **23**: 1-9, 2004.

Šantrůček, J., Šimáňová, E., Karbulková, J., Šimková, M., Schreiber, L.: A new technique for measurement of water permeability of stomatous cuticular membranes isolated from *Hedera helix* leaves. – J. exp. Bot. **55**: 1411-1422, 2004.

Sapozhnikova, V.V., Kamensky, V.A., Kuranov, R.V., Kutis, I., Snopova, L.B., Myakov, A.V.: *In vivo* visualization of *Tradescantia* leaf tissue and monitoring the physiological and morphological states under different water supply conditions using optical coherence tomography. – Planta **219**: 601-609, 2004.

Touloupakis, E., Giannoudi, L., Piletsky, S.A., Guzzella, L., Pozzoni, F., Giardi, M.T.: A multi-biosensor based on immobilized Photosystem II on screen-printed electrodes for the detection of herbicides in river water. – Biosensors Bioelectronics **20**: 1984-1992, 2005. [Scheme of multi-biosensor.]

Vaulot, D., Le Gall, F., Marie, D., Guillou, L., Partensky, F.: The Roscoff Culture Collection (RCC): a collection dedicated to marine picoplankton. – Nova Hedwigia **79**: 49-70, 2004.

White, A.L., Jahnke, L.S.: Removing UV-A and UV-C radiation from UV-B fluorescent lamp emission. Differences in the inhibition of photosynthesis in the marine alga *Dunaliella tertiolecta* using chromate *versus* cellulose acetate-polyester filters. – Photochem. Photobiol. **80**: 340-345, 2004.

Zolnier, S., Lyra, G.B., Gates, R.S.: Evapotranspiration estimates for greenhouse lettuce using an intermittent nutrient film technique. – Trans. ASAE **47**: 271-282, 2004. [Model.]