

BIBLIOGRAPHY

Bibliography of reviews and methods of photosynthesis - 84

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

- Alberti, M., Burke, D.H., Hearst, J.E.: Structure and sequence of the photosynthesis gene cluster. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1083-1106. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [106 ref.]
- Albertsson, P.-Å.: The domain structure and function of the thylakoid membrane. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 207-212. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [23 ref.]
- Albertsson, P.-Å.: The structure and function of the chloroplast photosynthetic membrane - a model for the domain organization. - *Photosynth. Res.* **46**: 141-149, 1995. [52 ref.]
- Allen, J.F.: Thylakoid protein phosphorylation, state 1-state 2 transitions, and photosystem stoichiometry adjustment: Redox control at multiple levels of gene expression. - *Physiol. Plant.* **93**: 196-205, 1995. [57 ref.]
- Allen, J.F., Alexiev, K., Håkansson, G.: Photosynthesis. Regulation by redox signalling. - *Curr. Biol.* **5**: 869-872, 1995. [14 ref.]
- Allen, R.D.: Dissection of oxidative stress tolerance using transgenic plants. - *Plant Physiol.* **107**: 1049-1054, 1995. [Photooxidative stress, Ps; 30 ref.]
- Allison, L.A., Levine, S.J., Maliga, P.: Multiple mechanisms regulate transcription in plastids of higher plants. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 551-556. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [26 ref.]
- Amesz, J.: The antenna-reaction center complex of heliobacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 687-697. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [67 ref.]
- Anderson, J.M., Chow, W.S., Park, Y.I.: The grand design of photosynthesis: Acclimation of the photosynthetic apparatus to environmental cues. - *Photosynth. Res.* **46**: 129-139, 1995. [40 ref.]
- Andrews, T.J., Hudson, G.S., Mate, C.J., Caemmerer, S. von, Evans, J.R., Arvidsson, Y.B.C.: Rubisco: the consequences of altering its depression and activation in transgenic plants. - *J. exp. Bot.* **46**: 1293-1300, 1995. [24 ref.]
- Armitage, J.P., Kelly, D.J., Sockett, R.E.: Flagellate motility, behavioral responses and active transport in purple bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1005-1028. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [116 ref.]
- Armstrong, G.A.: Genetic analysis and regulation of carotenoid biosynthesis: Structure and function of the *crt* genes and gene products. In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1135-1157. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [105 ref.]
- Arnon, D.I.: Divergent pathways of photosynthetic electron transfer: The autonomous oxygenic and anoxygenic photosystems. - *Photosynth. Res.* **46**: 47-71, 1995. [109 ref.]
- Avissar, Y.J., Moberg, P.A.: The common origins of the pigments of life - early steps of chlorophyll biosynthesis. - *Photosynth. Res.* **44**: 221-242, 1995. [226 ref.]
- Babcock, G.T.: The oxygen-evolving complex in photosystem II as a metallo-radical enzyme. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 209-215. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [15 ref.]
- Baccou, J.C.: Effect of photosynthesis on the secondary metabolism of cell cultures. - In: Carre, F., Chagvardieff, P. (ed.): *Ecophysiology and Photosynthetic in vitro Cultures*. Pp. 71-85. CEA, Saint-Paul-lez-Durance 1995. [20 ref.]
- Badger, M.R., Price, G.D.: The role of carbonic anhydrase in photosynthesis. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* **45**: 369-392, 1994. [114 ref.]
- Baille, A.: Energy cycle. - In: Stanhill, G., Enoch, H.Z. (ed.): *Greenhouse Ecosystems*. Pp. 265-286. Elsevier, Amsterdam - Lausanne - New York - Oxford - Shannon - Singapore - Tokyo 1999. [Ps; review, 99 ref.]
- Bainbridge, G., Madgwick, P., Parmar, S., Mitchell, R., Paul, M., Pitts, J., Keys, A.J., Parry, M.A.J.: Engineering Rubisco to change its catalytic properties. - *J. exp. Bot.* **46**: 1269-1276,

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.

BIBLIOGRAPHY

1995. [52 ref.]
- Baker, J.T., Boote, K.J., Allen, L.H., Jr.: Potential climate change effects on rice: Carbon dioxide and temperature. - In: Rosenzweig, C., Allen, L.H., Jr., Harper, L.A., Hollinger, S.E., Jones, J.W. (ed.): *Climate Change and Agriculture: Analysis of Potential International Impacts*. Pp. 31-47. American Society of Agronomy, Madison 1995. [Ps; 60 ref.]
- Balashov, S.P., Ebrey, T.G.: Bacteriorhodopsin: Molecular mechanisms of transmembrane proton transfer. - *Spectrum* 7(3): 1, 3-9, 1994. [54 ref.]
- Ball, M.C., Passioura, J.B.: Carbon gain in relation to water use: photosynthesis in mangrove. - In: Schulze, E.-D., Caldwell, M.M. (ed.): *Ecophysiology of Photosynthesis*. Pp. 247-259. Springer-Verlag, Berlin 1994. [52 ref.]
- Ball, S.G.: Regulation of starch biosynthesis. - In: Rochaix, J.-D., Goldschmidt-Clermont, M., Merchant, S. (ed.): *The Molecular Biology of Chloroplasts and Mitochondria in Chlamydomonas*. Pp. 549-567. Kluwer Academic Publishers, Dordrecht - Boston - London 1998. [68 ref.]
- Baltscheffsky, M., Baltscheffsky, H.: Alternative photophosphorylation, inorganic pyrophosphate synthase and inorganic pyrophosphate. - *Photosynth. Res.* 46: 87-91, 1995. [34 ref.]
- Barber, J.: Molecular basis of photoinhibition. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. IV. Pp. 159-164. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [22 ref.]
- Barber, J., Kühlbrandt, V.: Photosystem II. - *Curr. Opin. struct. Biol.* 9: 469-475, 1999. [51 ref.]
- Barkan, A., Voelker, R., Mendel-Hartvig, J., Johnson, D., Walker, M.: Genetic analysis of chloroplast biogenesis in higher plants. - *Physiol. Plant.* 93: 163-170, 1995. [33 ref.]
- Barker, M.: A plant is an animal standing on its head. - *J. biol. Educ.* 29: 201-208, 1995. [36 ref.]
- Barnes, J., Davison, A., Balaguer, L., Manrique-Reol, E.: Resistance to air pollutants: From cell to community. - In: Pugnaire, F.I., Valladares, F. (ed.): *Handbook of Functional Plant Ecology*. Pp. 735-770. Marcel Dekker, New York - Basel 1999. [Ps; 135 ref.]
- Barnes, J.D., Wellburn, A.R.: Air pollutant combinations. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 147-164. Backhuys Publishers, Leiden 1998. [Growth analysis; 91 ref.]
- Barry, B.A., Boerner, R.J., de Paula, J.C.: The use of cyanobacteria in the study of the structure and function of photosystem II. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 217-257. Kluwer Acad. Publ., Dordrecht - Boston - Lancaster 1994. [324 ref.]
- Bartley, G.E., Scolnik, P.A.: Plant carotenoids: Pigments for photoprotection, visual attraction, and human health. - *Plant Cell* 7: 1027-1038, 1995. [90 ref.]
- Bartley, G.E., Scolnik, P.A., Giuliano, G.: Molecular biology of carotenoid biosynthesis in plants. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* 45: 287-301, 1994. [71 ref.]
- Bauer, C.: Evolutionary relatedness of the bacteriochlorophyll and chlorophyll biosynthetic pathways. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 899-904. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [27 ref.]
- Bauer, C.E.: Regulation of photosynthesis gene expression. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1221-1234. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [79 ref.]
- Beale, S.I.: Biosynthesis and structures of porphyrins and hemes. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 153-177. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [221 ref.]
- Beale, S.I.: Enzymes of chlorophyll biosynthesis. - *Photosynth. Res.* 60: 43-73, 1999. [310 ref.]
- Beator, J., Kloppstech, K.: Significance of circadian gene expression in higher plants. - *Chronobiol. int.* 13: 319-339, 1996. [Chloroplast; 128 ref.]
- Beatty, J.T.: Organization of photosynthesis gene transcripts. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1209-1219. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [56 ref.]
- Bennoun, P.: Chlororespiration, sixteen years later. - In: Rochaix, J.-D., Goldschmidt-Clermont, M., Merchant, S. (ed.): *The Molecular Biology of Chloroplasts and Mitochondria in Chlamydomonas*. Pp. 675-683. Kluwer Academic Publishers, Dordrecht - Boston - London 1998.
- Benzing, D.H.: Carbon and water balance. - In: Benzing, D.H. (ed.): *Bromeliaceae: Profile of an Adaptive Radiation*. Pp. 107-186. Cambridge University Press, Cambridge 2000. [Many ref.]
- Berendse, F., Braakhekke, W., van der Krift, T.: Adaptations of plant populations to nutrient-poor environments and their implications for soil nutrient mineralisation. - In: Lambers, H., Poorter, H., van Vuuren, M.M.I. (ed.): *Inherent Variation in Plant Growth. Physiological Mechanisms and Ecological Consequences*. Pp. 503-514. Backhuys Publishers, Leiden 1998. [Growth analysis; 32 ref.]
- Berendse, F., de Kroon, H., Braakhekke, W.G.: Acquisition, use, and loss of nutrients. - In: Pugnaire, F.I., Valladares, F. (ed.): *Handbook of Functional Plant Ecology*. Pp. 315-345. Marcel Dekker, New York - Basel 1999. [RGR, 92 ref.]
- Beroza, P., Fredkin, D.R., Okamura, M.Y., Feher, G.: Electrostatic calculations of amino acid titration and electron transfer, $Q_A^- Q_B \rightarrow Q_A Q_B^-$, in the reaction center. - *Biophys. J.* 68: 2233-2250, 1995. [47 ref.]
- Bethke, P.C., Gilroy, S., Jones, R.L.: Calcium and plant hormone action. - In: Davies, P.J. (ed.): *Plant Hormones. Physiology, Biochemistry and Molecular Biology*. Pp. 298-317. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Stomata; 84 ref.]
- Bhattacharya, D., Medlin, L.: The phylogeny of plastids: A review based on comparison of small-subunit ribosomal RNA coding regions. - *J. Phycol.* 31: 489-498, 1995. [102 ref.]
- Biel, A.J.: Genetic analysis and regulation of bacteriochlorophyll biosynthesis. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1125-1134. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [70 ref.]
- Bixon, M., Jortner, J., Michel-Beyerle, M.E.: Energetics of the primary charge separation in bacterial photosynthesis. - In: Michel-Beyerle, M.-E. (ed.): *The Reaction Center of Photosynthetic Bacteria. Structure and Dynamics*. Pp. 287-296. Springer-Verlag, Berlin - Heidelberg - New York 1996. [51 ref.]
- Bixon, M., Jortner, J., Michel-Beyerle, M.E.: Effects of static heterogeneity on the parallel-sequential-superexchange

- mechanism for the primary charge separation in bacterial photosynthesis. - In: Michel-Beyerle, M.-E. (ed.): *The Reaction Center of Photosynthetic Bacteria. Structure and Dynamics*. Pp. 297-320. Springer-Verlag, Berlin - Heidelberg - New York 1996. [59 ref.]
- Blake, T.J., Sperry, J.S., Tschaplinski, T.J., Wang, S.S.: Water relations. - In: Stettler, R.F., Bradshaw, H.D., Jr., Heilman, H.D., Hinckley, T.M. (ed.): *Biology of Populus and its Implications for Management and Conservation*. Pp. 401-422. National Research Council Canada, Ottawa 1996. [WUE; 87 ref.]
- Blankenship, R.E., Olson, J.M., Miller, M.: Antenna complexes from green photosynthetic bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 399-435. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [223 ref.]
- Bohnert, H.J., Golldack, D., Ishitani, M., Kamasani, U.R., Rammesmayr, G., Shen, B., Sheveleva, E., Jensen, R.G.: Salt tolerance engineering - Which are the essential mechanisms? - In: Singhal, G.S., Renger, G., Soporay, S.K., Irrgang, K.D., Govindjee (ed.): *Concepts in Photobiology. Photosynthesis and Photomorphogenesis*. Pp. 649-666. Narosa Publishing House, New Delhi - Madras - Bombay - Calcutta - London 1999. [Ps; 74 ref.]
- Bohnert, H.J., Nelson, D.E., Jensen, R.G.: Adaptations to environmental stresses. - *Plant Cell* 7: 1099-1111, 1995. [Ps; 111 ref.]
- Bohnert, H.J., Su, H., Shen, B.: Molecular mechanisms of salinity tolerance. - In: Shinozaki, K., Yamaguchi-Shinozaki, K. (ed.): *Molecular Responses to Cold, Drought, Heat and Salt Stress in Higher Plants*. Pp. 29-60. R.G. Landes Co., Georgetown 1999. [Chloroplast; 257 ref.]
- Borisov, A.Yu.: Specific features of excitation migration in photosynthesis. - In: Jennings, R.C., Zucchelli, G., Ghetti, F., Colombetti, G. (ed.): *Light as an Energy Source and Information Carrier in Plant Physiology*. Pp. 31-39. Plenum Press, New York - London 1996. [25 ref.]
- Borisov, A.Yu., Fok, M.V.: The polarization model in bacterial photosynthesis. - *Biochem. mol. Biol. int.* 47: 117-125, 1999. [25 ref.]
- Bornman, J.F., Sundby-Emanuelsson, C.: Response of plants to UV-B radiation: some biochemical and physiological effects. - In: Smirnoff, N. (ed.): *Environment and Plant Metabolism. Flexibility and Acclimation*. Pp. 245-262. Bios Sci. Publ., Oxford 1995. [Ps; 53 ref.]
- Borum, J., Sand-Jensen, K.: Is total primary production in shallow coastal marine waters stimulated by nitrogen loading? - *Oikos* 76: 406-410, 1996. [43 ref.]
- Bossen, M.E., van Hove, L.W.A.: Ozone-induced decrease in the internal conductivity for CO₂ and O₃ of poplar leaves. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 273-276. Backhuys Publishers, Leiden 1998. [Ps; 8 ref.]
- Böttcher, B., Gräber, P.: The structure of the H⁺-ATP synthase from chloroplasts and its subcomplexes as revealed by electron microscopy. - *Biochim. biophys. Acta* 1458: 404-416, 2000. [75 ref.]
- Bourguignon, J., Vauclaire, P., Diallo, N., Macherel, D., Neuburger, M., Douce, R.: The glycine decarboxylase system from higher plants. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 11-16. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [20 ref.]
- Boussiba, S.: Carotenogenesis in the green alga *Haematococcus pluvialis*: Cellular physiology and stress response. - *Physiol. Plant.* 108: 111-117, 2000. [55 ref.]
- Bowes, G., Vu, J.C.V., Hussain, M.W., Pennanen, A.H., Allen, L.H., Jr.: An overview of how rubisco and carbohydrate metabolism may be regulated at elevated atmospheric [CO₂] and temperature. - *Agr. Food Sci. Finland* 5: 261-270, 1996. [50 ref.]
- Bramley, P.M.: Inhibition of carotenoid biosynthesis. - In: Young, A., Britton, G. (ed.): *Carotenoids in Photosynthesis*. Pp. 127-159. Chapman & Hall, London - Glasgow - New York - Tokyo - Melbourne - Madras 1993. [155 ref.]
- Braslavsky, S.E.: Time-resolved photothermal studies with biological photoreceptors. - *Spectrum* 7(4): 10-16, 1994. [Bacteriorhodopsin; 35 ref.]
- Brenner, M.L., Cheikh, N.: The role of hormones in photosynthate partitioning and seed filling. - In: Davies, P.J. (ed.): *Plant Hormones. Physiology, biochemistry and Molecular Biology*. Pp. 649-670. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [84 ref.]
- Brezmann, S.: Der Mensch und die Algen - Unterrichtsvorschläge. - *Biol. Schule* 43: 428-435, 1994. [13 ref.]
- Brezmann, S.: Zur Realisierung fachübergreifender Beziehungen im naturwissenschaftlichen Unterricht - dargestellt am Beispiel des Stoff- und Energiewechsels der Pflanzen. - In: Bayrhuber, H., Etschenberg, K., Gehlhaar, K.-H., Grönke, O., Klee, R., Kühnemund, H., Mayer, J. (ed.): *Interdisziplinäre Themenbereiche und Projekte im Biologieunterricht*. Pp. 421-425, 456. Institut für die Pädagogik der Naturwissenschaften an der Universität Kiel, Kiel 1994. [Ps; 8 ref.]
- Britt, R.D., Randall, D.W., Ball, J.A., Gilchrist, M.L., Jr., Force, D.A., Sturgeon, B.E., Lorigan, G.A., Tang, X.-S., Diner, B.A., Klein, M.P., Chan, M.K., Armstrong, W.H.: Electron spin echo - ENDOR studies of the tyrosine radicals and the manganese cluster of photosystem II. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 223-228. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [20 ref.]
- Britton, G.: Biosynthesis of carotenoids. - In: Young, A., Britton, G. (ed.): *Carotenoids in Photosynthesis*. Pp. 96-126. Chapman & Hall, London - Glasgow - New York - Tokyo - Melbourne - Madras 1993. [69 ref.]
- Britton, G.: Structure and properties of carotenoids in relation to function. - *FASEB J.* 9: 1551-1558, 1995. [31 ref.]
- Britton, G., Liaaen-Jensen, S., Pfander, H.: Carotenoids today and challenges for the future. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): *Carotenoids*. Vol. 1B: Spectroscopy. Pp. 13-26. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [0 ref.]
- Bruce, B.D., Keegstra, K.: Translocation of proteins across chloroplast membranes. - *Adv. mol. Cell Biol.* 10: 389-430, 1994. [171 ref.]
- Bruick, R.K., Mayfield, S.P.: Light-activated translation of chloroplast mRNAs. - *Trends Plant Sci.* 4: 190-195, 1999. [53 ref.]
- Buchanan, B.B.: The ferredoxin-thioredoxin system: Update on its role in the regulation of oxygenic photosynthesis. - *Adv. mol. Cell Biol.* 10: 337-354, 1994. [88 ref.]
- Buchanan, B.B., Schürmann, P., Decottignies, P., Lozano, R.M.: Thioredoxin: A multifunctional regulatory protein with a bright future in technology and medicine. - *Arch. Biochem.*

- Biophys. **314**: 257-260, 1994. [23 ref.]
- Buchanan, B.B., Tagawa, K.: Perspective on Daniel I. Arnon's contributions to research, 1960-1994. - *Photosynth. Res.* **46**: 27-38, 1995. [105 ref.]
- Burkart, S., Mandersheid, R., Bender, J., Weigel, H.-J.: Whole canopy gas exchange of wheat under CO₂ enrichment and drought stress. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 277-280. Backhuys Publishers, Leiden 1998. [Ps; 5 ref.]
- Burke, J.J.: Enzyme adaptation to temperature. - In: Smirnov, N. (ed.): *Environment and Plant Metabolism. Flexibility and Acclimation*. Pp. 245-262. Bios Sci. Publ., Oxford 1995. [Photorespiration; 57 ref.]
- Caldwell, M.M., Flint, S.D.: Stratospheric ozone reduction, solar UV-B radiation and terrestrial ecosystems. - *Climatic Change* **28**: 375-394, 1994. [70 ref.]
- Callaway, R.M., Pugnaire, F.I.: Facilitation in plant communities. - In: Pugnaire, F.I., Valladares, F. (ed.): *Handbook of Functional Plant Ecology*. Pp. 623-648. Marcel Dekker, New York - Basel 1999. [Ps; 146 ref.]
- Camara, B., Hugueney, P., Bouvier, F., Kuntz, M., Monéger, R.: Biochemistry and molecular biology of chromoplast development. - *Int. Rev. Cytol.* **163**: 175-247, 1995. [Chloroplast; 560 ref.]
- Canadell, J.G., Mooney, H.A., Baldocchi, D.D., Berry, J.A., Ehleringer, J.R., Field, C.B., Gower, S.T., Hollinger, D.Y., Hunt, J.E., Jackson, R.B., Running, S.W., Shaver, G.R., Steffen, W., Trumbore, S.E., Valentini, R., Bond, B.Y.: Carbon metabolism of the terrestrial biosphere: A multitechnique approach for improved understanding. - *Ecosystems* **3**: 115-130, 2000. [Global C cycle; 82 ref.]
- Capaldi, R.A., Schulenberg, B.: The ϵ subunit of bacterial and chloroplast F₁F₀ ATPases. Structure, arrangement, and role of the ϵ subunit in energy coupling within the complex. - *Biochim. biophys. Acta* **1458**: 263-269, 2000. [30 ref.]
- Cardoso-Vilhena, J., Balaguer, L., Daymond, J., Barnes, J.D.: Amelioration of ozone damage by elevated CO₂. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 281-282. Backhuys Publishers, Leiden 1998. [Ps; 6 ref.]
- Carr, N.G., Mann, N.H.: The oceanic cyanobacterial picoplankton. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 27-48. Kluwer Acad. Publ., Dordrecht - Boston - Lancaster 1994. [Ps, Bil; 123 ref.]
- Casati, P., Drincovich, M.F., Edwards, G.E., Andreo, C.S.: Malate metabolism by NADP-malic enzyme in plant defense. - *Photosynth. Res.* **61**: 99-105, 1999. [40 ref.]
- Castenholz, R.W., Pierson, B.K.: Ecology of thermophilic anoxygenic phototrophs. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 87-103. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [77 ref.]
- Cavalier-Smith, T.: Membrane heredity and early chloroplast evolution. - *Trends Plant Sci.* **5**: 174-182, 2000. [65 ref.]
- Cerff, R.: Origin and evolution of phosphorylating and non-phosphorylating glyceraldehyde-3-phosphate dehydrogenases. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 933-938. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [33 ref.]
- Ceulmans, R., Isebrands, J.G.: Carbon acquisition and allocation. - In: Stettler, R.F., Bradshaw, H.D., Jr., Heilman, H.D., Hinckley, T.M. (ed.): *Biology of Populus and its Implications for Management and Conservation*. Pp. 355-399. National Research Council Canada, Ottawa 1996. [149 ref.]
- Ceulmans, R., Janssens, I.A., Jach, M.E.: Effects of CO₂ enrichment on trees and forests: Lessons to be learned in view of future ecosystem studies. - *Ann. Bot.* **84**: 577-590, 1999. [Ps; 141 ref.]
- Ceulmans, R., Mousseau, M.: Effects of elevated atmospheric CO₂ on woody plants. - *New Phytol.* **127**: 425-446, 1994. [Ps; 186 ref.]
- Champigny, M.-L.: Integration of photosynthetic carbon and nitrogen metabolism in higher plants. - *Photosynth. Res.* **46**: 117-127, 1995. [46 ref.]
- Chandler, J., Bartels, D.: Plant desiccation. - In: Lerner, H.R. (ed.): *Plant Responses to Environmental Stress. From Phytohormones to Genome Reorganization*. Pp. 575-590. Marcel Dekker, New York - Basel 1999. [Ps; 118 ref.]
- Chappell, J.: Biochemistry and molecular biology of the isoprenoid biosynthetic pathway in plants. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* **46**: 521-547, 1995. [Chl, Car, 86 ref.]
- Chitnis, P.R., Xu, Q., Chitnis, V.P., Nechushtai, R.: Function and organization of Photosystem I polypeptides. - *Photosynth. Res.* **44**: 23-40, 1995. [137 ref.]
- Choudhury, N.K., Sahu, D.: Photosynthesis in *Cuscuta reflexa*: A total plant parasite. - *Photosynthetica* **36**: 1-9, 1999. [37 ref.]
- Chow, W.C.: Grana formation: entropy-assisted local order in chloroplasts? - *Aust. J. Plant Physiol.* **26**: 641-642, 1999. [47 ref.]
- Chow, W.S.: Photoprotection and photoinhibitory damage. - *Adv. mol. Cell Biol.* **10**: 151-196, 1994. [230 ref.]
- Clegg, M.T., Gaut, B.S., Learn, G.H., Jr., Morton, B.R.: Rates and patterns of chloroplast DNA evolution. - *Proc. nat. Acad. Sci. USA* **91**: 6795-6801, 1994. [53 ref.]
- Cline, K., Henry, R.: Import and routing of nucleus-encoded chloroplast proteins. - *Annu. Rev. Cell Dev. Biol.* **12**: 1-26, 1996. [104 ref.]
- Cogdell, R.J., Isaacs, N.W., Howard, T.D., McLuskey, K., Fraser, N.J., Prince, S.M.: How photosynthetic bacteria harvest solar energy. - *J. Bacteriol.* **181**: 3869-3879, 1999. [77 ref.]
- Cohen, Y., Yalovsky, S., Nechushtai, R.: Integration and assembly of photosynthetic protein complexes in chloroplast thylakoid membranes. - *Biochim. biophys. Acta* **1241**: 1-30, 1995. [296 ref.]
- Coleman, A.W.: DNA analysis methods for recognizing species invasion: The example of *Codium*, and generally applicable methods for algae. - *Hydrobiologia* **327**: 29-34, 1996. [47 ref.]
- Collen, J., Mtolera, M., Abrahamsson, K., Semes, A., Pedersén, M.: Farming and physiology of the red alga *Eucheuma*: Growing commercial importance in East Africa. - *Ambio* **24**: 497-501, 1995. [Ps; 39 ref.]
- Conroy, J.P., Ghannoum, O., Jitla, D., Rogers, G., Seneweera, S.: Plant responses to elevated CO₂ and climate stress. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 181-191. Backhuys Publishers, Leiden 1998. [Ps; 22 ref.]
- Cornelissen, J.H.C., Castro-Díez, P., Carnelli, A.L.: Variation in relative growth rate among woody species. - In: Lambers, H., Poorter, H., van Vuuren, M.M.I. (ed.): *Inherent Variation in Plant Growth. Physiological Mechanisms and Ecological Consequences*. Pp. 363-392. Backhuys Publishers, Leiden 1998. [113 ref.]

- Cornic, G.: Drought stress inhibits photosynthesis by decreasing stomatal aperture - not by affecting ATP synthesis. - *Trends Plant Sci.* **5**: 187-188, 2000. [14 ref.]
- Cramer, W.A., Martinez, S.E., Furbacher, P.N., Huang, D., Smith, J.L.: The cytochrome *b₆f* complex. - *Curr. Opin. struct. Biol.* **4**: 536-544, 1994. [46 ref.]
- Crofts, A.R., Barquera, B., Bechmann, G., Guergova, M., Salcedo-Hernandez, R., Hacker, B., Hong, S., Gennis, R.B.: Structure and function in the BC₁-complex of *Rhodobacter sphaeroides*. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 493-500. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [31 ref.]
- Crofts, A.R., Yerkes, C.T.: A molecular mechanism for q_E-quenching. - *FEBS Lett.* **352**: 265-270, 1994. [Model; 49 ref.]
- Cunningham, A.: Variability of *in-vivo* chlorophyll fluorescence and its implications for instrument development in bio-optical oceanography. - *Sci. mar.* **60**: 309-315, 1996. [42 ref.]
- Curtis, S.E., Martin, J.A.: The transcription apparatus and the regulation of transcription initiation. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 613-639. Kluwer Academic Publishers, Dordrecht - Boston - Lancaster 1994. [114 ref.]
- Daniell, H.: GM crops: public perception and scientific solutions. - *Trends Plant Sci.* **4**: 467-469, 1999. [Chloroplast; 16 ref.]
- Daniell, H.: New tools for chloroplast genetic engineering. - *Nature Biotechnol.* **17**: 855-856, 1999. [12 ref.]
- Davies, J.P., Grossman, A.R.: Responses to deficiencies in macronutrients. - In: Rochaix, J.-D., Goldschmidt-Clermont, M., Merchant, S. (ed.): *The Molecular Biology of Chloroplasts and Mitochondria in Chlamydomonas*. Pp. 613-635. Kluwer Academic Publishers, Dordrecht - Boston - London 1998. [171 ref.]
- Delrot, S., Bourbouloux, A., Noubahni, A.M., Sakr, S.: Membrane control of assimilate transport. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 629-634. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [28 ref.]
- Demchenko, A.P.: Protein fluorescence, dynamics and function: exploration of analogy between electronically excited and biocatalytic transition states. - *Biochim. biophys. Acta* **1209**: 149-164, 1994. [Ps; 150 ref.]
- Demetriades-Shah, T.H., Fuchs, M., Kanemasu, E.T., Flitcroft, I.D.: Further discussions on the relationship between cumulated intercepted solar radiation and crop growth. - *Agr. Forest Meteorol.* **68**: 231-242, 1994. [21 ref.]
- Demmig-Adams, B., Adams, W.W.: Light stress and photoprotection related to the xanthophyll cycle. - In: Foyer, C.H., Mullineaux, P.M. (ed.): *Causes of Photooxidative Stress and Amelioration of Defense Systems in Plants*. Pp. 105-126. CRC Press, Boca Raton - Ann Arbor - London - Tokyo 1994. [64 ref.]
- Demmig-Adams, B., Adams, W.W., III: The role of xanthophyll cycle carotenoids in the protection of photosynthesis. - *Trends Plant Sci.* **1**: 21-26, 1996. [42 ref.]
- Demmig-Adams, B., Gilmore, A.M., Adams, W.W., III: *In vivo* functions of carotenoids in higher plants. - *FASEB J.* **10**: 403-412, 1996. [57 ref.]
- Desjardins, Y.: Overview of factors influencing photosynthesis of micropropagated plantlets and their effect on acclimatization. - In: Carre, F., Chagvardieff, P. (ed.): *Ecophysiology and Photosynthetic in vitro Cultures*. Pp. 145-160. CEA, Saint-Paul-lez-Durance 1995. [63 ref.]
- Desjardins, Y., Hdider, C., de Riek, J.: Carbon nutrition *in vitro* - regulation and manipulation of carbon assimilation in micropropagated systems. - In: Aitken-Christie, J., Kozai, T., Smith, M.A.L.: *Automation and Environmental Control in Plant Tissue Culture*. Pp. 441-471. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [136 ref.]
- Dever, L.V., Blackwell, R.D., Fullwood, N.J., Lacuesta, M., Leegood, R.C., Onek, L.A., Pearson, M., Lea, P.J.: The isolation and characterization of mutants of the C₄ photosynthetic pathway. - *J. exp. Bot.* **46**: 1363-1376, 1995. [102 ref.]
- DeVitry, C., Vallon, O.: Mutants of *Chlamydomonas*: Tools to study thylakoid membrane structure, function and biogenesis. - *Biochimie* **81**: 631-643, 1999. [77 ref.]
- De Wit, R., Caumette, P.: Diversity of and interactions among sulphur bacteria in microbial mats. - In: Stal, L.J., Caumette, P. (ed.): *Microbial Mats*. Pp. 377-392. Springer-Verlag, Berlin - Heidelberg 1994. [BChl, Car; 46 ref.]
- Dismukes, G.C., Zheng, M., Hutchins, R., Philo, J.S.: The inorganic biochemistry of photosynthetic water oxidation. - *Biochem. Soc. Trans.* **22**: 323-327, 1994. [18 ref.]
- Dixon, R.K., Brown, S., Houghton, R.A., Solomon, A.M., Trexler, M.C., Wisniewski, J.: Carbon pools and flux of global forest ecosystems. - *Science* **263**: 185-190, 1994. [83 ref.]
- Dominguez, C.A.: Genetic conflicts of interest in plants. - *Trends Ecol. Evolut.* **10**: 412-416, 1995. [Chloroplast; 46 ref.]
- Donnelly, A., Jones, M.B., Schnieders, B.J., Burke, J.I.: The interactive effects of CO₂, O₃ and nitrogen on the photosynthetic response of juvenile wheat plants. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 291-293. Backhuys Publishers, Leiden 1998. [9 ref.]
- Douglas, S.E.: Chloroplast origins and evolution. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 91-118. Kluwer Academic Publishers, Dordrecht - Boston - Lancaster 1994. [216 ref.]
- Douglas, S.E.: Evolutionary history of plastids. - *Biol. Bull.* **196**: 397-399, 1999. [10 ref.]
- Douillard, R., De Mathan, O.: Leaf protein for food use: potential of Rubisco. - In: Hudson, B.J.F. (ed.): *New and Developing Sources of Food Proteins*. Pp. 307-342. Chapman & Hall, London - Glasgow - Weinheim - New York - Tokyo - Melbourne - Madras 1994. [Model; 187 ref.]
- Drews, G., Golecki, J.R.: Structure, molecular organization, and biosynthesis of membranes of purple bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 231-257. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Chl, ETC; 210 ref.]
- Duarte, C.M.: Methods in comparative functional ecology. - In: Pugnaire, F.I., Valladares, F. (ed.): *Handbook of Functional Plant Ecology*. Pp. 1-8. Marcel Dekker, New York - Basel 1999. [Models; 16 ref.]
- Duke, S.O., Rebeiz, C.A.: Porphyrin biosynthesis as a tool in pest management. - In: *Porphyric Pesticides*. Pp. 1-16. American Chemical Society, Washington 1994. [Chl; 92 ref.]
- Dunwell, J.M.: Transgenic approaches to crop improvement. - *J. exp. Bot.* **50**: 487-496, 2000. [73 ref.]
- Duursma, E.K., Boisson, M.P.R.M.: Global oceanic and atmospheric oxygen stability considered in relation to the

BIBLIOGRAPHY

- carbon cycle and to different time scales. - *Oceanol. Acta* **17**: 117-141, 1994. [109 ref.]
- Dwivedi, U., Bhardwaj, R.: D1 protein of photosystem II: The light sensor in chloroplasts. - *J. Biosci.* **20**: 35-47, 1995. [64 ref.]
- Ehleringer, J.R.: Variation in gas exchange characteristics among desert plants. - In: Schulze, E.-D., Caldwell, M.M. (ed.): *Ecophysiology of Photosynthesis*. Pp. 361-392. Springer-Verlag, Berlin - Heidelberg - New York 1995. [118 ref.]
- Elsik, C.G., Flagler, R.B., Boutton, T.W.: Carbon isotope composition and gas exchange of loblolly and shortleaf pine as affected by ozone and water stress. - In: Ehleringer, J.R., Hall, A.E., Farquhar, G.D. (ed.): *Stable Isotopes and Plant Carbon-Water Relations*. Pp. 227-244. Academic Press, San Diego - Boston - New York - London - Sydney - Tokyo - Toronto 1993. [49 ref.]
- Enriquez, S., Agustí, S., Duarte, C.M.: Light absorption by marine macrophytes. - *Oecologia* **98**: 121-129, 1994. [Chl; 41 ref.]
- Epstein, E.: Photosynthesis, inorganic plant nutrition. solutions, and problems. - *Photosynth. Res.* **46**: 37-39, 1995. [13 ref.]
- Erickson, J.M.: Assembly of Photosystem II. - In: Rochaix, J.-D., Goldschmidt-Clermont, M., Merchant, S. (ed.): *The Molecular Biology of Chloroplasts and Mitochondria in Chlamydomonas*. Pp. 255-285. Kluwer Academic Publishers, Dordrecht - Boston - London 1998. [233 ref.]
- Ernst, W.H.O.: Ecotypic variation and environmental adaptation to air pollution and global change. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 217-232. Backhuys Publishers, Leiden 1998. [Ps; 90 ref.]
- Esser, G.: Contribution of Monsoon Asia to the carbon budget of the biosphere, past and future. - *Vegetatio* **121**: 175-188, 1995. In: Hirose, T., Walker, B.H. (ed.): *Global Change and Terrestrial Ecosystems in Monsoon Asia*. Pp. 175-188. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [29 ref.]
- Estrada, M., Marrasé, C., Salat, J.: *In vivo* fluorescence /chlorophyll *a* ratio as an ecological indicator in oceanography. - *Sci. mar.* **60**: 317-325, 1996. [48 ref.]
- Eugster, C.H.: History: 175 years of carotenoid chemistry. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): *Carotenoids*. Vol. 1A: Isolation and Analysis. Pp. 1-12. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; 63 ref.]
- Evans, J.R.: Photosynthetic characteristics of fast- and slow-growing species. - In: Lambers, H., Poorter, H., van Vuuren, M.M.I. (ed.): *Inherent Variation in Plant Growth. Physiological Mechanisms and Ecological Consequences*. Pp. 101-119. Backhuys Publishers, Leiden 1998. [70 ref.]
- Evans, J.R.: Carbon fixation profiles do reflect light absorption profiles in leaves. - *Aust. J. Plant Physiol.* **22**: 865-873, 1999. [30 ref.]
- Fahselt, D.: Carbon metabolism in lichens. - *Symbiosis* **17**: 127-182, 1994. [241 ref.]
- Falkowski, P., Behrenfeld, M., Kolber, Z.: Variations in photochemical energy conversion efficiency in oceanic phytoplankton: Scaling from reaction centers to the global ocean. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 755-759. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [15 ref.]
- Fangmeier, A., Jäger, H.-J.: CO₂ enrichment, ozone, nitrogen fertilizer and wheat: Background of growth and yield responses. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 299-304. Backhuys Publishers, Leiden 1998. [Photorespiration; 27 ref.]
- Farrar, J., Gunn, S.: Allocation: allometry, acclimation - and alchemy? - In: Lambers, H., Poorter, H., van Vuuren, M.M.I. (ed.): *Inherent Variation in Plant Growth. Physiological Mechanisms and Ecological Consequences*. Pp. 183-198. Backhuys Publishers, Leiden 1998. [Photosynthates; 50 ref.]
- Feick, R., Shiozawa, J.A., Ertlmaier, A.: Biochemical and spectroscopic properties of the reaction center of the green filamentous bacterium, *Chloroflexus aurantiacus*. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 699-708. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [63 ref.]
- Feiler, U., Hauska, G.: The reaction centers from green sulfur bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 665-685. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [107 ref.]
- Fenner, M., Kitajima, K.: Seed and seedling ecology. - In: Pugnaire, F.I., Valladares, F. (ed.): *Handbook of Functional Plant Ecology*. Pp. 589-621. Marcel Dekker, New York - Basel 1999. [Growth analysis; 202 ref.]
- Field, C.B., Jackson, R.B., Mooney, H.A.: Stomatal responses to increased CO₂: implications from the plant to the global scale. - *Plant Cell Environ.* **18**: 1214-1225, 1995. [93 ref.]
- Fiscus, E.L., Booker, F.L.: Is increased UV-B a threat to crop photosynthesis and productivity? - *Photosynth. Res.* **43**: 81-92, 1995. [77 ref.]
- Fleischman, D.: Photosynthesis. - In: *Cell Physiology Source Book*. Pp. 682-696. Academic Press, San Diego - New York - Boston - London - Sydney - Tokyo - Toronto 1995. [19 ref.]
- Fleischman, D.E., Evans, W.R., Miller, I.M.: bacteriochlorophyll-containing *Rhizobium* species. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 123-136. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [57 ref.]
- Flore, J.A., Layne, D.R.: *Prunus*. - In: Zamski, E., Schaffer, A.A. (ed.): *Photoassimilate Distribution in Plants and Crops. Source-Sink Relationships*. Pp. 825-849. Marcel Dekker, New York - Basel - Hong Kong 1996. [Ps, C partitioning; 162 ref.]
- Flores, E., Herrero, A.: Assimilatory nitrogen metabolism and its regulation. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 487-517. Kluwer Academic Publishers, Dordrecht - Boston - Lancaster 1994. [Ps; 233 ref.]
- Flügge, U.-I.: Phosphate translocation in the regulation of photosynthesis. - *J. exp. Bot.* **46**: 1317-1323, 1995. [32 ref.]
- Flügge, U.-I.: Transport in and out of plastids: does the outer envelope membrane control the flow? - *Trends Plant Sci.* **5**: 135-137, 2000. [14 ref.]
- Flügge, U.-I., Weber, A., Fischer, K.: Transport processes in plant cells. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 447-452. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [29 ref.]
- Fonstein, M., Haselkom, R.: Physical mapping of *Rhodobacter capsulatus*: Cosmid encyclopedia and high resolution genetic map. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1067-1081. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [52 ref.]
- Forti, G.: Personal recollections of 40 years in photosynthesis

- research. - *Photosynth. Res.* **60**: 100-110, 1999. [50 ref.]
- Foyer, C.H., Harbinson, J.: Oxygen metabolism and the regulation of photosynthetic electron transport. - In: Foyer, C.H., Mullineaux, P.M. (ed.): *Causes of Photooxidative Stress and Amelioration of Defense Systems in Plants*. Pp. 1-42. CRC Press, Boca Raton - Ann Arbor - London - Tokyo 1994. [132 ref.]
- Foyer, C.H., Kingston-Smith, A.H., Harbinson, J., Arisi, A.-C.M., Jouanin, L., Noctor, G.: The use of transformed plants in the assessment of physiological stress responses. - In: De Kok, L.J., Stulen, I. (ed.): *Responses of Plant Metabolism to Air Pollution and Global Change*. Pp. 251-261. Backhuys Publishers, Leiden 1998. [Ps, photorespiration; 38 ref.]
- Foyer, C.H., Valadier, M.H., Ferrario, S.: Co-regulation of nitrogen and carbon assimilation in leaves. - In: Smirnov, N. (ed.): *Environment and Plant Metabolism. Flexibility and Acclimation*. Pp. 17-33. Bios Scientific Publishers, Oxford 1995. [58 ref.]
- Frąckowiak, D., Planter, A.: Spectral properties of cyanobacteria adapted to green and red light. - *Acta Physiol. Plant.* **17**: 133-144, 1995. [42 ref.]
- Francis, D.: The cell cycle and plant growth. - In: Lambers, H., Poorter, H., van Vuuren, M.M.I. (ed.): *Inherent Variation in Plant Growth. Physiological Mechanisms and Ecological Consequences*. Pp. 5-20. Backhuys Publishers, Leiden 1998. [81 ref.]
- Franck, B., Nonn, A.: Novel porphyrinoids for chemistry and medicine by biomimetic syntheses. - *Angew. Chem. int. Ed.* **34**: 1795-1811, 1995. [116 ref.]
- Frank, H.A., Christensen, R.L.: Singlet energy transfer from carotenoids to bacteriochlorophylls. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 373-384. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [84 ref.]
- Frank, H.A., Cogdell, R.J.: The photochemistry and function of carotenoids in photosynthesis. - In: Young, A., Britton, G. (ed.): *Carotenoids in Photosynthesis*. Pp. 252-326. Chapman & Hall, London - Glasgow - New York - Tokyo - Melbourne - Madras 1993. [227 ref.]
- Frasch, W.D.: The F-type ATPase in cyanobacteria: Pivotal point in the evolution of a universal enzyme. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 361-380. Kluwer Academic Publishers, Dordrecht - Boston - Lancaster 1994. [138 ref.]
- Frasch, W.D.: The participation of metals in the mechanism of the F₁-ATPase. - *Biochim. biophys. Acta* **1458**: 310-325, 2000. [63 ref.]
- Freiberg, A.: Coupling of antennas to reaction centers. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 385-398. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [67 ref.]
- Frenkel, A.W.: Photosynthetic phosphorylation. - *Photosynth. Res.* **46**: 73-77, 1995. [58 ref.]
- Fromme, P.: Structure and function of photosystem I. - *Curr. Opin. struct. Biol.* **6**: 437-484, 1996. [73 ref.]
- Fuhrer, J., Flückiger, S.: Die Landwirtschaft im Vorfeld von Klimaänderung und CO₂-Anstieg. - In: Gehr, P., Kost, C., Stephan, G. (ed.): *CO₂ - Eine Herausforderung für die Menschheit*. Pp. 72-93. Springer-Verlag, Berlin - Heidelberg - New York 1997. [39 ref.]
- Fujita, Y., Murakami, A., Aizawa, K., Ohki, K.: Short-term and long-term adaptation of the photosynthetic apparatus: Homeostatic properties of thylakoids. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 677-692. Kluwer Academic Publishers, Dordrecht - Boston - Lancaster 1994. [77 ref.]
- Fujiwara, K., Kozai, T.: Control of environmental factors for plantlet production - with some mathematical simulation. - In: Carre, F., Chagvardieff, P. (ed.): *Ecophysiology and Photosynthetic in vitro Cultures*. Pp. 109-120. CEA, Saint-Paul-lez-Durance 1995. [29 ref.]
- Fuller, R.C.: Polyesters and photosynthetic bacteria: From lipid cellular inclusions to microbial thermoplastics. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1245-1256. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [45 ref.]
- Fuller, R.C.: Forty years of microbial photosynthesis research: Where it came from and what it led to. - *Photosynth. Res.* **62**: 2-29, 1999. [108 ref.]
- Furbank, R.T., Taylor, W.C.: Regulation of photosynthesis in C-3 and C-4 plants: A molecular approach. - *Plant Cell* **7**: 797-807, 1995. [61 ref.]
- Fyfe, P.K., Cogdell, R.J.: Purple bacterial antenna complexes. - *Curr. Opin. struct. Biol.* **6**: 467-472, 1996. [41 ref.]
- Gamalei, Y.V.: Structural aspects of intra- and inter-cellular exchanges via endoplasmic reticulum. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 453-458. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [20 ref.]
- Gantt, E.: Supramolecular membrane organization. - In: Bryant, D.A. (ed.): *The Molecular Biology of Cyanobacteria*. Pp. 119-138. Kluwer Academic Publishers, Dordrecht - Boston - Lancaster 1994. [104 ref.]
- Garab, G., Mustardy, L.: Role of LHClI-containing macrodomains in the structure, function and dynamics of grana. - *Aust. J. Plant Physiol.* **26**: 649-658, 1999. [91 ref.]
- Garnier, E., Aronson, J.: Nitrogen-use efficiency from leaf to stand level: clarifying the concept. - In: Lambers, H., Poorter, H., van Vuuren, M.M.I. (ed.): *Inherent Variation in Plant Growth. Physiological Mechanisms and Ecological Consequences*. Pp. 515-538. Backhuys Publishers, Leiden 1998. [Ps, growth analysis; 74 ref.]
- Garnier, E., Freijssen, A.H.J.: On ecological inference from laboratory experiments conducted under optimum conditions. - In: Roy, J., Garnier, E. (ed.): *A Whole Plant Perspective on Carbon-Nitrogen Interactions*. Pp. 267-292. SPB Academic Publishing, The Hague 1994. [Growth analysis; 95 ref.]
- Garnier, E., Roy, J.: Carbon, nitrogen, and the whole plant: a touch of history. - In: Roy, J., Garnier, E. (ed.): *A Whole Plant Perspective on Carbon-Nitrogen Interactions*. Pp. 3-8. SPB Academic Publishing, The Hague 1994. [10 ref.]
- Gary, C., Baille, A.: The greenhouse carbon cycle. - In: Stanhill, G., Enoch, H.Z. (ed.): *Greenhouse Ecosystems*. Pp. 287-301. Elsevier, Amsterdam - Lausanne - New York - Oxford - Shannon - Singapore - Tokyo 1999. [Ps; review, 85 ref.]
- Geiger, D.R., Servaites, J.C., Fuchs, M.A.: Role of starch in carbon translocation and partitioning at the plant level. - *Aust. J. Plant Physiol.* **27**: 571-582, 2000. [61 ref.]
- Gest, H.: A serendipic legacy: Erwin Esmarch's isolation of the first photosynthetic bacteria in pure culture. - *Photosynth. Res.* **46**: 473-478, 1995. [18 ref.]
- Gest, H.: Photosynthetic and quasi-photosynthetic bacteria: A focus on species of current research interest. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp.

BIBLIOGRAPHY

- 787-793. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [39 ref.]
- Gest, H.: Bicentenary homage to Dr Jan Ingen-Housz, MD (1730-1799), pioneer of photosynthetic research. - *Photosynth. Res.* **63**: 183-190, 2000. [22 ref.]
- Ghersa, C.M., Holt, J.S.: Using phenology prediction in weed management: a review. - *Water Res.* **35**: 461-470, 1995. [Dry matter accumulation; 104 ref.]
- Giardi, M.T., Cona, A., Geiken, B.: Photosystem II core phosphorylation heterogeneity and the regulation of electron transfer in higher plants: a review. - *Bioelectrochem. Bioenerg.* **38**: 67-75, 1995. [60 ref.]
- Gibson, J., Harwood, C.S.: Degradation of aromatic compounds by nonsulfur purple bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 991-1003. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [47 ref.]
- Gibson, J.L.: Genetic analysis of CO₂ fixation genes. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1107-1124. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [67 ref.]
- Girerd, J.-J.: Manganese models for photosynthesis. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 217-222. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [14 ref.]
- Glazer, A.N., Fairchild, C.D., Jung, L.J., Chan, C.F.: Phycobiliproteins: studies of bilin attachment. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 3-9. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [30 ref.]
- Glazer, A.N., Wedemayer, G.J.: Cryptomonad biliproteins - an evolutionary perspective. - *Photosynth. Res.* **46**: 93-105, 1995. [114 ref.]
- Goldman, E.R., Youvan, D.C.: Imaging spectroscopy and combinatorial mutagenesis of the reaction center and light harvesting II antenna. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1257-1268. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [46 ref.]
- González, A., Lynch, J.M., Tohme, J.M., Beebe, S.E., Macchiavelli, R.E.: Characters related to leaf photosynthesis in wild populations and landraces of common bean. - *Crop Sci.* **35**: 1468-1476, 1995. [40 ref.]
- Goodenough, U.W., Armbrust, E.V., Campbell, A.M., Ferris, P.J.: Molecular genetics of sexuality in *Chlamydomonas*. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* **46**: 21-44, 1995. [100 ref.]
- Govindjee: Sixty-three years since Kautsky: Chlorophyll *a* fluorescence. - *Aust. J. Plant Physiol.* **22**: 131-160, 1995. [212 ref.]
- Gray, J.C., Paul, M.J., Barnes, S.A., Knight, J.S., Loynes, A., Habash, D., Parry, M.A.J., Lawlor, D.W.: Manipulation of phosphoribulokinase and phosphate translocator activities in transgenic tobacco plants. - *J. exp. Bot.* **46**: 1309-1315, 1995. [35 ref.]
- Gray, J.C., Row, P.E.: Protein translocation across chloroplast envelope membranes. - *Trends Cell Biol.* **5**: 243-247, 1995. [45 ref.]
- Gray, J.C., Sornarajah, R., Zabron, A.A., Duckett, C.M., Khan, M.S.: Chloroplast control of nuclear gene expression. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 543-550. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [30 ref.]
- Gray, K.A., Daldal, F.: Mutational studies of the cytochrome *bc*₁ complexes. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 747-774. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [162 ref.]
- Grisshammer, R., Tate, C.G.: Overexpression of integral membrane proteins for structural studies. - *Quart. Rev. Biophys.* **28**: 315-422, 1995. [Bacteriorhodopsin; 454 ref.]
- Gromet-Elhanan, Z.: The proton-translocating F₀F₁ ATP synthase-ATPase complex. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 807-830. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [156 ref.]
- Gromet-Elhanan, Z., Sokolov, M.: The photosynthetic F₁-α₃β₃ and α₁β₁ catalytic core complexes. - *Photosynth. Res.* **46**: 79-86, 1995. [42 ref.]
- Grossman, A.R., Bhaya, D., Apt, K.E., Kehoe, D.M.: Light-harvesting complexes in oxygenic photosynthesis: Diversity, control, and evolution. - *Annu. Rev. Genet.* **29**: 231-288, 1995. [360 ref.]
- Gutteridge, S., Gatenby, A.A.: Rubisco synthesis, assembly, mechanism, and regulation. - *Plant Cell* **7**: 809-819, 1995. [82 ref.]
- Gutteridge, S., Newman, J., Herrmann, C., Rhoades, D.: The crystal structures of Rubisco and opportunities for manipulating photosynthesis. - *J. exp. Bot.* **46**: 1261-1267, 1995. [28 ref.]
- Hall, D.O., Markov, S.A., Watanabe, Y., Rao, K.K.: The potential applications of cyanobacterial photosynthesis for clean technologies. - *Photosynth. Res.* **46**: 159-167, 1995. [46 ref.]
- Haumann, M., Junge, W.: Photosynthetic water oxidation: a simplex-scheme of its partial reactions. - *Biochim. biophys. Acta* **1411**: 86-91, 1999. [68 ref.]
- Hauska, G., Hager-Braun, C., Schneeberger, N., Schütz, M., Zimmermann, R., Nelson, N.: Biochemical aspects of the reaction center in green sulfur bacteria - comparison with other FeS-types. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 11-16. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [36 ref.]
- Hellman, H., Barker, L., Funck, D., Frommer, W.B.: The regulation of assimilate allocation and transport. - *Aust. J. Plant Physiol.* **27**: 583-594, 2000. [131 ref.]
- Herrmann, R.G., Kamauchov, I., Dörfell, P., Altschmied, L., Pakrasi, H., Klösgen, R.B.: Unexpected diversity of routing processes for nuclear-encoded thylakoid proteins and its phylogenetic impact. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 713-718. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [13 ref.]
- Hirschberg, J., Pecker, I., Lotan, T., Gabbay, R., Mann, V.: Regulation of carotenoid biosynthesis in plants and algae. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. IV. Pp. 9-14. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [23 ref.]
- Howe, C.J., Barbrook, A.C., Lockhart, P.J.: Plastid origins. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 939-944. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [27 ref.]
- Hunter, C.N.: Genetic manipulation of the antenna complexes of

- purple bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 473-501. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [157 ref.]
- Ikemoto, H., Shimada, A., Maruyama, T., Miyachi, S.: Novel microalgae from the ocean. - *J. mar. Biotechnol.* **3**: 9-15, 1995. [Chl; 41 ref.]
- Imhoff, J.M.: Taxonomy and physiology of phototrophic purple bacteria and green sulfur bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1-15. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Chl, Car; 130 ref.]
- Imhoff, J.M., Bias-Imhoff, U.: Lipids, quinones and fatty acids of anoxygenic phototrophic bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 179-205. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [117 ref.]
- Isaacs, N.W., Cogdell, R.J., Freer, A.A., Prince, S.M.: Light-harvesting mechanisms in purple photosynthetic bacteria. - *Curr. Opin. Struct. Biol.* **5**: 794-797, 1995. [22 ref.]
- Itai, C.: Role of phytohormones in plant responses to stresses. - In: Lerner, H.R. (ed.): *Plant Responses to Environmental Stress. From Phytohormones to Genome Reorganization*. Pp. 287-301. Marcel Dekker, New York - Basel 1999. [118 ref.]
- Jackson, J.B.: Proton-translocating transhydrogenase and NADP dehydrogenase in anoxygenic photosynthetic bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 831-845. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [108 ref.]
- Joyard, J., Block, M.A., Dorne, A.J., Rolland, N., Douce, R.: Roles of envelope membranes in plastid development and cell metabolism. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 871-879. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [21 ref.]
- Kappen, L., Sommerkorn, M., Schroeter, B.: Carbon acquisition and water relations of lichens in polar regions - potentials and limitations. - *Lichenologist* **27**: 531-545, 1995. [53 ref.]
- Katoh, S.: The discovery and function of plastocyanin: A personal account. - *Photosynth. Res.* **43**: 177-189, 1995. [77 ref.]
- Keegstra, K., Bruce, B., Hurley, M., Li, H., Perry, S.: Targeting of proteins into chloroplasts. - *Physiol. Plant.* **93**: 157-162, 1995. [40 ref.]
- Kelly, G.J., Latzko, E.: Photosynthesis. Carbon metabolism: The chloroplast's sesquicentenary, and some thoughts on the limits to plant productivity. - *Progr. Bot.* **56**: 134-164, 1995. [279 ref.]
- Kikuzawa, K.: Leaf phenology as an optical strategy for carbon gain in plants. - *Can. J. Bot.* **73**: 158-163, 1995. [26 ref.]
- Klug, G.: Post-transcriptional control of photosynthesis gene expression. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1235-1244. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [55 ref.]
- Kobayashi, M., Kobayashi, M.: Waste remediation and treatment using anoxygenic phototrophic bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1269-1282. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [13 ref.]
- Kohler, B.E.: Electronic structure of carotenoids. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): *Carotenoids*. Vol. 1B: Spectroscopy. Pp. 1-12. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [22 ref.]
- Komor, E.: Source physiology and assimilate transport the interaction of sucrose metabolism, starch storage and phloem export in source leaves and the effects on sugar status in phloem. - *Aust. J. Plant Physiol.* **27**: 497-505, 2000. [22 ref.]
- Körner, C.: Biodiversity and CO₂ global change is under way. - *GALA* **4**: 234-243, 1995. [46 ref.]
- Körner, C.: Towards a better experimental basis for upscaling plant responses to elevated CO₂ and climate warming. - *Plant Cell Environ.* **18**: 1101-1110, 1995. [65 ref.]
- Krajčovič, J.: Chloroplasty - otázka pôvodu stále prítlačlivá. [Chloroplasts - their origin still fascinates.] - *Biol. Listy (Praha)* **60**: 109-126, 1995. [In Slovak, ab: E; 41 ref.]
- Kramer, D.M., Sacksteder, C.A., Cruz, J.A.: How acidic is the lumen? - *Photosynth. Res.* **60**: 151-163, 1999. [124 ref.]
- Kranz, R.G., Beckman, D.L.: Cytochrome biogenesis. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 709-723. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model; 75 ref.]
- Kranz, R.G., Cullen, P.J.: Regulation of nitrogen fixation genes. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 1191-1208. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [100 ref.]
- Krömer, S.: Respiration during photosynthesis. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* **46**: 45-70, 1995. [113 ref.]
- Krupa, Z., Baszyński, T.: Some aspects of heavy metals toxicity towards photosynthetic apparatus - direct and indirect effects on light and dark reactions. - *Acta Physiol. Plant.* **17**: 177-190, 1995. [132 ref.]
- Kull, D., Pfander, H.: Appendix: List of new carotenoids. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): *Carotenoids*. Vol. 1A: Isolation and Analysis. Pp. 295-317. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [38 ref.]
- Lal, A., Edwards, G.E.: Maximum quantum yields of O₂ evolution in C₄ plants under high CO₂. - *Plant Cell Physiol.* **36**: 1311-1317, 1995. [27 ref.]
- Lancaster, C.R.D., Ermler, U., Michel, H.: The structures of photosynthetic reaction centers from purple bacteria as revealed by X-ray crystallography. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 503-526. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [85 ref.]
- Lanyi, J.K.: Bacteriorhodopsin as a model for proton pumps. - *Nature* **375**: 461-463, 1995. [50 ref.]
- Lanyi, J.K.: Bacteriorhodopsin: A paradigm for proton pumps? - *Biophys. Chem.* **56**: 143-151, 1995. [65 ref.]
- Lara, C., de Cires, A., Boza, M., de la Torre, A.: Carbon control of photosynthetic nitrate assimilation. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 341-346. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [27 ref.]
- La Roche, J., McKay, R.M.L., Boyd, P.: Immunological and molecular probes to detect phytoplankton responses to environmental stress in nature. - *Hydrobiologia* **401**: 177-198, 1999. [Ps; 188 ref.]
- Lawlor, D.W.: Photosynthesis, productivity and environment. - *J. exp. Bot.* **46**: 1449-1461, 1995. [107 ref.]
- Lawlor, D.W.: The effects of water deficit on photosynthesis. - In: Smirnoff, N. (ed.): *Environment and Plant Metabolism*.

BIBLIOGRAPHY

- Flexibility and Acclimation. Pp. 129-160. Bios Scientific Publishers, Oxford 1995. [83 ref.]
- Lazár, D.: Chlorophyll *a* fluorescence induction. - *Biochim. biophys. Acta* **1412**: 1-28, 1999. [334 ref.]
- Lee, J.-S., Bowling, D.J.F.: Influence of the mesophyll on stomatal opening. - *Aust. J. Plant Physiol.* **22**: 357-363, 1995. ["Stomatin"; 76 ref.]
- Leegood, R.C.: Effects of temperature on photosynthesis and photorespiration. - In: Smirnoff, N. (ed.): *Environment and Plant Metabolism. Flexibility and Acclimation*. Pp. 45-62. Bios Scientific Publishers, Oxford 1995. [67 ref.]
- Leegood, R.C., Lea, P.J., Adcock, M.D., Häusler, R.E.: The regulation and control of photorespiration. - *J. exp. Bot.* **46**: 1397-1414, 1995. [176 ref.]
- Leupold, D.: Photobiological application of nonlinear visible/NIR-spectroscopic techniques, exemplified by the primary processes of bacterial photosynthesis. - *Photochem. Photobiol.* **62**: 984-996, 1995. [111 ref.]
- Levine, A.: Oxidative stress as a regulator of environmental responses in plants. - In: Lerner, H.R. (ed.): *Plant Responses to Environmental Stress. From Phytohormones to Genome Reorganization*. Pp. 247-264. Marcel Dekker, New York - Basel 1999. [101 ref.]
- Loach, P.A., Parkes-Loach, P.S.: Structure-function relationships in core light-harvesting complexes (LHI) as determined by characterization of the structural subunit and by reconstitution experiments. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 437-471. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [143 ref.]
- Long, S.P., Farage, P.K., Nie, G.Y., Osborne, C.P.: Photosynthesis and rising CO₂ concentration. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 729-736. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [32 ref.]
- Loomis, R.S., Amthor, J.S.: Yield potential, plant assimilatory capacity, and metabolic efficiencies. - *Crop Sci.* **39**: 1584-1596, 1999. [73 ref.]
- Ludden, P.W., Roberts, G.P.: The biochemistry and genetics on nitrogen fixation by photosynthetic bacteria. - In: Blankenship, R.E., Madigan, M.T., Bauer, C.E. (ed.): *Anoxygenic Photosynthetic Bacteria*. Pp. 929-947. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [133 ref.]
- Lüttge, U., Fischer-Schliebs, E., Ratajczak, R., Kramer, D., Berndt, E., Kluge, M.: Functioning of the tonoplast in vacuolar C-storage and remobilization in crassulacean acid metabolism. - *J. exp. Bot.* **46**: 1377-1388, 1995. [77 ref.]
- Lutz, M.: Red-band resonance Raman spectroscopy of chlorophyll cofactors in photosynthetic proteins. - *Biospectroscopy* **1**: 313-327, 1995. [85 ref.]
- MacIntyre, H.L., Kana, T.M., Geider, R.J.: The effect of water motion on short-term rates of photosynthesis by marine phytoplankton. - *Trends Plant Sci.* **5**: 12-17, 2000. [36 ref.]
- Makino, A., Nakamo, H., Mae, T., Shimada, T., Yamamoto, N.: Photosynthesis, plant growth and N allocation in transgenic rice plants with decreased Rubisco under CO₂ enrichment. - *J. exp. Bot.* **51**: 383-389, 2000. [32 ref.]
- Malhi, Y., Baldocchi, D.D., Jarvis, P.G.: The carbon balance of tropical, temperate and boreal forests. - *Plant Cell Environ.* **22**: 715-740, 1999. [173 ref.]
- Malkin, R.: Photosystem I electron transfer reactions - components and kinetics. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 313-332. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [104 ref.]
- Mann, D.G.: Chloroplast morphology, movements and inheritance in diatoms. - In: Chaudhary, B.R., Agrawal, S.B. (ed.): *Cytology, Genetics and Molecular Biology of Algae*. Pp. 249-274. SPB Academic Publishing, Amsterdam 1996. [138 ref.]
- Margalith, P.Z.: Production of ketocarotenoids by microalgae. - *Appl. Microbiol. Biotechnol.* **51**: 431-438, 1999. [55 ref.]
- Martinez, S.E., Huang, D., Smith, J.L., Cramer, W.A.: Some consequences of the high resolution X-ray structure analysis of cytochrome *f*. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 431-437. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [26 ref.]
- Mathis, P.: Photosynthetic reaction centers. - In: Jennings, R.C., Zucchelli, G., Ghatti, F., Colombetti, G. (ed.): *Light as an Energy Source and Information Carrier in Plant Physiology*. Pp. 75-88. Plenum Press, New York - London 1996. [28 ref.]
- Matile, P., Hörtensteiner, S., Thomas, H., Kräutler, B.: Chlorophyll breakdown in senescent leaves. - *Plant Physiol.* **112**: 1403-1409, 1996. [60 ref.]
- Mattoo, A.K., Giardi, M.-T., Raskind, A., Edelman, M.: Dynamic metabolism of photosystem II reaction center proteins and pigments. - *Physiol. Plant.* **107**: 454-461, 1999. [94 ref.]
- McCarty, R.E.: An overview of the function, composition and structure of the chloroplast ATP synthase. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 439-451. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [56 ref.]
- McKintosh, C., Douglas, P., Douglas, F., Lillo, C., Moorhead, G.: The control of light-coupled leaf metabolism by reversible protein phosphorylation. - In: Shewry, P.R., Halford, N.G., Hooley, R. (ed.): *Protein Phosphorylation in Plants*. Pp. 75-85. Clarendon Press, Oxford 1996. [Chloroplast; 36 ref.]
- Melis, A.: Excitation energy transfer: Functional and dynamic aspects of *Lhc (cab)* proteins. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 523-538. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [155 ref.]
- Melis, A.: Photosystem-II damage and repair cycle in chloroplasts: what modulates the rate of photodamage *in vivo*? - *Trends Plant Sci.* **4**: 130-135, 1999. [45 ref.]
- Menéndez, R.G.: An electromagnetic coupling hypothesis to explain the proton translocation mechanism in mitochondria, bacteria and chloroplasts. - *Med. Hypotheses* **47**: 179-182, 1996. [12 ref.]
- Metting, F.B., Jr.: Biodiversity and application of microalgae. - *J. ind. Microbiol.* **17**: 477-489, 1996. [Chl, Car, 99 ref.]
- Meyer, Y., Verdoucq, L., Vignols, F.: Plant thioredoxins and glutaredoxins: identity and putative roles. - *Trends Plant Sci.* **4**: 388-394, 1999. [49 ref.]
- Mills, J.D.: The regulation of chloroplast ATP synthase, CF₀-CF₁. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 469-485. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [96 ref.]
- Miyake, H.: [C₄ photosynthesis and crop plants.] - *Jap. J. Crop Sci.* **68**: 1-9, 1999. [In Jap.; 81 ref.]
- Modey, W.K., Mulholland, D.A., Raynor, M.W.: Analytical supercritical fluid extraction of natural products. - *Phytochem. Analysis* **7**: 1-15, 1996. [Car, 102 ref.]

- Morison, J.I.L., Lawlor, D.W.: Interactions between increasing CO₂ concentration and temperature on plant growth. - *Plant Cell Environ.* **22**: 659-682, 1999. [185 ref.]
- Moroney, J.V., Somanchi, A.: How do algae concentrate CO₂ to increase the efficiency of photosynthetic carbon fixation? - *Plant Physiol.* **119**: 9-16, 1999. [42 ref.]
- Mulkidjanian, A.Y.: Photosystem II of green plants: on the possible role of retarded protonic relaxation in water oxidation. - *Biochim. biophys. Acta* **1410**: 1-6, 1999. [45 ref.]
- Mullineaux, C.W.: The thylakoid membranes of cyanobacteria: structure, dynamics and function. - *Aust. J. Plant Physiol.* **26**: 671-677, 1999. [53 ref.]
- Mustardy, L.: Development of thylakoid membrane stacking. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 59-68. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [27 ref.]
- Myers, J.: Country boy to scientist. - *Photosynth. Res.* **50**: 197-208, 1999. [History of Ps research; 32 ref.]
- Nash, T.H., III: Nitrogen, its metabolism and potential contribution to ecosystems. - In: Nash, T.H., III (ed.): *Lichen Biology*. Pp. 121-135. Cambridge University Press, Cambridge - New York - Oakleigh 1996. [Ps; many ref.]
- Naylor, G.W., Addlesee, H.A., Gibson, L.C.D., Hunter, C.N.: The photosynthesis gene cluster of *Rhodospirillum rubrum*. - *Photosynth. Res.* **62**: 121-139, 1999. [123 ref.]
- Nechushtai, R., Eden, A., Cohen, Y., Klein, J.: Introduction to photosystem I: Reaction center function, composition and structure. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 289-311. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [174 ref.]
- Nicholson, W.V., Ford, R.C., Holzenburg, A.: A current assessment of photosystem II structure. - *Biosci. Rep.* **16**: 159-187, 1996. [126 ref.]
- Nimmo, H.G.: The regulation of phosphoenolpyruvate carboxylase in CAM plants. - *Trends Plant Sci.* **5**: 75-80, 2000. [40 ref.]
- Nimmo, H.G., Carter, P.J., Fewson, C.A., Nimmo, G.A., Wilkins, M.B.: Protein phosphorylation and circadian rhythms. - In: Shewry, P.R., Halford, N.G., Hooley, R. (ed.): *Protein Phosphorylation in Plants*. Pp. 65-74. Clarendon Press, Oxford 1996. [Ps; 24 ref.]
- Nishida, I., Murata, N.: Chilling sensitivity in plants and cyanobacteria: The crucial contribution of membrane lipids. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* **47**: 541-568, 1996. [Photoinhibition; 159 ref.]
- Noctor, G., Foyer, C.H.: Homeostasis of adenylate status during photosynthesis in a fluctuating environment. - *J. exp. Bot.* **51**: 347-356, 2000. [71 ref.]
- Norby, R.J., Wullschlegel, S.D., Gunderson, C.A., Johnson, D.W., Ceulemans, R.: Tree responses to rising CO₂ in field experiments: implications for the future forest. - *Plant Cell Environ.* **22**: 683-714, 1999. [170 ref.]
- Offler, C.E., Thorpe, M.R., Patrick, J.W.: Assimilate transport and partitioning. Integration of structure, physiology and molecular biology. - *Aust. J. Plant Physiol.* **27**: 473-476, 2000. [16 ref.]
- Ohyama, K.: Chloroplast and mitochondrial genomes from a liverwort, *Marchantia polymorpha* - Gene organization and molecular evolution. - *Biosci. Biotechnol. Biochem.* **60**: 16-24, 1996. [67 ref.]
- Ort, D.R., Whitmarsh, J.: Photosynthetic electron transfer and energy transduction in plants. - In: Jennings, R.C., Zucchini, G., Ghetti, F., Colombetti, G. (ed.): *Light as an Energy Source and Information Carrier in Plant Physiology*. Pp. 17-29. Plenum Press, New York - London 1996. [25 ref.]
- Ort, D.R., Yocum, C.F.: Electron transfer and energy transduction in photosynthesis: an overview. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 1-9. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [28 ref.]
- Paerl, H.W.: Microscale physiological and ecological studies of aquatic cyanobacteria: macroscale implications. - *Microsc. Res. Technique* **33**: 47-72, 1996. [Ps; 139 ref.]
- Papageorgiou, G.C.: The photosynthesis of cyanobacteria (blue bacteria) from the perspective of signal analysis of chlorophyll *a* fluorescence. - *J. sci. ind. Res.* **55**: 596-617, 1996. [265 ref.]
- Paul, J.H.: Carbon cycling: Molecular regulation of photosynthetic carbon fixation. - *Microbial Ecol.* **32**: 231-245, 1996. [99 ref.]
- Peet, M.M., Wolfe, D.W.: Crop ecosystem responses to climatic change: Vegetable crops. - Reddy, K.R., Hodges, H.F. (ed.): *Climate Change and Global Crop Productivity*. Pp. 213-243. CABI Publishing, Wallingford - New York 2000. [Primary production; 111 ref.]
- Pego, J.V., Kortstee, A.J., Huijser, C., Smeeckens, S.C.M.: Photosynthesis, sugars and the regulation of gene expression. - *J. exp. Bot.* **51**: 407-416, 2000. [98 ref.]
- Pepe, I.M., Nicolini, C.: Langmuir-Blodgett films of photosensitive proteins. - *J. Photochem. Photobiol. B* **33**: 191-200, 1996. [Bacteriorhodopsin; 82 ref.]
- Pichersky, E., Jacksson, S.: The light-harvesting chlorophyll *a/b*-binding polypeptides and their genes in angiosperm and gymnosperm species. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 507-521. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [69 ref.]
- Plant, A.L., Bray, E.A.: Regulation of gene expression by abscisic acid during environmental stress. - In: Lerner, H.R. (ed.): *Plant Responses to Environmental Stress. From Phytohormones to Genome Reorganization*. Pp. 303-331. Marcel Dekker, New York - Basel 1999. [194 ref.]
- Plaxton, W.C.: The organization and regulation of plant glycolysis. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* **47**: 185-214, 1996. [Photorespiration; 150 ref.]
- Polle, A.: Mehler reaction: Friend or foe in photosynthesis? - *Bot. Acta* **109**: 84-89, 1996. [70 ref.]
- Poolman, M.G., Fell, D.A., Thomas, S.: Modelling photosynthesis and its control. - *J. exp. Bot.* **51**: 319-328, 2000. [31 ref.]
- Poorter, H., Nagel, O.: The role of biomass allocation in the growth response of plants to different levels of light, CO₂, nutrients and water: a quantitative review. - *Aust. J. Plant Physiol.* **27**: 595-607, 2000. [56 ref.]
- Press, M.C.: The functional significance of leaf structure: a search for generalizations. - *New Phytol.* **143**: 213-219, 1999. [169 ref.]
- Prince, R.C.: Photosynthesis: the Z-scheme revised. - *Trends biochem. Sci.* **21**: 121-122, 1996. [12 ref.]
- Priya Sethu, K.M., Prabha, T.N., Ravishankar, G.A., Venkataraman, L.V.: Developments in cyanobacterial genetics. - In: Chaudhary, B.R., Agrawal, S.B. (ed.): *Cytology, Genetics and Molecular Biology of Algae*. Pp. 377-393. SPB Academic Publishing, Amsterdam 1996. [Ps genetics; 123 ref.]

BIBLIOGRAPHY

- Pullerits, T., Sundström, V.: Photosynthetic light-harvesting pigment-protein complexes: Toward understanding how and why. - *Accounts chem. Res.* **29**: 381-389, 1996. [50 ref.]
- Pyke, K.A.: Plastid division and development. - *Plant Cell* **11**: 549-556, 1999. [Chloroplast; 76 ref.]
- Quirino, B.F., Noh, Y.-S., Himmelblau, E., Amasino, R.M.: Molecular aspects of leaf senescence. - *Trends Plant Sci.* **5**: 278-282, 2000. [Ps, Chl; 45 ref.]
- Raven, J.A., Evans, M.C.W., Korb, R.E.: The role of trace metals in photosynthetic electron transport in O₂-evolving organisms. - *Photosynth. Res.* **60**: 111-149, 1999. [315 ref.]
- Raven, J.A., Falkowski, P.G.: Oceanic sinks for atmospheric CO₂. - *Plant Cell Environ.* **22**: 741-755, 1999. [156 ref.]
- Reddy, N.R.S., Small, G.J.: Spectral hole burning: Methods and applications to photosynthesis. - In: Amesz, J., Hoff, A.J. (ed.): *Biophysical Techniques in Photosynthesis*. Pp. 123-136. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [42 ref.]
- Reicosky, D.C., Hatfield, J.L., Saa, R.L.: Agricultural contributions to greenhouse gas emissions. - Reddy, K.R., Hodges, H.F. (ed.): *Climate Change and Global Crop Productivity*. Pp. 37-55. CABI Publishing, Wallingford - New York 2000. [Global C reserves; 89 ref.]
- Reinbothe, S., Reinbothe, C., Apel, K., Lebedev, N.: Evolution of chlorophyll biosynthesis - the challenge to survive photooxidation. - *Cell* **86**: 703-705, 1996. [14 ref.]
- Reith, M.: The evolution of plastids and the photosynthetic apparatus. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 643-657. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [96 ref.]
- Rey, P., Pruvot, G., Gillet, B., Peltier, G.: Molecular characterization of two chloroplastic proteins induced by water deficit in *Solanum tuberosum* L. plants: involvement in the response to oxidative stress. - In: Smallwood, M.F., Calvert, C.M., Bowles, D.J. (ed.): *Plant Responses to Environmental Stress*. Pp. 145-151. BIOS Scientific Publishers, Oxford 1999. [22 ref.]
- Reynolds, M.P., van Ginkel, M., Ribaut, J.-M.: Avenues for genetic modification of radiation use efficiency in wheat. - *J. exp. Bot.* **51**: 459-473, 2000. [96 ref.]
- Richards, R.A.: Selectable traits to increase crop photosynthesis and yield of grain crops. - *J. exp. Bot.* **51**: 447-458, 2000. [69 ref.]
- Richardson, L.L.: Remote sensing of algal bloom dynamics. - *BioScience* **46**: 492-501, 1996. [51 ref.]
- Richmond, A.: Efficient utilization of high irradiance for production of photoautotrophic cell mass: a survey. - *J. appl. Phycol.* **8**: 381-387, 1996. [22 ref.]
- Richter, M.L., Hein, R., Huchzermeyer, B.: Important subunit interactions in the chloroplast ATP synthase. - *Biochim. biophys. Acta* **1458**: 326-342, 2000. [114 ref.]
- Richter, M.L., Mills, D.A.: The relationship between the structure and catalytic mechanism of the chloroplast ATP synthase. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 453-468. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [132 ref.]
- Robert, B.: Resonance Raman studies in photosynthesis - chlorophyll and carotenoids molecules. - In: Amesz, J., Hoff, A.J. (ed.): *Biophysical Techniques in Photosynthesis*. Pp. 161-176. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [75 ref.]
- Robinson, C., Woolhead, C., Edwards, W.: Transport of proteins into and across the thylakoid membrane. - *J. exp. Bot.* **51**: 369-374, 2000. [37 ref.]
- Rodermel, S.: Subunit control of Rubisco biosynthesis - a relic of an endosymbiotic past? - *Photosynth. Res.* **59**: 105-123, 1999. [157 ref.]
- Roell, M.K., Gruissem, W.: Chloroplast gene expression: Regulation at multiple levels. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 565-587. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [219 ref.]
- Rögner, M., Boekema, E.J., Barber, J.: How does photosystem 2 split water? The structural basis of efficient energy conversion. - *Trends biochem. Sci.* **21**: 44-49, 1996. [41 ref.]
- Roitsch, T.: Source-sink regulation by sugar and stress. - *Curr. Opin. Plant Biol.* **2**: 198-206, 1999. [74 ref.]
- Roitsch, T., Ehneß, R., Goetz, M., Hause, B., Hofmann, M., Sinha, A.K.: Regulation and function of extracellular invertase from higher plants in relation to assimilate partitioning, stress responses and sugar signalling. - *Aust. J. Plant Physiol.* **27**: 815-825, 2000. [62 ref.]
- Roldán, M.: Can chlororespiration in plants help to explain the controversial phenotype of *ndh* mutants? - *Trends Plant Sci.* **4**: 50, 1999. [11 ref.]
- Ruelland, E., Miginiac-Maslow, M.: Regulation of chloroplast enzyme activities by thioredoxins: activation or relief from inhibition? - *Trends Plant Sci.* **4**: 136-141, 1999. [38 ref.]
- Rumpho, M.E., Summer, E.J., Manhart, J.R.: Solar-powered sea slugs. Mollusc/algal chloroplast symbiosis. - *Plant Physiol.* **123**: 29-38, 2000. [43 ref.]
- Sadras, V.O., Milroy, S.P.: Soil-water thresholds for the responses of leaf expansion and gas exchange: A review. - *Field Crops Res.* **47**: 253-266, 1996. [Ps; 95 ref.]
- Samson, G., Prášil, O., Yaakoub, B.: Photochemical and thermal phases of chlorophyll *a* fluorescence. - *Photosynthetica* **37**: 163-182, 1999. [115 ref.]
- Satoh, K.: Introduction to the photosystem II reaction center - isolation and biochemical and biophysical characterization. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 193-211. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [113 ref.]
- Sauer, K., Debreczeny, M.: Fluorescence. - In: Amesz, J., Hoff, A.J. (ed.): *Biophysical Techniques in Photosynthesis*. Pp. 41-61. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [44 ref.]
- Save, R., Castell, C., Terradas, J.: Gas exchange and water relations. - In: Roda, F., Retana, J., Gracia, C.A., Bellot, J. (ed.): *Ecology of Mediterranean Evergreen Oak Forests*. (Ecological Studies: Analysis and Synthesis, Vol. 137.) Pp. 121-147. Springer-Verlag, Berlin - Heidelberg 1999. [57 ref.]
- Schatz, G., Dobberstein, B.: Common principles of protein translocation across membranes. - *Science* **271**: 1519-1526, 1996. [127 ref.]
- Schiffer, M.: Structure determination of proteins by X-ray diffraction. - In: Amesz, J., Hoff, A.J. (ed.): *Biophysical Techniques in Photosynthesis*. Pp. 317-324. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [31 ref.]
- Schoefs, B.: The light-dependent and light-independent reduction of protochlorophyllide *a* to chlorophyllide *a*. - *Photosynthetica* **36**: 481-496, 1999. [105 ref.]

- Schoepp, B., Brugna, M., Lebrun, E., Nitschke, W.: Iron-sulfur centers involved in photosynthetic light reactions. - *Adv. inorg. Chem.* **47**: 335-360, 1999. [143 ref.]
- Schuch, W., Drake, R., Römer, S., Bramley, P.M.: Manipulating carotenoids in transgenic plants. - *Ann. New York Acad. Sci.* **792** (Engineering Plants for Commercial Products and Applications): 13-19, 1996. [16 ref.]
- Seidler, A.: The extrinsic polypeptides of Photosystem II. - *Biochim. biophys. Acta* **1277**: 35-60, 1996. [247 ref.]
- Šesták, Z., Čatský, J.: Bibliography of reviews and methods of photosynthesis - 82. - *Photosynthetica* **37**: 131-160, 1999. [510 ref.]
- Sharkey, T.D.: Isoprene synthesis by plants and animals. - *Endeavour* **20**: 74-78, 1996. [Ps, chloroplast, Chl; 45 ref.]
- Shinkarev, V.P., Brunner, R., Wraight, C.A.: Application of near-field scanning optical microscopy in photosynthesis research. - *Photosynth. Res.* **61**: 181-193, 1999. [22 ref.]
- Simpson, D.J., Knoetzel, J.: Light-harvesting complexes of plants and algae: introduction, survey and nomenclature. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photo-synthesis: The Light Reactions*. Pp. 493-506. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [76 ref.]
- Sinoquet, H., Le Roux, X.: Short term interactions between tree foliage and the aerial environment: An overview of modelling approaches available for tree structure-function models. - *Ann. Forest. Sci.* **57**: 477-496, 2000. [144 ref.]
- Smith, R.D., Walker, J.C.: Plant protein phosphatases. - *Annu. Rev. Plant Physiol. Plant mol. Biol.* **47**: 101-125, 1996. [Chloroplast; 144 ref.]
- Smykalová, I.: Zelené řasy jako modelové organismy pro studium účinků těžkých kovů na růst a fotosyntetický aparát. Rostlinné metalothioneiny. [Green algae as model organisms for the study of heavy metal effects on growth and the photosynthetic apparatus. Plant metallothioneins.] - *Biol. Listy* **65**: 81-102, 2000. [In Czech, ab: E; 139 ref.]
- Sowiński, P.: Transport of photoassimilates in plants under unfavourable environmental conditions. - *Acta Physiol. Plant.* **21**: 75-85, 1999. [156 ref.]
- Spreitzer, R.J.: Questions about the complexity of chloroplast ribulose-1,5-bisphosphate carboxylase/oxygenase. - *Photosynth. Res.* **60**: 29-42, 1999. [158 ref.]
- Staehelin, L.A., van der Staay, G.W.M.: Structure, composition, functional organization and dynamic properties of thylakoid membranes. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 11-30. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [99 ref.]
- Stitt, M., Krapp, A.: The interaction between elevated carbon dioxide and nitrogen nutrition: the physiological and molecular background. - *Plant Cell Environ.* **22**: 583-621, 1999. [370 ref.]
- Stoeckenius, W.: Bacterial rhodopsins: Evolution of a mechanistic model for the ion pumps. - *Protein Sci.* **8**: 447-459, 1999. [Bacteriorhodopsin; 22 ref.]
- Tabita, F.R.: Microbial ribulose 1,5-bisphosphate carboxylase/oxygenase: A different perspective. - *Photosynth. Res.* **60**: 1-28, 1999. [177 ref.]
- Talarico, L.: Phytobiliproteins and phycobilisomes in red algae: adaptive responses to light. - *Scientia mar.* **60**: 205-222, 1996. [123 ref.]
- Thomas, H., Howarth, C.J.: Five ways to stay green. - *J. exp. Bot.* **51**: 329-337, 2000. [42 ref.]
- Thompson, G.A., Jr.: Lipids and membrane function in green algae. - *Biochim. biophys. Acta* **1302**: 17-45, 1996. [Chl, Car; 183 ref.]
- Thorsness, P.E., Weber, E.R.: Escape and migration of nucleic acids between chloroplasts, mitochondria, and the nucleus. - *Int. Rev. Cytol.* **165**: 207-234, 1996. [112 ref.]
- Tiede, D.M., Thiyagarajan, P.: Characterization of photosynthetic supramolecular assemblies using small angle neutron scattering. - In: Ames, J., Hoff, A.J. (ed.): *Biophysical Techniques in Photosynthesis*. Pp. 375-390. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [50 ref.]
- Tsotis, G., McDermott, G., Ghanotakis, D.: Progress towards structural elucidation of Photosystem II. - *Photosynth. Res.* **50**: 93-101, 1996. [52 ref.]
- Tuba, Z., Proctor, M.C.F., Takács, Z.: Desiccation-tolerant plants under elevated air CO₂: A review. - *Z. Naturforsch.* **54c**: 788-796, 1999. [62 ref.]
- Tuli, R., Naithani, S., Misra, H.S.: Cyanobacterial photosynthesis and the problem of oxygen in nitrogen-fixation: A molecular genetic view. - *J. sci. ind. Res.* **55**: 638-657, 1996. [210 ref.]
- Vermaas, W.: Molecular genetics of the cyanobacterium *Synechocystis* sp. PCC 6803: Principles and possible biotechnology applications. - *J. appl. Phycol.* **8**: 263-273, 1996. [Photosystems; 50 ref.]
- Vishnevetsky, M., Ovadis, M., Vainstein, A.: Carotenoid sequestration in plants: the role of carotenoid-associated proteins. - *Trends Plant Sci.* **4**: 232-235, 1999. [35 ref.]
- Vos, M.H., Martin, J.-L.: Femtosecond processes in proteins. - *Biochim. biophys. Acta* **1411**: 1-20, 1999. [174 ref.]
- Ward, J.K., Strain, B.R.: Elevated CO₂ studies: past, present and future. - *Tree Physiol.* **19**: 211-220, 1999. [Ps; 94 ref.]
- Webber, A.N., Baker, N.R.: Control of thylakoid membrane development and assembly. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 41-58. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [148 ref.]
- Weihe, A., Börner, T.: Transcription and the architecture of promoters in chloroplasts. - *Trends Plant Sci.* **4**: 169-170, 1999. [15 ref.]
- Whitmarsh, J., Pakrasi, H.B.: Form and function of cytochrome *b*-559. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 249-264. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [116 ref.]
- Wildner, G.F., Schlitter, J., Müller, M.: Rubisco, an old challenge with new perspectives. - *Z. Naturforsch.* **51c**: 263-276, 1996. [63 ref.]
- Witt, H.T.: Structure analysis of single crystals of photosystem I by X-ray, EPR and ENDOR: A short status report. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 363-375. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [47 ref.]
- Wollman, F.-A., Minai, L., Nechushtai, R.: The biogenesis and assembly of photosynthetic proteins in thylakoid membranes. - *Biochim. biophys. Acta* **1411**: 21-85, 1999. [630 ref.]
- Wujek, D.E.: Chrysophyte ultrastructure and taxonomy: a mini review. - In: Chaudhary, B.R., Agrawal, S.B. (ed.): *Cytology, Genetics and Molecular Biology of Algae*. Pp. 21-36. SPB Academic Publishing, Amsterdam 1996. [95 ref.]
- Yamamoto, H.Y., Bassi, R.: Carotenoids: Localization and

function. - In: Ort, D.R., Yocum, C.F. (ed.): *Oxygenic Photosynthesis: The Light Reactions*. Pp. 539-563. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [236 ref.]

Young, A.J., Frank, H.A.: Energy transfer reactions involving carotenoids: quenching of chlorophyll fluorescence. - *J. Photochem. Photobiol. B* **36**: 3-15, 1996. [90 ref.]

METHODOLOGICAL PAPERS

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

- Abdallah, F., Salamini, F., Leister, D.: A prediction of the size and evolutionary origin of the proteome of chloroplasts of *Arabidopsis*. - *Trends Plant Sci.* **5**: 141-142, 2000. [Review, 10 ref.]
- Adamska, I.: Light stress proteins (ELIPs); the intriguing relatives of *cab* gene family. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 887-892. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Akita, T., Sagisaka, S.: Functional and structural differences among proplastids, as seen by immunogold staining and electron microscopy. - *Biosci. Biotechnol. Biochem.* **59**: 1477-1484, 1995.
- Alizadeh, S., Nixon, P.J., Telfer, A., Barber, J.: Isolation and characterisation of the Photosystem two reaction centre complex from a double mutant of *Chlamydomonas reinhardtii*. - *Photosynth. Res.* **43**: 165-171, 1995.
- Allen, J.F., Davies, P.N., Forsberg, J., Håkansson, G., Tullberg, A.: Acid-labile, histidine phosphoproteins in chloroplasts and mitochondria: Possible candidates for redox sensor kinases. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 699-702. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Ananyev, G.M., Dismukes, G.C.: Photoassembly of the tetra-Mn site of photosynthetic water oxidation: EPR evidence for dark ligation of a binuclear Mn intermediate. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 431-434. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Anderson, J.M., Park, Y.-I., Chow, W.S.: Photoinactivation of photosystem II *in vivo*. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. IV. Pp. 389-392. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Anderson, L.E., Huppe, H.C., Li, A.D., Stevens, F.J.: The sedoheptulose bisphosphatase of *Chlamydomonas reinhardtii* contains a potential inter-domain disulphide and is redox-sensitive. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 71-74. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Andrews, T.J., Caemmerer, S., von, Mate, C.J., Hudson, G.S., Evans, J.R.: The regulation of Rubisco catalysis by Rubisco activase. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 17-22. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Arlt, T., Heinecke, R., Penzkofer, H., Zinth, W.: Degenerate four-wave mixing on photosynthetic reaction centers. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 879-882. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Experimental set-up.]
- Aured, M., Picorel, R.: Isolation and preliminary characterization of a D1/D2/cytochrome *b*-559 complex from the cyanobacterium *Phormidium laminosum*. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 827-830. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Bakels, R.H.A., van Wielink, J.E., Krab, K., van Walraven, H.S.: Sulfite interacts with the ATP synthase from chloroplasts and cyanobacteria by competition with phosphate. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 151-154. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Barmenkov, Yu.O., Kir'yanov, A.V., Starodumov, A.N., Maslyanitsyn, I.A., Shigorin, V.D., Lemmetyinen, H.: Study of nonlinear optical properties of multilayer Langmuir-Blodgett films containing bacteriorhodopsin. - *Photochem. Photobiol.* **72**: 151-154, 2000. [Layout of two PMB technique.]
- Berry, S., Rumberg, B.: Regulation of the Q-cycle in photosynthetic electron transport of green plants. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 147-150. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Bes, M.T., Razquin, P., Gómez-Moreno, C.: Interference of nucleases in cyanobacterium ferredoxin purification. - *Prep. Biochem.* **25**: 89-97, 1995.
- Biggins, J., Rodday, S.M., Do, L.: Interaction of the subunit Psac with its binding site on the PS I core heterodimer. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 111-114. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Björn, L.O.: Effect of back reaction in the S-cycle on photosynthesis in very weak light. - *Photosynth. Res.* **46**: 203-206, 1995. [Model.]
- Bolle, C., Herrmann, R.G., Oelmüller, R.: Regulatory elements involved in the expression of nuclear genes for plastid proteins. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 703-706. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Borisov, A.Y.: New concept of energy migration and trapping in purple bacteria. Charge transfer-polaron model. - *Biochem. mol. Biol. int.* **35**: 833-840, 1995.
- Borisov, A.Yu., Belozersky, A.N.: New concept of energy trapping in purple bacteria. Charge transfer-polaron model. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 443-446. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Burda, K., Schmid, G.H.: On the determination of the S-state distribution in the Kok model. - *Z. Naturforsch.* **51c**: 329-341, 1996.
- Calcaterra, N.B., Picó, G.A., Carrillo, N., Ottado, J., Orellano, E.G., Ceccarelli, E.A.: Involvement of the FAD domain residue tyrosine 308 on stability and function of ferredoxin-NADP⁺ reductase. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 661-664. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]

- Crimi, M., Fregni, V., Altamari, A., Melandri, B.A.: The driving force for the activation of the F-ATPase in chromatophores is not correctly estimated by the carotenoid electrochromic response. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 171-174. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Comparison of methods.]
- Dahn, D.C., Cake, K., MacDonald, T.L., Hale, L.R.: Scanning tunnelling microscopy studies in chloroplasts in solution. - *Scanning Microsc.* 9: 413-418, 1995.
- Dau, H., Andrews, J.C., Roelofs, T.A., Latimer, M.J., Liang, W., Yachandra, V.K., Sauer, K., Klein, M.P.: X-ray absorption linear dichroism spectroscopy (XALDS) on the PS II manganese complex - methodical aspects. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 271-274. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Davidson, N.B.: Two-dimensional electrophoresis of acidic proteins isolated from ozone-stressed Norway spruce needles (*Picea abies* L. Karst): Separation method and image processing. - *Electrophoresis* 16: 1305-1311, 1995.
- de las Rivas, J., Morais, F., Nixon, P., Barber, J.: Cytochrome b559 within photosystem II: Studies on its photoreduction and photooxidation in pea and targeted mutagenesis of its genes in *Chlamydomonas*. Clues for a functional model of this haem-protein related to photoinhibition. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 579-582. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Dmitriev, O.Y., Jones, P.C., Fillingame, R.H.: Structure of the subunit c oligomer in the F₁F₀ ATP synthase: Model derived from solution structure of the monomer and cross-linking in the native enzyme. - *Proc. nat. Acad. Sci. USA* 96: 7785-7790, 1999.
- Durrant, J.R., Klug, D.R., Kwa, S.L.S., van Grondelle, R., Porter, G., Dekker, J.P.: A multimer model for P680, the primary electron donor of photosystem II. - *Proc. nat. Acad. Sci. USA* 92: 4798-4802, 1995.
- Enami, I., Murayama, H., Kamo, M., Ohta, H., Nakazato, K.: Isolation and characterization of a highly purified oxygen-evolving photosystem II core complex from an acidophilic and thermophilic red alga, *Cyanidium caldarium*. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 357-360. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Enami, I., Murayama, H., Ohta, H., Kamo, M., Nakazato, K., Shen, J.-R.: Isolation and characterization of a Photosystem II complex from the red alga *Cyanidium caldarium*: association of cytochrome c-550 and a 12 kDa protein with the complex. - *Biochim. biophys. Acta* 1232: 208-216, 1995.
- Engels, M., Gerwert, K., Bashford, D.: Computational studies of the early intermediates of the bacteriorhodopsin photocycle. - *Biophys. Chem.* 56: 95-104, 1995. [Model.]
- Fetisova, Z.G., Novoderezhkin, V.I., Taisova, A.S., Uzbekov, R.E., Freiberg, A.M., Timpmann, K.E.: Dynamics of a cylindrical exciton in chlorosomes of green bacteria. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 17-22. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Fißler, J., Kohring, G.W., Giffhorn, F.: Enhanced hydrogen production from aromatic acids by immobilized cells of *Rhodospseudomonas palustris*. - *Appl. Microbiol. Biotechnol.* 44: 43-46, 1995.
- Foloppe, N., Ferrand, M., Breton, J., Smith, J.C.: Structural model of the photosynthetic reaction center of *Rhodobacter capsulatus*. - *Proteins: Struct. Funct. Genet.* 22: 226-244, 1995.
- Ford, R.C., Collins, R.P., Flint, T.D., Kitmitto, A., Nicholson, W.V., Rosenberg, M.F., Shepherd, F.H., Stoylova, S., Holzenburg, A.: Photosystem II 3D architecture. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 213-218. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Ford, R.C., Rosenberg, M.F., Shepherd, F.H., McPhie, P., Holzenburg, A.: Photosystem II 3-D structure and the role of the extrinsic subunit in photosynthetic oxygen evolution. - *Micron* 26: 133-140, 1995. [Model.]
- Frackowiak, D., Dudkowiak, A., Cegielski, R., Planner, A., Schulz, C.: Optical properties of the purple bacterium reaction centres immobilized in polymer film. - *Photosynthetica* 31: 283-299, 1995. [Model.]
- Fromwald, S., Dworsky, A., Peschek, G.A.: F-type and P-type ATPases in cyanobacteria: Implications for energy conservation and utilization. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 47-50. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Gal, A., Zer, H., Roobol-Boza, M., Fulgosi, H., Herrmann, R.G., Ohad, I., Andersson, B.: Use of perfusion chromatography for the rapid isolation of thylakoid kinase enriched preparations. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 341-344. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Gapinski, J., Paillotin, G., Leibl, W., Gibasiewicz, K., Breton, J., Dobek, A.: Penetration of light in photosynthetic membranes of spherical symmetry. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 421-424. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- García-Sánchez, M.I., Vígara, A.J., Gotor, C., Vega, J.M.: A new method to identify ferredoxin-interacting proteins. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 685-688. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Gau, A.E., Thole, H.H., Pistorius, E.K.: Isolation and partial characterization of a manganese requiring L-arginine metabolizing enzyme being present in photosystem II complexes of spinach and tobacco. - *Z. Naturforsch.* 50c: 638-651, 1995.
- Gibney, B.R., Mulholland, S.E., Rabanal, F., Dutton, P.L.: Design of synthetic iron-sulfur proteins. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 645-648. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Giersch, C.: Mathematical modelling of metabolism. - *Curr. Opin. Plant Biol.* 3: 249-253, 2000. [RuBPCO; review, 51 ref.]
- Green, B.R., Kühlbrandt, W.: Sequence conservation of light-harvesting and stress-response proteins in relation to the three-dimensional molecular structure of LHCII. - *Photosynth. Res.* 44: 139-148, 1995. [Model.]
- Gualberto, J.M., Handa, H., Grienemberger, J.M.: Isolation and fractionation of plant mitochondria and chloroplasts: Specific examples. - In: Galbraith, D.W., Bourque, D.P., Bohnert, H.J. (ed.): *Methods in Cell Biology*. Vol. 50. Pp. 161-175. Academic Press, San Diego - New York - Boston - London - Sydney - Tokyo - Toronto 1995.

- Guedeney, G., Corneille, S., Cuiné, S., Peltier, G.: *ndhB* and *ndhI* gene products are associated to FNR as components of a chloroplastic NAD(P)H dehydrogenase complex. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 883-886. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Gülen, D., van Grondelle, R., van Amerongen, H.: Structural information on light-harvesting complex II as obtained from exciton calculations and polarized spectroscopy. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 335-338. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hanson, D.K., Deng, Y.-L., Sebban, P., Schiffer, M.: Compensation for L212Glu in bacterial reaction centers. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 859-862. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Haraux, F., Diolez, P., Chernyak, B.V., Valerio, M., Velours, J., Gubern, M., Sigalat, C.: $\Delta\psi_H$ -regulation of F_0F_1 ATPase in chloroplasts and mitochondria. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 155-158. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hartman, F.C., Harpel, M.R., Chen, Y.-R., Larson, E.M., Larimer, F.W.: Catalytic roles of flexible regions at the active site of ribulose-bisphosphate carboxylase/oxygenase (Rubisco). - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 23-28. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hasharoni, K., Levanon, H., Greenfield, S.R., Gosztola, D.J., Svec, W.A., Wasielewski, M.R.: Mimicry of the radical pair and triplet states in photosynthetic reaction centers with a synthetic model. - *J. Amer. Chem. Soc.* **117**: 8055-8056, 1995.
- Haumann, M., Hundelt, M., Drevenstedt, W., Junge, W.: Electrogenicity of electron and proton transfer in photosystem II of green plants. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 333-336. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hecks, B., Wilhelm, C., Trissl, H.-W.: Organization of the photosynthetic membrane of the primitive alga *Manoniella squamata*. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 281-284. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Heimann, S., Schreiber, U.: H_2O_2 -induced transient oxidation of a light-sensitive cyt b-559 in intact spinach chloroplasts in the presence of ascorbate. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 851-854. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hervás, M., Navarro, J.A., Diaz, A., Bottin, H., de la Rosa, M.A.: Mechanism of electron transfer from plastocyanin and cytochrome c_6 to photosystem I in a number of evolutionarily differentiated organisms. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 63-66. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hess, S., Chachisvilis, M., Pullerits, T., Jones, M.R., Fowler, G.J.C., Hunter, C.N., Sundström, V.: Localized excitations and excitons in photosynthesis. LH2 - a testing ground of energy transfer. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 119-122. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Hiller, R.G., Wrench, P.M., Sharples, F.P.: Amino acid sequences of the light-harvesting proteins of the dinoflagellate *Amphidinium carterae*. In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 29-34. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hochkoeppler, A., Kofod, P., Ferro, G., Ciurli, S.: Isolation, characterization, and functional role of the high-potential iron-sulfur protein (HiPIP) from *Rhodospirillum rubrum*. - *Arch. Biochem. Biophys.* **322**: 313-318, 1995.
- Hoganson, C.W., Lydakis-Simantiris, N., Tang, X.-S., Tommos, C., Warncke, K., Babcock, G.T., Diner, B.A., McCracken, J., Styring, S.: A hydrogen-atom abstraction model for the function of Y-Z in photosynthetic oxygen evolution. - *Photosynth. Res.* **46**: 177-184, 1995.
- Holzwarth, A.R.: Ultrafast spectroscopy of the light-harvesting complex and the isolated reaction center from Photosystem II. In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 35-40. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hope, A.B., Hiscock, W., Matthews, D.B., Valente, P.: Effects of hydrostatic pressure on the kinetics of electron transfer in an isolated system of chloroplast cytochrome *bf* complex, plastocyanin and P700. - *Photosynth. Res.* **43**: 191-200, 1995. [Model.]
- Hou, J.-M., Kuang, T.-Y., Yu, Z.-B., Tang, C.-Q., Yang, K.-Y., Tang, P.-S., Ye, T., Cui, Y., Chen, Y.-D., Wang, S.-C., Hou, X.: Dynamic studies on the primary photochemical reaction in the isolated Photosystem II reaction centers by time-resolved absorption and fluorescence spectroscopy. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 523-526. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Houmard, J., Schyns, G., Jia, L., Sobczyk, A., Liotenberg, S., Campbell, D., Tandeau de Marsac, N.: Molecular factors that control gene expression in a filamentous cyanobacterium. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 433-438. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hu, X., Xu, D., Hamer, K., Schulten, K., Koepke, J., Michel, H.: Predicting the structure of the light-harvesting complex II of *Rhodospirillum rubrum*. - *Protein Sci.* **4**: 1670-1682, 1995. [Model.]
- Iida, K., Parkes-Loach, P.S., Loach, P.A., Nango, M.: Molecular assemblies of light-harvesting polypeptides/porphyrin derivatives as an artificial model for the light-harvesting polypeptide complex of photosynthetic bacteria. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 235-238. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Inoue, K., Akaike, M., Hattori, A., Kusumoto, N., Sakurai, H.: Preparation and characterization of a photoactive reaction centers complex from the heliobacterium *Heliobacillus mobilis*. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 199-202. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Isaacson, R.A., Lendzian, F., Abresch, E.C., Lubitz, W., Feher, G.: Electronic structure of QA^- in reaction centers from *Rhodospirillum rubrum*. I. Electron paramagnetic resonance in single crystals. - *Biophys. J.* **69**: 311-322, 1996. [Model.]
- Ismailov, M.A., Zulfugarov, I.S., Asadov, A.A.: Elucidation of the role of some low molecular mass polypeptides of photosystem I and photosystem II as longwavelength chlorophyll-binding proteins. - In: Mathis, P. (ed.):

- Photosynthesis: from Light to Biosphere. Vol. III. Pp. 253-256. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Iwaki, M., Kumazaki, S., Yoshihara, K., Erabi, T., Itoh, S.: ΔG dependence of the rate constant of $P700^+A_0^- \rightarrow P700^+Q^-$ reaction in the quinone-reconstituted PS1 reaction center. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 147-150. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Jouanneau, Y., Hugo, N., Armengaud, J., Naud, I., Meyer, C., Willison, J.C.: Electron transport to nitrogenase in the photosynthetic bacterium *Rhodobacter capsulatus*. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 801-805. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kanervo, E., Murata, N., Aro, E.-M.: Synthesis of the D+ protein in a fatty acid double mutant of *Synechocystis* 6803. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 207-210. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kato, A., Lee, K.-S., Fukuzawa, H., Ohyama, K., Ogawa, T.: A putative CO_2 transporter in *Synechocystis* PCC6803 driven by NADPH dehydrogenase-mediated photosystem-I cyclic electron flow. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 807-812. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kessi, J., Ghosh, R., Bachofen, R.: Purification of an LHI-RC-complex of *Rhodospirillum rubrum* by solubilization of chromatophores with a short-chain lecithin. - Photosynth. Res. 46: 353-362, 1995.
- Kolpasky, A., Mühlenhoff, U., Atteia, A., Nitschke, W.: Purification and characterization of an NADH-dehydrogenase (NDH-1) from *Helicobacter mobilis*. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 951-954. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Konermann, L., Gatzert, G., Holzwarth, A.R.: Modelling the low temperature fluorescence kinetics of the Photosystem II reaction centers: energy transfer and radical pair relaxation. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 923-926. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Koolhaas, M.H.C., van der Zwan, G., van Mourik, F., van Grondelle, R.: Correlation of non-conservative CD signals, absorption spectra and dimer structure. Application to the B820-subunit. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 351-354. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kramer, D.M., Crofts, A.R.: A chain reaction mechanism for oxidation of the fully reduced cytochrome *b₆f* complex. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 575-578. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kranz, R., Cullen, P., Bowman, W., Goldman, B.: *Rhodobacter capsulatus* as a model phototroph for studies on nitrogen gene regulation and cytochrome *c* biogenesis. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. III. Pp. 439-444. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Krasnovsky, A.A., Jr.: Strategies of chloroplast protection against damage by singlet molecular oxygen. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 275-278. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Krieger, A.: Regulation of Photosystem II: effects of pH and light on flash-induced absorption changes at 820 nm. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 803-806. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Krieger, A., Heimann, S., Johnson, G.: Photoprotection on non-photoactivated Photosystem II. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 723-726. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kruip, J., Bald, D., Hankamer, B., Nield, J., Boonstra, M., Barber, J., Boekema, E.J., Rögner, M.: Localization of subunits in PS1, PS2 and in a PS2/light-harvesting-supercomplex. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. III. Pp. 405-408. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kruse, O., Zheleva, D., Hankamer, B., Barber, J.: Investigating the protective role of phosphorylation for PSII complexes. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. III. Pp. 401-404. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kuang, T.-Y., Hou, M.-M., Peng, D.-C., Tang, C.-Q., Tang, P.-S.: Photoinduced damage of the pheophytin *a* and its protective role in the photosystem II reaction center against photoinactivation. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 363-366. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kubicki, A., Funk, E., Westhoff, P., Steinmüller, K.: Differential expression of genes for the NAD(P)H-plastoquinone-oxidoreductase in mesophyll and bundle sheath chloroplasts of the C4-plant *Sorghum bicolor* suggests a functional role of the enzyme in cyclic photosynthetic electron transport. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. III. Pp. 631-634. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Kusumoto, N., Inoue, K., Sakurai, H.: Spectroscopic studies of bound cytochrome *c* and in an iron-sulfur center in a purified reaction center complex from the green sulfur bacterium *Chlorobium tepidum*. - Photosynth. Res. 43: 107-112, 1995. [Model.]
- Lancaster, C.R.D., Gunner, M.R., Michel, H.: The coupling of light-induced electron transfer and proton uptake: electrostatic calculations on the photosynthetic reaction centre from *Rhodospseudomonas viridis*. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 903-906. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model of Q_A and Q_B clusters.]
- Latimer, M.J., Dau, H., Liang, W., Andrews, J.C., Roelofs, T.A., Cinco, R.M., Rompel, A., Sauer, K., Yachandra, V.K., Klein, M.P.: Recent advances toward a structural model for the photosynthetic oxygen-evolving manganese cluster. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 407-420. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Latimer, M.J., DeRose, V.J., Mukerji, I., Yachandra, V.K., Sauer, K., Klein, M.P.: Evidence for the proximity of calcium to the manganese cluster of photosystem II: Determination by X-ray absorption spectroscopy. - Biochemistry 34: 10898-10909, 1995. [Model.]
- Lavergne, J., Trissl, H.-W.: Theory of fluorescence induction in Photosystem II: Derivation of analytical expressions in a

BIBLIOGRAPHY

- model including exciton-radical-pair equilibrium and restricted energy transfer between photosynthetic units. - *Biophys. J.* **68**: 2474-2492, 1995.
- Law, R.D., Plaxton, W.C.: Purification and characterization of a novel phosphoenolpyruvate carboxylase from banana fruit. - *Biochem. J.* **307**: 807-816, 1995.
- Leibl, W., Toupance, B., Breton, J.: Primary electron transfer reactions in *Helio bacteria* and photosystem I. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 191-194. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Microcoaxial cell for photovoltage measurements.]
- Lokstein, H., Leupold, D., Voigt, B., Nowak, F., Ehlert, J., Hoffmann, P.: Nonlinear polarization spectroscopy in the frequency domain: spectral substructure and ultrafast exciton dynamics in higher plant light-harvesting complex II. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 287-290. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Device for measuring nonlinear polarization in the frequency domain.]
- Lokstein, H., Leupold, D., Voigt, B., Nowak, F., Ehlert, J., Hoffmann, P., Garab, G.: Nonlinear polarization spectroscopy in the frequency domain of light-harvesting complex II: Absorption band substructure and exciton dynamics. - *Biophys. J.* **69**: 1536-1543, 1995. [Principle of nonlinear polarization spectroscopy.]
- Lorković, Z.J., Schröder, W.P., Pakrasi, H.B., Irrgang, K.-D., Herrmann, R.G., Oelmüller, R.: Characterization of *PsbW*, the only nuclear-encoded component of the photosystem II reaction center complex. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. III. Pp. 743-746. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Lubitz, W., Müh, F., Rautter, J., Lendzian, F., Allen, J.P., Williams, J.C.: Magnetic resonance studies of bacterial reaction centers: effects of hydrogen bonds on the electronic structure of P^{++} and $I^{-\bullet}$. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. I. Pp. 413-418. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Lydakis-Simantiris, N., Hoganson, C.W., Ghanotakis, D.F., Babcock, G.T.: Deuterium isotope effects on the kinetics of Y_2^{\bullet} reduction in oxygen evolving photosystem II membranes. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. II. Pp. 279-282. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Magnuson, A., Frapart, Y., Abrahamsson, M., Horner, O., Åkermark, B., Sun, L.C., Girerd, J.-J., Hammarström, L., Styring, S.: A biomimetic model system for the water oxidizing triad in Photosystem II. - *J. amer. chem. Soc.* **121**: 89-96, 1999.
- Malkin, S.: The photoacoustic method in photosynthesis - monitoring and analysis of phenomena which lead to pressure changes following light excitation. - In: Ames, J., Hoff, A.J. (ed.): *Biophysical Techniques in Photosynthesis*. Pp. 191-206. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [Review; 73 ref.]
- Mantele, W.: Infrared and Fourier-transform infrared spectroscopy. - In: Ames, J., Hoff, A.J. (ed.): *Biophysical Techniques in Photosynthesis*. Pp. 137-160. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [Review; 79 ref.]
- Martínez-Júlvez, M., Hurley, J.K., Tollin, G., Gómez-Moreno, C., Fillat, M.F.: Overexpression in *E. coli* of the complete *petH* gene product from *Anabaena*: purification and properties of a 49 kDa ferredoxin-NADP⁺ reductase. - *Biochim. biophys. Acta* **1297**: 200-206, 1996.
- Michalski, W.P.: Chromatographic and electrophoretic methods for analysis of superoxide dismutases. - *J. Chromatogr. B* **684**: 59-75, 1995. [Review; 159 ref.]
- Mitchell, R.A.C., Theobald, J.C., Parry, M.A.J., Lawlor, D.W.: Is there scope for improving balance between RuBP-regeneration and carboxylation capacities in wheat at elevated CO₂? - *J. exp. Bot.* **51**: 391-397, 2000.
- Mott, K.A., Woodrow, I.E.: Modelling the role of Rubisco activase in limiting non-steady-state photosynthesis. - *J. exp. Bot.* **51**: 399-406, 2000. [Review; 19 ref.]
- Nakamura, C., Hasegawa, M., Hara, M., Miyake, J.: Isolation and analysis of tetraheme-bound-cytochrome from photosynthetic reaction centers of *Rhodospseudomonas viridis*. - *Appl. Biochem. Biotech.* **77-79**: 169-179, 1999.
- Neff, D., Dencher, N.A.: Purification of multisubunit membrane protein complexes: Isolation of chloroplast F_0F_1 -ATP synthase, CF_0 and CF_1 by blue native electrophoresis. - *Biochem. biophys. Res. Commun.* **259**: 569-575, 1999.
- Neumüller, M., Jähnig, F.: Modeling of halorhodopsin and rhodopsin based on bacteriorhodopsin. - *Proteins: Struct. Funct. Genet.* **26**: 146-156, 1996.
- Olesen, K., Ejdeback, M., Crnogorac, M.M., Kostić, N.M., Hansson, Ö.: Electron transfer to photosystem I from spinach plastocyanin mutated in the small acidic patch: Ionic strength dependence of kinetics and comparison of mechanistic models. - *Biochemistry* **38**: 16695-16705, 1999.
- Ostersetzer, O., Tabak, S., Yarden, O., Shapira, R., Adam, Z.: Immunological detection of proteins similar to bacterial proteases in higher plant chloroplasts. - *Eur. J. Biochem.* **236**: 932-936, 1996.
- Osuka, A., Wada, Y., Shinoda, S.: Covalently linked pyropheophorbide dimers as models of the special pair in the photosynthetic reaction center. - *Tetrahedron* **52**: 4311-4326, 1996.
- Pänke, O., Rumberg, B.: Kinetic modeling of rotary CF_0F_1 -ATP synthase: storage of elastic energy during energy transduction. - *Biochim. biophys. Acta* **1412**: 118-128, 1999.
- Pfündel, E., Neubohn, B.: Assessing photosystem I and II distribution in leaves from C₄ plants using confocal laser scanning microscopy. - *Plant Cell Environ.* **22**: 1569-1577, 1999.
- Poetsch, A., Seelert, H., Tittingdorf, J.M. zu, Dencher, N.A.: Detergent effect on anion exchange perfusion chromatography and gel filtration of intact chloroplast H^+ -ATP synthase. - *Biochem. biophys. Res. Commun.* **265**: 520-524, 1999.
- Regan, J.J., Onuchic, J.N.: Electron transfer in proteins: Beyond the single pathway approach. - In: Michel-Beyerle, M.-E. (ed.): *The Reaction Center of Photo-synthetic Bacteria. Structure and Dynamics*. Pp. 117-131. Springer-Verlag, Berlin - Heidelberg - New York 1996.
- Richter, P.I., Lichtenthaler, H.K.: Concept of application of synthetic optical spectra in photobiological research of plants. - *J. Plant Physiol.* **148** [Lichtenthaler, H.K. (ed.): *Vegetation Stress*]: 464-470, 1996.
- Rivoal, J., Dunford, R., Plaxton, W.C., Turpin, D.H.: Purification and properties of four phosphoenolpyruvate carboxylase isoforms from the green alga *Selenastrum minutum*: Evidence that association of the 102-kDa catalytic subunit with unrelated polypeptides may modify the physical

- and kinetic properties of the enzyme. - Arch. Biochem. Biophys. **332**: 47-57, 1996.
- Salafsky, J., Groves, J.T., Boxer, S.G.: Architecture and function of membrane proteins in planar supported bilayers: A study with photosynthetic reaction centers. - Biochemistry **35**: 14773-14781, 1996. [Model of bacterial reaction centre.]
- Santolini, J., Haraux, F., Sigalat, C., Moal, G., André, F.: Kinetic analysis of tentoxin binding to chloroplast F_1 -ATPase. A model for the overactivation process. - J. biol. Chem. **274**: 849-858, 1999.
- Scherer, P.O.J., Fischer, S.F.: Quantum calculations for the special pair dimer and for hetero dimers: Analysis of the internal charge transfer states. - In: Michel-Beyerle, M.-E. (ed.): The Reaction Center of Photosynthetic Bacteria. Structure and Dynamics. Pp. 89-104. Springer-Verlag, Berlin - Heidelberg - New York 1996.
- Seigneurin-Berny, D., Rolland, N., Garin, J., Joyard, J.: Differential extraction of hydrophobic proteins from chloroplast envelope membranes: a subcellular-specific proteomic approach to identify rate intrinsic membrane proteins. - Plant J. **19**: 217-228, 1999.
- Sham, Y.Y., Muegge, I., Warshel, A.: Simulating proton translocations in proteins: Probing proton transfer pathways in the *Rhodobacter sphaeroides* reaction center. - Proteins: Struct. Funct. Genet. **36**: 484-500, 1999.
- Shinkarev, V.P.: Binary oscillations in the Kok model of oxygen evolution in oxygenic photosynthesis. - Photosynth. Res. **48**: 411-417, 1996.
- Somsen, O.J.G., Valkunas, L., van Grondelle, R.: A perturbed two-level model for exciton trapping in small photosynthetic systems. - Biophys. J. **70**: 669-683, 1996.
- Soukupová, J., Lukavská, A., Lukavský, J., Nedbal, L.: Sensitivity of the algal biotest ISO 10253 to the photosystem 2 herbicides in seawater. - Photosynthetica **37**: 209-216, 1999.
- Strasser, R.J., Tsimilli-Michael, M., Pêcheux, M.: Perpetual adaptation in a perpetually changing environment as a survival strategy of plants: a case study in foraminifers concerning coral reef bleaching. - Photosynthetica **37**: 71-85, 1999. [Chl, model.]
- Svensson, B., Etchebest, C., Tuffery, P., van Kan, P., Smith, J., Styring, S.: A model for the photosystem II reaction center core including the structure of the primary donor P_{680} . - Biochemistry **35**: 14486-14502, 1996.
- Tiburzy, H.-J., Zimmermann, M., Oworah-Nkruma, R., Berzborn, R.J.: Heterologous overexpression of membrane-anchored subunit II of spinach chloroplast ATP synthase and its detergent-free purification as a soluble protein. - Z. Naturforsch. **54c**: 230-238, 1999.
- Tobin, A.K.: Subcellular fractionation of plant tissues. Isolation of chloroplasts and mitochondria from leaves. - In: Doonan, S. (ed.): Methods in Molecular Biology. Vol. 59. Protein Purification Protocols. Pp. 57-68. Humana Press, Totowa 1996.
- Tominaga, M., Hashimoto, S., Misaka, A., Nakashima, N.: Thermal stability and electrode reaction of *Chlorella* ferredoxin embedded in artificial lipid bilayer membrane films on a graphite electrode. - Anal. Chem. **71**: 2790-2796, 1999.
- Trinkunas, G., Holzwarth, A.R.: Kinetic modeling of exciton migration in photosynthetic systems. 3. Application of genetic algorithms to simulations of excitation dynamics in three-dimensional photosystem core antenna reaction center complexes. - Biophys. J. **71**: 351-364, 1996.
- Tsugita, A., Kamo, M., Kawakami, T., Ohki, Y.: Two-dimensional electrophoresis of plant proteins and standardization of gel patterns. - Electrophoresis **17**: 855-865, 1996. [Ps.]
- van de Ven, M.T.G., Lanham, P.G., Brennan, R.M.: Isolation and purification of plant nucleic acids. Genomic and chloroplast DNA. - In: Clapp, J.P. (ed.): Methods in Molecular Biology. Vol. 50. Species Diagnostics Protocols: PCR and Other Nucleic Acid Methods. Pp. 1-14. Humana Press, Totowa 1996.
- Várkonyi, Z., Zsiros, O., Gombos, Z.: The application of genetically manipulated cyanobacterial strains in the study of glycerolipid unsaturation of photosynthetic membranes in the tolerance of photosynthetic machinery to temperature stresses. - J. sci. ind. Res. **55**: 658-668, 1996. [Review, 63 ref.]
- Vaz, R.: Computer assisted molecular design: Overview of modern techniques in quantitative structure activity relationships (QSAR). - Weed Sci. **44**: 718-733, 1996. [Photosystem 2 inhibitors.]
- Viil, J., Ivanova, H., Pärnik, T.: Estimation of rate constants of the partial reactions of carboxylation of ribulose-1,5-bisphosphate *in vivo*. - Photosynth. Res. **60**: 247-256, 1999. [Model.]
- Wang, X., Kolattukudy, P.E.: Isolation of a protein containing covalently linked large and small subunits of ribulose-1,5-bisphosphate carboxylase/oxygenase from *Botryococcus braunii*. - Plant Physiol. **111**: 441-445, 1996.
- Wynne, K., Haran, G., Reid, G.D., Moser, C.C., Walker, G.C., Maiti, S., Dutton, P.L., Hochstrasser, R.M.: Femtosecond infrared spectroscopy on reaction centers of *Rb. sphaeroides*. - In: Michel-Beyerle, M.-E. (ed.): The Reaction Center of Photosynthetic Bacteria. Structure and Dynamics. Pp. 281-286. Springer-Verlag, Berlin - Heidelberg - New York 1996. [Model.]
- Xiong, J., Subramaniam, S., Govindjee: Modeling of the D1/D2 proteins and cofactors of the photosystem II reaction center: Implications for herbicide and bicarbonate binding. - Protein Sci. **5**: 2054-2073, 1996.
- Xu, Y., Siegenthaler, P.-A.: Phosphatidylglycerol molecular species of photosynthetic membranes analyzed by high-performance liquid chromatography: Theoretical considerations. - Lipids **31**: 223-229, 1996.
- Yokota, A., Wadano, A., Murayama, H.: Modeling of continuously and directly biphasic reaction centers of ribulose 1,5-bisphosphate carboxylase/oxygenase. - J. Biochem. (Tokyo) **119**: 487-499, 1996.
- Zech, S.G., Kurreck, J., Renger, G., Lubitz, W., Bittl, R.: Determination of the distance between Y_Z^{ox} and Q_A^{-} in photosystem II by pulsed EPR spectroscopy on light-induced radical pairs. - FEBS Lett. **442**: 79-82, 1999.
- Zhu, H., Wakayama, T., Suzuki, T., Asada, Y., Miyake, J.: Entrapment of *Rhodobacter sphaeroides* RV in cationic polymer/agar gels for hydrogen production in the presence of NH_4^+ . - J. Biosci. Bioeng. **88**: 507-512, 1999.
- Zimányi, L., Kulcsár, Á., Lanyi, J.K., Sears, D.F., Jr., Saltiel, J.: Singular value decomposition with self-modeling applied to determine bacteriorhodopsin intermediate spectra: Analysis of simulated data. - Proc. nat. Acad. Sci. USA **96**: 4408-4413, 1999.
- Zimányi, L., Kulcsár, Á., Lanyi, J.K., Sears, D.F., Jr., Saltiel, J.: Intermediate spectra and photocycle kinetics of the Asp96→Asn mutant bacteriorhodopsin determined by

BIBLIOGRAPHY

- singular value decomposition with self-modeling. - Proc. nat. Acad. Sci. USA **96**: 4414-4419, 1999.
- Zimmermann, G.M., Kramer, G.N., Schnabl, H.: Lyophilization of thylakoids for improved handling in a bioassay. - Environ. Toxicol. Chem. **15**: 1461-1463, 1996.
- Zimmermann, G.M., Trapmann, S., Pauwels, J., Schnabl, H.: Lyophilisation of thylakoids: A tool for long-term stability of the biological unit. - Cryo-Lett. **20**: 229-234, 1999.
- Zinth, W., Arlt, T., Schmidt, S., Penzkofer, H., Wachtveitel, J., Huber, H., Nägele, T., Hamm, P., Bibikova, M., Oesterheld, D., Meyer, M., Scheer, H.: The first femtoseconds of primary photosynthesis - the processes of the initial electron transfer reaction. - In: Michel-Beyerle, M.-E. (ed.): The Reaction Center of Photosynthetic Bacteria. Structure and Dynamics. Pp. 159-173. Springer-Verlag, Berlin - Heidelberg - New York 1996.
- Zolla, L., Timperio, A.M., Testi, M.G., Bianchetti, M., Bassi, R., Manera, F., Corradini, D.: Isolation and characterization of chloroplast Photosystem II antenna of spinach by reversed-phase liquid chromatography. - Photosynth. Res. **62**: 281-290, 1999.
- B. Analysis of chloroplast pigments and their *in vivo* complexes**
- Akerlund, H.-E., Arvidsson, P.-O., Bratt, C., Carlsson, M.: Partial purification of the violaxanthin de-epoxidase. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 103-106. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Barth, M.M., Zhou, C., Kute, K.M., Rosenthal, G.A.: Determination of optimum conditions for supercritical fluid extraction of carotenoids from carrot (*Daucus carota* L.) tissue. - J. agr. Food Chem. **43**: 2876-2878, 1995.
- Becker, M., Stubbs, M.T., Huber, R.: Crystallization of phycoerythrin 545 of *Rhodomonas lens* using detergents and unusual additives. - Protein Sci. **7**: 580-586, 1998.
- Ben-Amotz, A.: Simultaneous profiling and identification of carotenoids, retinols, and tocopherols by high performance liquid chromatography equipped with three-dimensional photodiode array detection. - J. Liquid Chromatogr. **18**: 2813-2825, 1995.
- Benoit, P., Roth, J.-M., Summ, P., Tomasini, F.: New instruments for remote sensing of plant stress. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 757-760. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Chl fluorescence; the same article is published also in Vol. V, pp. 1005-1008.]
- Bernhard, K.: Chromatography: Part II. Column chromatography. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1A: Isolation and Analysis. Pp. 117-130. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 50 ref.]
- Bernhard, K., Grosjean, M.: Infrared spectroscopy. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 117-134. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 12 ref.]
- Bhalerao, R.P., Collier, J.L., Gustafsson, P., Grossman, A.R.: The structure of phycobilisomes in mutants of *Synechococcus* sp. strain PCC 7942 devoid of specific linker polypeptides. - Photochem. Photobiol. **61**: 298-302, 1995. [Model.]
- Bilger, W., Schreiber, U., Bock, M.: Determination of the quantum efficiency of photosystem II and of non-photochemical quenching of chlorophyll fluorescence in the field. - Oecologia **102**: 425-432, 1995.
- Bollivar, D.W., Beale, S.I.: Formation of the isocyclic ring of chlorophyll by isolated *Chlamydomonas reinhardtii* chloroplasts. - Photosynth. Res. **43**: 113-124, 1995. [Model.]
- Brejč, K., Ficner, R., Steinbacher, S., Huber, R.: The three-dimensional structure of allophycocyanin. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 139-142. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Models.]
- Britton, G.: UV/visible spectroscopy. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 13-62. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 11 ref.]
- Britton, G.: Example 1: Higher plants. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 201-214. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 7 ref.]
- Britton, G.: Example 3: Bacteria. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1A: Spectroscopy. Pp. 227-238. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 9 ref.]
- Buchecker, R., Noack, K.: Circular dichroism. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 63-116. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 77 ref.]
- Carlsson, M., Bratt, C.E., Arvidsson, P.-O., Akerlund, H.-E.: Regulation of violaxanthin de-epoxidase activity by pH and ascorbate concentration. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 51-54. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model of xanthophyll cycle.]
- Caron, L., Douady, D., Rousseau, B., Quinet-Szely, M., Berkaloff, C.: Light-harvesting complexes from a brown alga. Biochemical and molecular study. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 223-226. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Chavez, F.P., Buck, K.R., Bidigare, R.R., Karl, D.M., Hebel, D., Latasa, M., Campbell, L., Newton, J.: On the chlorophyll *a* retention properties of glass-fiber GF/F filters. - Limnol. Oceanogr. **40**: 428-433, 1995.
- Chen, D.Y., Dovichi, N.J.: Single-molecule detection in capillary electrophoresis: Molecular shot noise as a fundamental limit to chemical analysis. - Anal. Chem. **68**: 690-696, 1996. [Bil.]
- Costello, D.K., Carder, K.L., Hou, W.: Aggregation of diatom bloom in a mesocosm: Bulk and individual particle optical measurements. - Deep-Sea Res. II **42**: 29-45, 1995.
- Cserhati, T., Forgács, E., Kiss, Y.: High performance liquid chromatographic detection of a strongly retained pigment fraction in *Capsicum annuum*. - Nahrung **39**: 269-274, 1995.
- Daley, P.F.: Chlorophyll fluorescence analysis and imaging in plant stress and disease. - Can. J. Plant Pathol. **17**: 167-173, 1995.
- Damdinsuren, S., Osaki, M., Tadano, T.: Quenching of chlorophyll *a* fluorescence by oxygen in normal air in maize leaves grown under nitrogen deficiency conditions. - Soil Sci. Plant Nutr. **41**: 539-546, 1995. [Model.]

- Delgado-Vargas, F., Paredes-López, O.: Correlation of HPLC and AOAC methods to assess the all-*trans*-lutein content in marigold flowers. - J. Sci. Food Agr. **72**: 283-290, 1996.
- Egashira, H., Kashino, Y., Koike, H., Satoh, K.: Isolation of photosystem II core complexes from a cyanobacterium without using column chromatography. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 627-630. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Egeland, E.S., Jophnsen, G., Eikrem, W., Thornsén, J., Liaaen-Jensen, S.: Pigments of *Bathycoccus prasinos* (*Prasinophyceae*): Methodological and chemosystematic implications. - J. Phycol. **31**: 554-561, 1995.
- Eijkelhoff, C., Dekker, J.P.: Determination of the pigment stoichiometry of the photochemical reaction center of Photosystem II. - Biochim. biophys. Acta **1231**: 21-28, 1995.
- Englert, G.: NMR spectroscopy. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 147-260. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 52 ref.]
- Enzell, C.R., Back, S.: Mass spectroscopy. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 261-320. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 124 ref.]
- Eugster, C.H.: Chemical derivatization: microscale tests for the presence of common functional groups in carotenoids. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1A: Isolation and Analysis. Pp. 71-80. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 16 ref.]
- Fredrick, F., Lemeur, R.: Gas exchange and modulated chlorophyll fluorescence techniques for *In vivo* assessments of alternative electron transfer. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 947-950. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Frigaard, N.-U., Ormerod, J.: Hydrophobic modification of antenna chlorophyll in *Chlorobium* during growth with acetylene. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 163-166. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model of chlorosome.]
- Garrido, J.L., Zapata, M., Muñoz, S.: Spectral characterization of new chlorophyll *c* pigments isolated from *Emiliania huxleyi* (*Prymnesiophyceae*) by high-performance liquid chromatography. - J. Phycol. **31**: 761-768, 1995.
- Geel, C., Steendijk, M., Peeters, J.C.H., Snel, J.F.H.: The use of chlorophyll fluorescence in the determination of photosynthetic capacity of phytoplankton. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. V. Pp. 885-888. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Gitelson, A.A., Laorawat, S., Keydan, G.P., Vonshak, A.: Optical properties of dense algal cultures outdoors and their application to remote estimation of biomass and pigment concentration in *Spirulina platensis* (*Cyanobacteria*). - J. Phycol. **31**: 828-834, 1995.
- Goss, R., Richter, M., Wagner, B., Holzwarth, A.R.: Different localization of zeaxanthin dependent and independent quenching mechanisms. A fluorescence decay study on isolated pea thylakoids at picosecond resolution. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 87-90. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Grzybek, S., Mantele, W.: Calculation of the electrochromic shift of antenna carotenoids induced by the charge separation in bacterial reaction centers. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 27-30. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hara, M., Moser, C.C., Dutton, P.L.: Electrochromic band-shift of carotenoid in *Rhodospseudomonas viridis*. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 555-558. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Device using the electro-deposition film.]
- Hart, D.J., Scott, K.J.: Development and evaluation of an HPLC method for the analysis of carotenoids in foods, and the measurement of the carotenoid content of vegetables and fruits commonly consumed in the UK. - Food Chem. **54**: 101-111, 1995.
- Härtel, H., Lokstein, H.: Nonphotochemical quenching of chlorophyll fluorescence in leaves: influence of photosystem II antenna size and violaxanthin de-epoxidation. In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 291-294. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Haugan, J.A., Aakermann, T., Liaaen-Jensen, S.: Example 2: Macroalgae and microalgae. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1A: Isolation and Analysis. Pp. 63-116. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 21 ref.]
- Havaux, M., Tardy, F.: Short-term adaptive responses of photosynthesis to elevated temperatures and strong light. Possible role and mode of action of the xanthophyll-cycle pigments. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. IV. Pp. 777-782. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Hirota, S., Watanabe, K., Tsuyuki, H.: With reference to carotene production in progenies of Beta orange strain × Delta strains. (Studies on the carotenoid constitution of various tomato strain. Part V.) - Nippon Shokuhin Kagaku Kogaku Kaishi **42**: 1035-1045, 1995. [Car separation.]
- Ikegami, I., Itoh, S., Iwaki, M.: High enrichment of P700 by ether-acetaldehyde extraction of antenna pigments in PS-I particles. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 67-70. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Jovine, R.V.M., Johnsen, G., Prézélin, B.B.: Isolation of membrane bound light-harvesting complexes from the dinoflagellates *Heterocapsa pygmaea* and *Prorocentrum minimum*. - Photosynth. Res. **44**: 127-138, 1995.
- Koyama, Y.: Resonance Raman spectroscopy. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 135-146. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Car; review, 15 ref.]
- Li, C., Zhang, Z., Sheng, Y.: Light induced changes in photosynthetic pigment-protein complexes detected by synchrotron radiation. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. I. Pp. 679-682. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Scheme of the device.]
- Liaaen-Jensen, S.: Combined approach: Identification and structure elucidation of carotenoids. - In: Britton, G., Liaaen-Jensen, S., Pfander, H. (ed.): Carotenoids. Vol. 1B: Spectroscopy. Pp. 343-354. Birkhäuser Verlag, Basel - Boston - Berlin 1995. [Review, 24 ref.]

- Lloyd, J., Wong, S.C., Styles, J.M., Batten, D., Priddle R., Turnbull, C., McConchie, C.A.: Measuring and modelling whole-tree gas exchange. - *Aust. J. Plant Physiol.* **22**: 987-1000, 1999.
- Merzlyak, M.N., Khozin, I., Cohen, Z.: Spectrophotometric analysis of carotenoids in plant extracts based on elimination of chlorophyll absorption. - *Phytochem. Anal.* **7**: 294-299, 1996.
- Nakamura, Y., Tsumura, Y., Tonogai, Y., Shibata, T.: [Elution patterns of pesticides, lipids, chlorophyll and carotene in gel permeation chromatography (GPC) using 2 kinds of columns.] - *J. Food Hyg. Soc. Jap.* **37**: 329-336, 1996. [In Jap.]
- Patzlaff, J.S., Barry, B.A.: Pigment quantitation and analysis by HPLC reverse phase chromatography: A characterization antenna size in oxygen-evolving photosystem II preparations from cyanobacteria and plants. - *Biochemistry* **35**: 7802-7811, 1996.
- Pérez-Ruzafa, A., Gilabert, J., Bel-Lan, A., Moreno, V., Gutiérrez, J.M.: New approach to chlorophyll *a* determination in shallow coastal waters by remote sensing. - *Scientia mar.* **60**: 19-27, 1996.
- Philpot, W., Duggin, M., Raba, R., Tsai, F.-A.: Analysis of reflectance and fluorescence spectra for atypical features: fluorescence in the yellow-green. - *J. Plant Physiol.* **148** [Lichtenthaler, H.K. (ed.): *Vegetation Stress*]: 563-573, 1996. [Reflectance dome for measurements.]
- Pinckney, J.L., Millie, D.F., Howe, K.E., Paerl, H.W., Hurley, J.P.: Flow scintillation counting of ^{14}C -labeled microalgal photosynthetic pigments. - *J. Plankton Res.* **18**: 1867-1880, 1996.
- Roháček, K., Barták, M.: Technique of the modulated chlorophyll fluorescence: basic concepts, useful parameters, and some applications. - *Photosynthetica* **37**: 339-363, 1999. [Review, 61 ref.]
- Schindler, C., Lichtenthaler, H.K.: Photosynthetic CO_2 -assimilation, chlorophyll fluorescence and zeaxanthin accumulation in field grown maple trees in the course of a sunny and a cloudy day. - *J. Plant Physiol.* **148** [Lichtenthaler, H.K. (ed.): *Vegetation Stress*]: 399-412, 1996. [Model.]
- Schreiber, U., Krieger, A.: Two fundamentally different types of variable chlorophyll fluorescence *in vivo*. - *FEBS Lett.* **397**: 131-135, 1996. [Review, 42 ref.]
- Scott, K.J., Finglas, P.M., Seale, R., Hart, D.J., de Froidmont-Görtz, I.: Interlaboratory studies of HPLC procedures for the analysis of carotenoids in foods. - *Food Chem.* **57**: 85-90, 1996.
- Sowinska, M., Heisel, F., Miché, J.A., Lang, M., Lichtenthaler, H.K., Tomasini, F.: Remote sensing of plants by streak camera lifetime measurements of the chlorophyll *a* emission. - *J. Plant Physiol.* **148** [Lichtenthaler, H.K. (ed.): *Vegetation Stress*]: 638-644, 1996.
- Srivastava, A., Strasser, R.J., Govindjee: Greening of peas: parallel measurements of 77 K emission spectra, OJIP chlorophyll *a* fluorescence transient, period four oscillation of the initial fluorescence level, delayed light emission, and P700. - *Photosynthetica* **37**: 365-392, 1999.
- Strutton, P.G., Mitchell, J.G., Parslow, J.S.: Non-linear analysis of chlorophyll *a* transects as a method of quantifying spatial structure. - *J. Plankton Res.* **18**: 1717-1726, 1996.
- Suzuki, T., Nakashima, M., Ohishi, K., Yagi, K.: A simple procedure for large-scale purification of 9-*cis* β -carotene from *Dunaliella bardawil*. - *Biochem. mol. Biol. int.* **39**: 1077-1084, 1996.
- Tamiaki, H., Shimono, Y., Graham, A., Rattray, M., Tanikaga, R.: Synthesis of isotopically labelled zinc methyl bacteriopheophorbide-D as a model for light-harvesting antenna pigments. - *Bioorg. medicinal Chem. Lett.* **6**: 2085-2086, 1996.
- Torzillo, G., Accolla, P., Pinzani, E., Masojidek, J.: *In situ* monitoring of chlorophyll fluorescence to assess the synergistic effect of low temperature and high irradiance stresses in *Spirulina* cultures grown outdoors in photobioreactors. - *J. appl. Phycol.* **8**: 283-291, 1996. [Scheme of the equipment.]
- Uebel, U., Kubitz, J., Anders, A.: Laser induced fluorescence spectroscopy of phytoplankton and chemicals with regard to an *in situ* detection in waters. - *J. Plant Physiol.* **148** [Lichtenthaler, H.K. (ed.): *Vegetation Stress*]: 586-592, 1996. [Set-up for automatic record of laser induced fluorescence spectra.]
- Urban, O., Trtílek, M., Feild, T., Nedbal, L.: Single-turnover flashes to saturate the Q_A reduction in a leaf were generated by the light-emitting diodes from a double modulation kinetic chlorophyll fluorometer. - *Photosynthetica* **37**: 201-207, 1999.
- Vidussi, F., Claustre, H., Bustillos-Guzmán, J., Cailliau, C., Marty, J.-C.: Determination of chlorophylls and carotenoids of marine phytoplankton: separation of chlorophyll *a* from divinyl-chlorophyll *a* and zeaxanthin from lutein. - *J. Plankton Res.* **18**: 2377-2382, 1996.
- Weathers, R.M., Beckholt, D.A., Lavella, A.L., Danielson, N.D.: Comparison of acetals as *in situ* modifiers for the supercritical fluid extraction of β -carotene from paprika with carbon dioxide. - *J. liq. Chromatogr. relat. Technol.* **22**: 241-252, 1999.
- Weiss, G.H., Sokoloff, H., Zakharov, S.F., Chrambach, A.: Interpretation of electrophoretic band shapes by a partition chromatographic model. - *Electrophoresis* **17**: 1325-1332, 1996. [Bil.]
- Wilbrandt, R.: Time-resolved Raman spectroscopy: A retrospect on the early days. - *Biospectroscopy* **2**: 263-275, 1996. [Car.]
- Wilhelm, C., Conrad, R., Meitzler, L., Mühlentweg, A.: Combination of solid phase extraction and a microalgal test system based on pulse-amplitude modulated fluorescence to detect photosystem II herbicides up to $0.05 \mu\text{eq l}^{-1}$. - *J. appl. Phycol.* **8**: 171-173, 1996.
- Wills, R.B.H., Ranga, A.: Determination of carotenoids in Chinese vegetables. - *Food Chem.* **56**: 451-455, 1996.
- Yoshimura, Y., Hirao, K., Kubota, F.: Concurrent monitoring of oxygen evolution and chlorophyll fluorescence in mungbean leaves with a liquid-phase oxygen electrode. - *Plant Prod. Sci.* **3**: 229-231, 2000.
- Yuan, J.-P., Gong, X.-D., Chen, F.: Separation and identification of astaxanthin esters and chlorophylls in *Haematococcus lacustris* by HPLC. - *Biotechnol. Techniques* **10**: 655-660, 1996.
- Zhang, Y.-M., Chen, F.: A simple method for efficient separation and purification of c-phycocyanin and allophycocyanin from *Spirulina platensis*. - *Biotechnol. Techniques* **13**: 601-603, 1999.

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

- Apel, P., Peisker, M.: Inhibition of dark respiration by light in *Morica arvensis* (L.) DC. - J. Plant Physiol. **147**: 15-18, 1995. [Ps, model.]
- Badeck, F.-W.: Intra-leaf gradient of assimilation rate and optimal allocation of canopy nitrogen: a model on the implications of the use of homogeneous assimilation functions. - Aust. J. Plant Physiol. **22**: 425-439, 1995.
- Berninger, F., Sonninen, E., Aalto, T., Lloyd, J.: Modeling ^{13}C discrimination in tree rings. - Glob. biogeochem. Cycles **14**: 213-223, 2000.
- Braud, I., Dantas-Antonino, A.C., Vauclin, M., Thony, J.L., Ruelle, P.: A simple soil-plant-atmosphere transfer model (SiSPAT) development and field verification. - J. Hydrol. **166**: 213-250, 1995. [Resistances, heat fluxes.]
- Byrd, G.T., Loboda, T., Black, C.C., Jr., Brown, R.H.: Leaf cavity CO_2 concentrations and CO_2 exchange in onion, *Allium cepa* L. - Photosynth. Res. **44**: 253-260, 1995.
- Cannell, M.G.R., Thornley, J.H.M.: Modelling the components of plant respiration: Some guiding principles. - Ann. Bot. **85**: 45-54, 2000.
- Chin, J., Wan, Y., Smith, J., Croxdale, J.: Linear aggregations of stomata and epidermal cells in *Tradescantia* leaves: Evidence for their group patterning as a function of the cell cycle. - Develop. Biol. **168**: 39-46, 1995. [Charlton's hypothesis.]
- Cournac, L., Despax, V., Dimon, B., Fina, L., Rumeau, D., Peltier, G.: Carbonic anhydrase activity and CO_2 diffusion kinetics as assayed in leaves using ^{18}O labelled CO_2 and mass spectrometry. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. V. Pp. 583-586. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Cowan, A.K., Turner, S.L., Botha, C.E.J.: Effect of water stress and diclofop-methyl on photosynthesis, carotenoid and abscisic acid content of leaves of *Avena byzantina* and *Avena fatua*. - S. Afr. J. Bot. **61**: 29-34, 1995. [Procedures.]
- Curtis, P.S., Vogel, C.S., Pregitzer, K.S., Zak, D.R., Teeri, J.A.: Interacting effects of soil fertility and atmospheric CO_2 on leaf area growth and carbon gain physiology in *Populus* \times *euramericana* (Dode) Guinier. - New Phytol. **129**: 253-263, 1995. [Model, calculations.]
- DeLucia, E.H., Schlesinger, W.H.: Photosynthetic rates and nutrient-use efficiency among evergreen and deciduous shrubs in Okefenokee swamp. - Int. J. Plant Sci. **156**: 19-28, 1995. [Model.]
- Dewar, R.C.: Interpretation of an empirical model for stomatal conductance in terms of guard cell function. - Plant Cell Environ. **18**: 365-372, 1995.
- Dewar, R.C.: A model of the coupling between respiration, active processes and passive transport. - Ann. Bot. **86**: 279-286, 2000.
- Erga, S.R., Omar, A.M., Singstad, I., Steinseide, E.: An optical detection system for the study of fine scale vertical displacement of microalgae in an artificial water column. - J. Phycol. **35**: 425-432, 1999.
- Flanagan, L.B., Varney, G.T.: Influence of vegetation and soil CO_2 exchange on the concentration and stable oxygen isotope ratio of atmospheric CO_2 within a *Pinus resinosa* canopy. - Oecologia **101**: 37-44, 1995. [Modelling isotopic compositions.]
- Franks, P.J., Farquhar, G.D.: A relationship between humidity response, growth form and photosynthetic operating point in C_3 plants. - Plant Cell Environ. **22**: 1337-1349, 1999. [Model.]
- Giaglaras, P., Baille, M., Baille, A.: Net photosynthesis response to light and air CO_2 concentration of *Begonia* \times *hiemalis*: whole plant measurements and modelling. - Scientia Hort. **63**: 83-100, 1995. [Gas exchange chamber.]
- Gifford, R.M.: Whole plant respiration and photosynthesis of wheat under increased CO_2 concentration and temperature: long-term vs short-term distinctions for modelling. - Global Change Biol. **1**: 385-396, 1995.
- Gorbunov, M.Y., Kolber, Z.S., Falkowski, P.G.: Measuring photosynthetic parameters in individual algal cells by Fast Repetition Rate fluorometry. - Photosynth. Res. **62**: 141-153, 1999.
- Grant, R.F., Garcia R.L., Pinter, P.J., Hunsaker, D., Wall, G.W., Kimball, B.A., LaMorte, R.L.: Interaction between atmospheric CO_2 concentration and water deficit on gas exchange and crop growth: Testing of *ecosys* with data from the Free Air CO_2 Enrichment (FACE) experiment. - Global Change Biol. **1**: 443-454, 1995. [Calculation of respiration components, models.]
- Gunn, S., Farrar, J.F., Collis, B.E., Nason, M.: Specific leaf area in barley: individual leaves versus whole plants. - New Phytol. **143**: 45-51, 1999. [Calculations of SLA.]
- Gurusinghe, S.H., Shackel, K.A.: The relation of cambial zone mechanical strength to growth and irrigation of almond [*Prunus dulcis* (Mill.) Webb.] trees. - J. amer. Soc. hort. Sci. **120**: 170-176, 1995. [Growth measurement.]
- Han, T., Vogelmann, T.C.: A photoacoustic spectrometer for measuring heat dissipation and oxygen quantum yield at the microscopic level within leaf tissues. - J. Photochem. Photobiol. **B 48**: 158-165, 1999.
- Harley, P.C., Baldocchi, D.D.: Scaling carbon dioxide and water vapour exchange from leaf to canopy in a deciduous forest. I. Leaf model parametrization. - Plant Cell Environ. **18**: 1146-1156, 1995. [Review, 28 ref.]
- Hatch, M.D., Agostino, A., Jenkins, C.L.D.: Measurement of the leakage of CO_2 from bundle-sheath cells of leaves during C_4 photosynthesis. - Plant Physiol. **108**: 173-181, 1995. [Model.]
- Hendrey, G.R., Long, S.P., Baker, N.R., McKee, I.F.: Response of leaf photosynthesis to short-term fluctuations in atmospheric carbon dioxide. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. V. Pp. 965-968. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Open system with IRGA.]
- Herbst, M.: Stomatal behaviour in a beech canopy: an analysis of Bowen ratio measurements compared with porometer data. - Plant Cell Environ. **18**: 1010-1018, 1995.
- Hew, C. S., Hin, S.E., Yong, J.W.H.G., Gouk, S.S., Tanaka, M.: *In vitro* CO_2 enrichment of CAM orchid plantlets. - J. hort. Sci. **70**: 721-736, 1995.
- Hollinger, D.Y., Kelliher, F.M., Schulze, E.-D., Vygodskaya, N.N., Varlagin, A., Milukova, I., Byers, J.N., Sogachov, A., Hunt, J.E., McSeveny, T.M., Kobak, K.I., Bauer, G., Arneeth, A.: Initial assessment of multi-scale measures of CO_2 and H_2O flux in the Siberian taiga. - J. Biogeogr. **22**: 425-431, 1995. [Comparison of porometer and eddy correlation techniques.]
- Hubbard, R.M., Ryan, M.G., Lukens, D.L.: A simple, battery-operated, temperature-controlled cuvette for respiration measurements. - Tree Physiol. **15**: 175-179, 1995. [Ps.]

BIBLIOGRAPHY

- Ilan, M., Beer, S.: A new technique for non-intrusive *in situ* measurements of symbiotic photosynthesis. - Coral Reefs **18**: 74, 1999.
- Intrieri, C., Zerbi, G., Marchiol, L., Poni, S., Caiado, T.: Physiological response of grapevine leaves to lightflecks. - Scientia Hort. **61**: 47-59, 1996. [Simulation of lightflecks.]
- Kirdmanee, C., Kitaya, Y., Kozai, T.: Effects of CO₂ enrichment and supporting material *in vitro* on photoautotrophic growth of *Eucalyptus* plantlets *in vitro* and *ex vitro*. - *In vitro* Cell Dev. - Biol. Plant. **31**: 144-149, 1995.
- Kozai, T., Kitaya, Y., Fujiwara, K., Smith, M.A.L., Aitken-Christie, J.: Environmental measurement and control systems. - In: Aitken-Christie, J., Kozai, T., Smith, M.A.L.: Automation and Environmental Control in Plant Tissue Culture. Pp. 539-574. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [CO₂ exchange measurement in *in vitro* culture.]
- Laisk, A.: Control and organization of electron transport and carbon assimilation in leaves. - In: Mathis, P. (ed.): Photosynthesis: from Light to Biosphere. Vol. II. Pp. 795-800. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Leuning, R., Kelliher, F.M., de Pury, D.G.G., Schulze, E.-D.: Leaf nitrogen, photosynthesis, conductance and transpiration: scaling from leaves to canopies. - Plant Cell Environ. **18**: 1183-1200, 1995. [Model; review, 60 ref.]
- Lewis, C.E., Noctor, G., Causton, D., Foyer, C.H.: Regulation of assimilate partitioning in leaves. - Aust. J. Plant Physiol. **27**: 507-519, 2000. [Model; review, 51 ref.]
- Liu, S., Riekerk, H., Gholz, H.L.: Simulation of stomatal conductances of pond cypress and slash pine in Florida flatwoods. - Soil Crop Sci. Soc. Florida Proc. **54**: 72-80, 1995. [Comparison of models.]
- Lloyd, J., Wong, S.C., Styles, J.M., Batten, D., Priddle, R., Turnbull, C., McConchie, C.A.: Measuring and modelling whole-tree gas exchange. - Aust. J. Plant Physiol. **22**: 987-1000, 1999.
- Matsuda, Y., Colman, B.: A new screening method for algal photosynthetic mutants. CO₂-insensitive mutants of the green alga *Chlorella ellipsoidea*. - Plant Physiol. **110**: 1283-1291, 1996.
- Moren, A.-S.: Modelling branch conductance of Norway spruce and Scots pine in relation to climate. - Agr. Forest Meteorol. **98-99**: 579-593, 1999.
- Niu, G., Kozai, T., Kitaya, Y.: Simulation of the time courses of CO₂ concentration in the culture vessel and net photosynthetic rate of *Cymbidium* plantlets. - Trans. ASAE **39**: 1567-1573, 1996. [Model.]
- Pearcy, R.W., Yang, W.M.: A three-dimensional crown architecture for assessment of light capture and carbon gain by understory plants. - Oecologia **108**: 1-12, 1996.
- Roderick, M.L.: On the measurement of growth with applications to the modelling and analysis of plant growth. - Funct. Ecol. **14**: 244-251, 2000.
- Roumet, C., Roy, J.: Prediction of the growth response to elevated CO₂: a search for physiological criteria in closely related grass species. - New Phytol. **134**: 615-621, 1996.
- Schoettle, A.W., Smith, W.K.: Interrelationships among light, photosynthesis and nitrogen in the crown of mature *Pinus contorta* ssp. *latifolia*. - Tree Physiol. **19**: 13-22, 1999. [Gas-exchange cuvette.]
- Schultz, H.R.: Leaf absorptance of visible radiation in *Vitis vinifera* L.: estimates of age and shade effects with a simple field method. - Scientia Hort. **66**: 93-102, 1996.
- Schultz, H.R., Kiefer, W., Gruppe, W.: Photosynthetic duration, carboxylation efficiency and stomatal limitation of sun and shade leaves of different ages in field-grown grapevine (*Vitis vinifera* L.). - Vitis **35**: 169-176, 1996. [Model.]
- Smith, E.C., Griffiths, H.: The occurrence of the chloroplast pyrenoid is correlated with the activity of a CO₂-concentrating mechanism and carbon isotope discrimination in lichens and bryophytes. - Planta **198**: 6-16, 1996. [Procedures.]
- Thomas, H., James, A.R., Humphreys, M.W.: Effects of water stress on leaf growth in tall fescue, Italian ryegrass and their hybrid: rheological properties of expansion zones of leaves, measured on growing and killed tissue. - J. exp. Bot. **50**: 221-231, 2000.
- Thornley, J.H.M., Cannell, M.G.R.: Modelling the components of plant respiration: Representation and realism. - Ann. Bot. **85**: 55-67, 2000.
- Tingey, D.T., Waschmann, R.S., Phillips, D.L., Olszyk, D.M.: The carbon dioxide leakage from chambers measured using sulfur hexafluoride. - Environ. Exp. Bot. **43**: 101-110, 2000.
- Tokuda, S., Kubota, F., Hirao, K., Saitou, K.: Effects of leaf epidermis peeling on the CO₂ exchange rate and chlorophyll fluorescence quenching, and estimation of photorespiration rate from electron transport in mungbean (*Vigna radiata* (L.) Wilczek) leaves. - J. Fac. Agr. Kyushu Univ. **43**: 293-302, 1999.
- van der Heever, J.A., Grobbelaar, J.U.: Evaluation of a short-incubation-time small-volume radiocarbon-uptake algal toxicity test. - J. appl. Phycol. **8**: 65-71, 1996.
- van Gorkom, H.J., Gast, P.: Measurement of photosynthetic oxygen evolution. - In: Ames, J., Hoff, A.J. (ed.): Biophysical Techniques in Photosynthesis. Pp. 391-405. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [Review, 90 ref.]
- Van Oijen, M., Schapendonk, A.H.C.M., Jansen, M.J.H., Pot, C.S., Maciorowski, R.: Do open-top chambers overestimate the effects of rising CO₂ on plants? An analysis using spring wheat. - Glob. Change Biol. **5**: 411-421, 1999.
- Van Wijk, M.T., Dekker, S.C., Bouten, W., Bosveld, F.C., Kohsiek, W., Kramer, K., Mohren, G.M.J.: Modeling daily gas exchange of a Douglas-fir forest: comparison of three stomatal conductance models with and without a soil water stress function. - Tree Physiol. **20**: 115-122, 2000.
- Vesala, T., Markkanen, T., Palva, L., Siivola, E., Palmroth, S., Hari, P.: Effect of variations of PAR on CO₂ exchange estimation for Scots pine. - Agr. Forest Meteorol. **100**: 337-347, 2000. [Model.]
- Ward, J.K., Antonovics, J., Thomas, R.B., Strain, B.R.: Is atmospheric CO₂ a selective agent on model C₃ annuals? - Oecologia **123**: 330-341, 2000.
- Williams, M., Rastetter, E.B., Fernandes, D.N., Goulden, M.L., Wofsy, S.C., Shaver, G.R., Melillo, J.M., Munger, J.W., Fan, S.-M., Nadelhoffer, K.J.: Modelling the soil-plant-atmosphere continuum in a *Quercus-Acer* stand at Harvard Forest: the regulation of stomatal conductance by light, nitrogen and soil/plant hydraulic properties. - Plant Cell Environ. **19**: 911-927, 1996.
- Williams, P.J. le B., Lefèvre, D.: Algal ¹⁴C and total carbon metabolisms. 1. Models to account for the physiological

- processes of respiration and recycling. - J. Plankton Res. **18**: 1941-1959, 1996.
- Wirtz, K.W.: Second order up-scaling: theory and an exercise with a complex photosynthesis model. - Ecol. Model. **126**: 59-2000.
- D. Canopies and aquatic communities: analysis of structure, production, and mass and energy exchange**
- Anten, N.P.R.: Modelling canopy photosynthesis using parameters determined from simple non-destructive measurements. - Ecol. Res. **12**: 77-88, 1997.
- Anten, N.P.R., Schieving, F., Medina, E., Werger, M.J.A., Schuffelen, P.: Optimal leaf area indices in C_3 and C_4 mono- and dicotyledonous species at low and high nitrogen availability. - Plant Physiol. **95**: 541-550, 1995. [Models.]
- Armstrong, R.A., Sarmiento, J.L., Slater, R.D.: Monitoring ocean productivity by assimilating satellite chlorophyll into ecosystem models. - In: Powell, T.M., Steele, J.H. (ed.): Ecological Time Series. Pp. 371-390. Chapman & Hall, London 1995. [Review, 49 ref.]
- Arnone, J.A., III, Körner, C.: Soil and biomass carbon pools in model communities of tropical plants under elevated CO_2 . - Oecologia **104**: 61-71, 1995. [Model.]
- Arnone, J.A., III, Zaller, J.G., Ziegler, C., Zandt, H., Körner, C.: Leaf quality and insect herbivory in model tropical plant communities after long-term exposure to elevated atmospheric CO_2 . - Oecologia **104**: 72-78, 1995.
- Baldocchi, D.D., Harley, P.C.: Sealing carbon dioxide and water vapour exchange from leaf to canopy in a deciduous forest. II. Model testing and application. - Plant Cell Environ. **18**: 1157-1173, 1995. [Review, 78 ref.]
- Barcikowski, A., Loro, P.M.: Porównanie biomasy igliwia sosny zwyczajnej (*Pinus sylvestris* L.) młodszych klas wieku ocenionej za pomocą metody pośredniej Lemkego i na podstawie drzew modelowych. [Comparison of the Scots pine (*Pinus sylvestris* L.) needle biomass in younger age classes as estimated using the Lemke's intermediary method and on the basis of model tree.] - Sylwan **139**(1): 73-78, 1995. [In Pol., ab: E.]
- Barclay, H.J., Goodman, D.: Conversion of total to projected leaf area index in conifers. - Can. J. Bot. **78**: 447-454, 2000.
- Béasse, C., Ney, B., Tivoli, B.: A simple model of pea (*Pisum sativum*) growth affected by *Mycosphaerella pinodes*. - Plant Pathol. **49**: 187-200, 2000. [Ps.]
- Bierman, V.J., Jr., James, R.T.: A preliminary modeling analysis of water quality in Lake Okeechobee, Florida: Diagnostic and sensitivity analyses. - Water Res. **29**: 2767-2775, 1995.
- Blanchard, G.F., Montagna, P.A.: Assessment of a brown tide impact on microbial benthic communities in Baffin Bay (Texas) in 1990 using a primary production simulation model. - Oceanogr. Acta **18**: 371-377, 1995.
- Bouman, B.A.M.: Crop modelling and remote sensing for yield prediction. - Neth. J. agr. Sci. **43**: 143-161, 1995.
- Boyd, D.S., Wicks, T.E., Curran, P.J.: Use of middle infrared radiation to estimate the leaf area index of a boreal forest. - Tree Physiol. **20**: 755-760, 2000.
- Caton, B.P., Foin, T.C.: A plant growth model for integrated weed management in direct-seeded rice III. Interspecific competition for light. - Field Crops Res. **63**: 47-61, 1999.
- Caton, B.P., Foin, T.C., Hill, J.E.: A plant growth model for integrated weed management in direct-seeded rice I. Development and sensitivity analyses of monoculture growth. - Field Crops Res. **62**: 129-143, 1999.
- Zufferey, V., Murisier, F., Schultz, H.R.: A model analysis of the photosynthetic response of *Vitis vinifera* L. cvs Riesling and Chasselas leaves in the field: I. Interaction of age, light and temperature. - Vitis **39**: 19-26, 2000.
- Caton, B.P., Foin, T.C., Hill, J.E.: A plant growth model for integrated weed management in direct-seeded rice II. Validation testing of water-depth effects and monoculture growth. - Field Crops Res. **62**: 145-155, 1999.
- Cattaneo, A., Prairie, Y.T.: Temporal variability in the chemical characteristics along the Rivière de l'Achigan: How many samples are necessary to describe stream chemistry? - Can. J. Fisheries aquat. Sci. **52**: 828-835, 1995.
- Chen, J.M., Cihlar, J.: Plant canopy gap-size analysis theory for improving optical measurements of leaf-area index. - Appl. Optics **34**: 6211-6222, 1995.
- Chikoye, D., Swanton, C.J.: Evaluation of three empirical models depicting *Ambrosia artemisiifolia* competition in white bean. - Weed Res. **35**: 421-428, 1995.
- Chikoye, D., Weise, S.F., Swanton, C.J.: Influence of common ragweed (*Ambrosia artemisiifolia*) time of emergence and density on white bean (*Phaseolus vulgaris*). - Weed Sci. **43**: 375-380, 1995. [Model.]
- Clark, H., Newton, P.C.D., Bell, C.C., Glasgow, E.M.: The influence of elevated CO_2 and simulated seasonal changes in temperature on tissue turnover in pasture turves dominated by perennial ryegrass (*Lolium perenne*) and white clover (*Trifolium repens*). - J. appl. Ecol. **32**: 128-136, 1995. [Procedures.]
- Cloern, J.E., Grenz, C., Videgar-Lucas, L.: An empirical model of the phytoplankton chlorophyll:carbon ratio - the conversion factor between productivity and growth rate. - Limnol. Oceanogr. **40**: 1313-1321, 1995.
- de Wit, R., van den Ende, F.P., van Gernerden, H.: Mathematical simulation of the interactions among cyanobacteria, purple sulfur bacteria and chemotrophic sulfur bacteria in microbial mat communities. - FEMS Microbiol. Ecol. **17**: 117-135, 1995. [Ps.]
- Dobermann, A., Pampolino, M.F.: Indirect leaf area index measurement as a tool for characterizing rice growth at the field scale. - Commun. Soil Sci. Plant Anal. **26**: 1507-1523, 1995.
- Dobermann, A., Pampolino, M.F., Neue, H.-U.: Spatial and temporal variability of transplanted rice at the field scale. - Agron. J. **87**: 712-720, 1995. [Sampling, models.]
- Dufrène, E., Bréda, N.: Estimation of deciduous forest leaf area index using direct and indirect methods. - Oecologia **104**: 156-162, 1995.
- Edwards, E.J., Cobb, A.H.: The effect of prior storage on the potential of potato tubers (*Solanum tuberosum* L.) to accumulate glycoalkaloids and chlorophylls during light exposure, including artificial neural network modelling. - J. Sci. Food Agr. **79**: 1289-1297, 1999.
- Evans, M.S., Robarts, R.D., Arts, M.T.: Predicted versus actual determinations of algal production, algal biomass, and zooplankton biomass in a hypereutrophic, hyposaline prairie lake. - Can. J. Fisheries aquat. Sci. **52**: 1037-1049, 1995.
- Fischlin, A., Bugmann, H., Gyalistras, D.: Sensitivity of a forest ecosystem model to climate parametrization schemes. - Environ. Pollut. **87**: 267-282, 1995.

BIBLIOGRAPHY

- Gangadhar Rao, D., Srinivas, K.: Initial evaluation of CERES-sorghum simulation model with varying plant densities under dryland conditions. - *Indian J. Plant Physiol.* **38**: 288-292, 1995.
- Gao, W.: Modeling caseous dry deposition over regional scales with satellite observation-II. Deriving surface conductances from AVHRR data. - *Atmos. Environ.* **29**: 739-747, 1995. [LAI, stomatal conductance.]
- Gao, W., Wesely, M.L.: Modeling gaseous dry deposition over regional scales with satellite observations-I. Model development. - *Atmos. Environ.* **29**: 727-737, 1995. [LAI, stomatal conductance.]
- Geider, R.J., MacIntyre, H.L., Kana, T.M.: A dynamic model of photoadaptation in phytoplankton. - *Limnol. Oceanogr.* **41**: 1-15, 1996.
- Génard, M., Baret, F., Simon, D.: A 3D peach canopy model used to evaluate the effect of tree architecture and density on photosynthesis at a range of scales. - *Ecol. Model.* **128**: 197-209, 2000.
- Giupponi, C.: Modelling agriculture and the environment: crop production and diffuse pollution. - *Eur. J. Agron.* **4**: 403-412, 1995.
- Grant, R.F.: Dynamics of energy, water, carbon and nitrogen in agricultural ecosystems: simulation and experimental validation. - *Ecol. Model.* **81**: 169-181, 1995.
- Grant, R.F., Kimball, B.A., Pinter, P.J., Jr., Wall, G.W., Garcia, R.L., La Morte, R.L., Hunsaker, D.J.: Carbon dioxide effects on crop energy balance: testing *ecosys* with a free-air CO₂ enrichment (FACE) experiment. - *Agron. J.* **87**: 446-457, 1995. [Models.]
- Grant, R.F., Wall, G.W., Kimball, B.A., Frumau, K.F.A., Pinter, P.J., Jr., Hunsaker, D.J., Lamorte, R.L.: Crop water relations under different CO₂ and irrigation: testing of *ecosys* with the free air CO₂ enrichment (FACE) experiment. - *Agr. Forest Meteorol.* **95**: 27-51, 1999.
- Grashoff, C., Dijkstra, P., Nonhebel, S., Schapendonk, A.H.C.M., van de Geijn, S.C.: Effect of climate change on productivity of cereals and legumes, model evaluation of observed year-to-year variability of the CO₂ response. - *Global Change Biol.* **1**: 417-428, 1995.
- Gray, V.M.: A comparison of two approaches for modelling cassava (*Manihot esculenta* Crantz.) crop growth. - *Ann. Bot.* **85**: 77-90, 2000.
- Häder, D.-P.: Novel method to determine vertical distributions of phytoplankton in marine water columns. - *Environ. exp. Bot.* **35**: 547-555, 1995.
- Hall, F.G., Shimabukuro, Y.E., Huemmrich, K.F.: Remote sensing of forest biophysical structure using mixture decomposition and geometric reflectance models. - *Ecol. Appl.* **5**: 993-1013, 1995.
- Hanan, N.P., Prince, S.D., Holben, B.N.: Atmospheric correction of AVHRR data for physical remote sensing of the Sahel. - *Remote Sens. Environ.* **51**: 306-316, 1995.
- Herbst, M., Eschenbach, C., Kappen, L.: Water use in neighbouring stands of beech (*Fagus sylvatica* L.) and black alder (*Alnus glutinosa* (L.) Gaertn.). - *Ann. Forest Sci.* **56**: 107-120, 1999.
- Hicks, S.K., Lascano, R.J.: Estimation of leaf area index for cotton canopies using the LI-COR LAI-2000 plant canopy analyzer. - *Agron. J.* **87**: 458-464, 1995.
- Hirose, T., Werger, M.J.A.: Canopy structure and photon flux partitioning among species in a herbaceous plant community. - *Ecology* **76**: 466-474, 1995. [Model.]
- Hollinger, D.Y., Goltz, S.M., Davidson, E.A., Lee, J.T., Tu, K., Valentine, H.T.: Seasonal patterns and environmental control of carbon dioxide and water vapour exchange in an ecotonal boreal forest. - *Global Change Biol.* **5**: 891-902, 1999.
- Holloway, L., Ilberry, B., Gray, D.: Modelling the impact on navy beans and vining peas of temperature changes predicted from global warming. - *Eur. J. Agron.* **4**: 281-287, 1995.
- Hoogenboom, G., Tsuji, G.Y., Pickering, N.B., Curry, R.B., Jones, J.W., Singh, U., Godwin, D.C.: Decision support system to study climate change impacts on crop production. - In: Rosenzweig, C., Allen, L.H., Jr., Harper, L.A., Hollinger, S.E., Jones, J.W. (ed.): *Climate Change and Agriculture: Analysis of Potential International Impacts*. Pp. 51-75. American Society of Agronomy, Madison 1995. [Model.]
- Horie, T., Nakagawa, H., Nakano, J., Hamotani, K., Kim, H.Y.: Temperature gradient chambers for research on global environment change. III. A system designed for rice in Kyoto, Japan. - *Plant Cell Environ.* **18**: 1064-1069, 1995.
- Huisman, J., Weissing, F.J.: Competition for nutrients and light among phytoplankton species in a mixed water column: Theoretical studies. - *Water Sci. Technol.* **32**: 143-147, 1995.
- Husted, S., Schjoerring, J.P.: A computer-controlled system for studying ammonia exchange, photosynthesis and transpiration of plant canopies growing under controlled environmental conditions. - *Plant Cell Environ.* **18**: 1070-1077, 1995.
- James, R.T., Bierman, V.J., Jr.: A preliminary modeling analysis of water quality in Lake Okeechobee, Florida: Calibration results. - *Water Res.* **29**: 2755-2766, 1995.
- Jayaweera, M., Asaeda, T.: Impacts of environmental scenarios on chlorophyll *a* in the management of shallow, eutrophic lakes following biomanipulation: An application of a numerical model. - *Ecol. Eng.* **5**: 445-468, 1995.
- Johnson, H.B., Polley, H.B., Whitis, R.P.: Elongated chambers for field studies across atmospheric CO₂ gradients. - *Funct. Ecol.* **14**: 388-396, 2000.
- Johnson, I.R., Riha, S.J., Wilks, D.S.: Modelling daily net canopy photosynthesis and its adaptation to irradiance and atmospheric CO₂ concentration. - *Agr. Systems* **50**: 1-35, 1995.
- Johnson, M.P., Hawkins, S.J., Hartnoll, R.G., Norton, T.A.: The establishment of fucoid zonation on algal-dominated rocky shores: hypotheses derived from a simulation model. - *Funct. Ecol.* **12**: 259-269, 1998.
- Kaibiyäinen, L.K., Bolondinski, V.K.: Fotosinteticheskaya fiksatsiya CO₂ i biomassa lesnykh tsenozov. K metodike otsenki stoka CO₂. [Photosynthetic CO₂ fixation and biomass in the arboreal coenoses: Methods of estimating CO₂ sequestering.] - *Fiziol. Rast.* **42**: 138-143, 1995. [In R.]
- Kellomäki, S., Wang, K.-Y.: Short-term environmental controls on carbon dioxide flux in a boreal coniferous forest: model computation compared with measurements by eddy covariance. - *Ecol. Model.* **128**: 63-88, 2000.
- Kharouk, V.I., Middleton, E.M., Spencer, S.L., Rock B.N., Williams, D.L.: Aspen bark photosynthesis and its significance to remote sensing and carbon budget estimates in the boreal ecosystem. - *Water Air Soil Pollut.* **82**: 483-497, 1995. In: Apps, M.J., Price, D.T., Wisniewski, J. (ed.): *Boreal Forests and Global Change*. Pp. 483-497. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- King, D.A.: Equilibrium analysis of a decomposition and yield model applied to *Pinus radiata* plantations on sites of contrasting fertility. - *Ecol. Model.* **83**: 349-358, 1995. [Ps.]

- Kleemola, J., Pehu, E., Peltonen-Sainio, P., Karvonen, T.: Modelling the impact of climatic change on growth of spring barley in Finland. - *J. Biogeogr.* **22**: 581-590, 1995. [Ps.]
- Kohyama, T., Shigesada, N.: A size-distribution-based model of forest dynamics along a latitudinal environmental gradient. - *Vegetatio* **121**: 117-126, 1995. In: Hirose, T., Walker, B.H. (ed.): *Global Change and Terrestrial Ecosystems in Monsoon Asia*. Pp. 117-126. Kluwer Academic Publishers, Dordrecht - Boston - London 1996. [Review, 40 ref.]
- Kolbowski, J., Schreiber, U.: Computer-controlled phytoplakton analyzer based on a 4-wavelengths PAM chlorophyll fluorometer. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 825-828. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Kropff, M.J., Teng, P.S., Rabbinge, R.: The challenge of linking pest and crop models. - *Agr. Systems* **49**: 413-434, 1995.
- Kull, O., Jarvis, P.G.: The role of nitrogen in a simple scheme to scale up photosynthesis from leaf to canopy. - *Plant Cell Environ.* **18**: 1174-1182, 1995.
- Kull, O., Tulva, I.: Modelling canopy growth and steady-state leaf area index in an aspen stand. - *Ann. Forest Sci.* **57**: 611-621, 2000.
- Law, B.E., Waring, R.H., Anthoni, P.M., Aber, J.D.: Measurements of gross and net ecosystem productivity and water vapour exchange of a *Pinus ponderosa* ecosystem, and an evaluation of two generalized models. - *Glob. Change Biol.* **6**: 155-168, 2000.
- Leboulanger, C., Descolas-Gros, C., Jupin, H.: Some ecological and physiological implications of photorespiration in marine phytoplankton. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 869-872. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [Model.]
- Leloup, S.J.L.E., t'Mannetje, L.: Primary production of rangelands in southern Mali: A study of methodology. - *Trop. Grasslands* **29**: 177-182, 1995.
- Lloyd, J., Grace, J., Miranda, A.C., Meir, P., Wong, S.C., Miranda, H.S., Wright, I.R., Gash, J.H.C., McIntyre, J.: A simple calibrated model of Amazon rainforest productivity based on leaf biochemical properties. - *Plant Cell Environ.* **18**: 1129-1145, 1995. [Review, 89 ref.]
- Longhurst, A., Sathyendranath, S., Platt, T., Caverhill, C.: An estimate of global primary production in the ocean from satellite radiometer data. - *J. Plankton Res.* **17**: 1245-1271, 1995.
- Lucas, N., Curran, P., Plummer, S.: Using the red edge inflection point to drive an ecosystem simulation model for calculating the stem carbon production of an upland coniferous forest plantation. - In: Curran, P.T., Robinson, Y.C. (ed.): *Proceedings of the 21st Annual Conference of the Remote Sensing Society*. Pp. 1020-1027. University of Southampton, Southampton 1995.
- Luo, Y., Mooney, H.A.: Long-term CO₂ stimulation of carbon influx into global terrestrial ecosystems: issues and approaches. - *J. Biogeogr.* **22**: 797-803, 1995. [Model.]
- Ma, B.L., Morrison, M.J., Dwyer, L.M.: Canopy light reflectance and field greenness to assess nitrogen fertilization and yield of maize. - *Agron. J.* **88**: 915-920, 1996. [Chl, yield prediction.]
- Martin, M.J., Humphries, S.W., Farage, P.K., McKee, I.F., Long, S.P.: A mechanistic model for the prediction of the effects of rising tropospheric ozone concentration on wheat photosynthesis. - In: Mathis, P. (ed.): *Photosynthesis: from Light to Biosphere*. Vol. V. Pp. 829-832. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Martin, P.H.: Land-surface characterization in climate models: biome-based parameter inference is not equivalent to local direct estimation. - *J. Hydrol.* **213**: 287-303, 1998.
- Massman, W.J., Grantz, D.A.: Estimating canopy conductance to ozone uptake from observations of evapotranspiration at the canopy scale and at the leaf scale. - *Global Change Biol.* **1**: 183-198, 1995. [Model.]
- McDonald, A.J., Riha, S.J.: Model of crop:weed competition applied to maize:*Abutilon theophrasti* interactions. I. Model description and evaluation. - *Weed Res.* **39**: 371-381, 1999. [Growth analysis.]
- McDowell, N.G., Marshall, J.D., Hooker, T.D., Musselman, R.: Estimating CO₂ flux from snowpacks at three sites in the Rocky Mountains. - *Tree Physiol.* **20**: 745-753, 2000. [Chamber design.]
- McMurtrie, R.E., Dewar, R.C., Medlyn, B.E., Jeffreys, M.P.: Effects of elevated [CO₂] on forest growth and carbon storage: a modelling analysis of the consequences of changes in litter quality/quantity and root exudation. - *Plant Soil* **224**: 135-152, 2000.
- Meeuwig, J.J., Peters, R.H.: Circumventing phosphorus in lake management: a comparison of chlorophyll *a* predictions from land-use and phosphorus-loading models. - *Can. J. Fisheries aquat. Sci.* **53**: 1795-1806, 1996.
- Mesplé, F., Casselas, C., Troussellier, M., Bontoux, J.: Modelling orthophosphate evolution in a high rate algal pond. - *Ecol. Model.* **89**: 13-21, 1996. [Scheme of a control pond.]
- Mille, D.F., Vinyard, B.T., Baker, M.C., Tucker, C.S.: Testing the temporal and spatial validity of site-specific models derived from airborne remote sensing of phytoplankton. - *Can. J. Fisheries aquat. Sci.* **52**: 1094-1107, 1995. [Model.]
- Mitchell, R.A.C., Lawlor, D.W., Mitchell, V.J., Gibbard, C.L., White, E.M., Porter, J.R.: Effects of elevated CO₂ concentration and increased temperature on winter wheat: Test of ARCWHEAT1 simulation model. - *Plant Cell Environ.* **18**: 736-748, 1995.
- Mohren, G.M.J., van de Veen, J.R.: Forest growth in relation to site conditions. Application of the model FORGRO to the Solling spruce site. - *Ecol. Model.* **83**: 173-183, 1995.
- Morel, A., Antoine, D., Babin, M., Dandonneau, Y.: Measured and modeled primary production in the northeast Atlantic (EUMELI JGOFS program): the impact of natural variations in photosynthetic parameters on model predictive skill. - *Deep Sea Res.* **43**: 1273-1304, 1996.
- Mousseau, L., Dauchez, S., Legendre, L., Fortier, L.: Photosynthetic carbon uptake by marine phytoplankton: comparison of the stable (¹³C) and radioactive (¹⁴C) isotope methods. - *J. Plankton Res.* **17**: 1449-1460, 1995.
- Müller, J., Wernecke, P., Claus, S., Mühle, H.: A model of canopy gas exchange in winter wheat. - *Photosynthetica* **31**: 177-187, 1995.
- Neilson, R.P.: A model for predicting continental-scale vegetation distribution and water balance. - *Ecol. Applications* **5**: 362-385, 1995.
- Nemani, R.R., Running, S.W.: Satellite monitoring of global land cover changes and their impact on climate. - *Climatic Change* **31**: 395-413, 1995. [LAI.]
- Niedrauer, T., Paul, C., Zaitzeff, J., Clemente-Colon, P.: Multispectral video measurements over the Chesapeake Bay. - *J. coastal Res.* **12**: 969-976, 1996.
- Nip, M.I., de Haes, H.A.U.: Ecosystem approaches to environmental quality assessment. - *Environ. Manage.* **19**: 135-145, 1995. [Models.]

BIBLIOGRAPHY

- Olesen, J.E., Grevsen, K.: A simulation model of climate effects on plant productivity and variability in cauliflower (*Brassica oleracea* L. *botrytis*). - *Scientia Hort.* **83**: 83-107, 2000.
- Olioso, A., Bethenod, O., Carlson, T., Taconet, O., Brisson, N.: Comparaison des paramétrisations de la photosynthèse dans trois modèles TSA. - In: Guyot, G. (ed.): Proceedings of the International Colloquium "Photosynthesis and Remote Sensing". Pp. 339-344. EARSEL, Paris 1995.
- Olson, B.E., Wallander, R.T., Beaver, J.M.: Comparing nondestructive measures of forage structure and phytomass. - *Can. J. Plant Sci.* **80**: 565-573, 2000.
- Olson, C.M., Wensel, L.C.: Tip length models for major commercial California conifers. - *Hilgardia* **62**(4): 1-6, 1995.
- Olson, R.J., Zettler, E.R.: Potential of flow cytometry for "pump and probe" fluorescence measurements of phytoplankton photosynthetic characteristics. - *Limnol. Oceanogr.* **40**: 816-820, 1995. [Device scheme.]
- Patakas, A., Noitsakis, B.: An indirect method of estimating leaf area index in cordon trained spur pruned grapevines. - *Scientia Hort.* **80**: 299-305, 1999. [Gap fraction method.]
- Peng, S., Cassman, K.G., Kropff, M.J.: Relationship between leaf photosynthesis and nitrogen content of field-grown rice in tropics. - *Crop Sci.* **35**: 1627-1630, 1995. [Model.]
- Piazena, H., Häder, D.-P.: Vertical distribution of phytoplankton in coastal waters and its detection by backscattering measurements. - *Photochem. Photobiol.* **62**: 1027-1034, 1995.
- Pickering, N.B., Jones, J.W., Boote, K.J.: Adapting SOYGRO V5.42 for prediction under climate change conditions. - In: Rosenzweig, C., Allen, L.H., Jr., Harper, L.A., Hollinger, S.E., Jones, J.W. (ed.): *Climate Change and Agriculture: Analysis of Potential International Impacts*. Pp. 77-98. American Society of Agronomy, Madison 1995.
- Platt, T., Sathyendranath, S., Longhurst, A.: Remote sensing of primary production in the ocean: promise and fulfilment. - *Phil. Trans. roy. Soc. London B* **348**: 191-202, 1995.
- Pomeroy, J.W., Dion, K.: Winter radiation extinction and reflection in a boreal pine canopy: Measurements and modelling. - *Hydrol. Process.* **10**: 1591-1608, 1996.
- Prairie, Y.T., Peters, R.H., Bird, D.F.: Natural variability and the estimation of empirical relationships: a reassessment of regression methods. - *Can. J. Fisheries aquat. Sci.* **52**: 788-798, 1995. [Model of Chl and production of oceans.]
- Preciado-Ortiz, R., Weiss, A., Johnson, B.E.: Developing prototype maize (*Zea mays* L.) hybrids by crop modeling for specific rainfed regions. - *Maydica* **40**: 191-197, 1995.
- Quay, P.D., Wilbur, D.O., Richey, J.E., Devol, A.H., Benner, R., Forsberg, B.R.: The ^{18}O : ^{16}O of dissolved oxygen in rivers and lakes in the Amazon Basin: Determining the ratio of respiration to photosynthesis rates in freshwaters. - *Limnol. Oceanogr.* **40**: 718-729, 1995.
- Rau, G.H., Riebesell, U., Wolf-Gladrow, D.: A model of photosynthetic ^{13}C fractionation by marine phytoplankton based on diffusive molecular CO_2 uptake. - *Mar. Ecol. Progr. Ser.* **133**: 275-285, 1996.
- Rawson, H.M., Gifford, R.M., Condon, B.N.: Temperature gradient chambers for research of global environment change. I. Portable chambers for research on short-stature vegetation. - *Plant Cell Environ.* **18**: 1048-1054, 1995.
- Rey-Benayas, J.M., Pope, K.O.: Landscape ecology and diversity patterns in the seasonal tropics from Landsat TM imagery. - *Ecol. Applications* **5**: 386-394, 1995.
- Rossi, F., Nerozzi, F., Facini, O., Georgiadis, T.: Determination of peach leaf area index by radiation measurements. - *J. hort. Sci.* **70**: 683-689, 1995.
- Röver, A., Koch, H.-J.: Indirect determination of leaf area index of sugar beet canopies in comparison to direct measurement. - *J. Agron. Crop Sci.* **174**: 189-195, 1995. [LAI-2000.]
- Running, S.W., Loveland, T.R., Pierce, L.L., Nemani, R.R., Hunt, E.R., Jr.: A remote sensing based vegetation classification logic for global land cover analysis. - *Remote Sens. Environ.* **51**: 39-48, 1995. [Ps, models.]
- Rymer-Dudzińska, T.: Wstępna ocena modelu wzrostu wysokości świerka. [An introductory appraisal of the spruce tree height growth model.] - *Sylwan* **139**(4): 15-27, 1995. [In Pol., ab: E.]
- Scardi, M.: Artificial neural networks as empirical models for estimating phytoplankton production. - *Mar. Ecol. Progr. Ser.* **139**: 289-299, 1996.
- Sellers, P.J., Los, S.O., Tucker, C.J., Justice, C.O., Dazlich, D.A., Collatz, G.J., Randall, D.A.: A revised land surface parametrization (SiB2) for atmospheric GCMs. Part II: The generation of global fields of terrestrial biophysical parameters from satellite data. - *J. Climate* **9**: 706-737, 1996. [PAR, LAI.]
- Sellers, P.J., Meeson, B.W., Closs, J., Collatz, J., Corprew, F., Dazlich, D., Hall, F.G., Kerr, Y., Koster, R., Los, S., Mitchell, K., McManus, J., Myers, D., Sun, K.-J., Try, P.: The ISLSCP initiative I global datasets: Surface boundary conditions and atmospheric forcings for land-atmosphere studies. - *Bull. amer. meteorol. Soc.* **77**: 1987-2005, 1996. [Models.]
- Sellers, P.J., Randall, D.A., Collatz, G.J., Berry, J.A., Field, C.B., Dazlich, D.A., Zhang, C., Collelo, G.D., Bounoua, L.: A revised land surface parametrization (SiB2) for atmospheric GCMs. Part I: Model formulation. - *J. Climate* **9**: 676-705, 1996.
- Sieduto, P., Oocuca, V., Caliendo, A., Debaeke, P.: An evaluation of the crop growth simulation submodel of EPIC for wheat grown in a Mediterranean climate with variable soil-water regimes. - *Eur. J. Agron.* **4**: 335-345, 1995.
- Singh, U., Padilla, J.L.: Simulating rice response to climate change. - In: Rosenzweig, C., Allen, L.H., Jr., Harper, L.A., Hollinger, S.E., Jones, J.W. (ed.): *Climate Change and Agriculture: Analysis of Potential International Impacts*. Pp. 99-121. American Society of Agronomy, Madison 1995.
- Skogen, M.D., Svendsen, E., Berntsen, J., Aksnes, D., Ulvestad, K.B.: Modelling the primary production in the North Sea using a coupled three-dimensional physical-chemical-biological ocean model. - *Estuar. coast. Shelf Sci.* **41**: 545-565, 1995.
- Sosik, H.M.: Bio-optical modeling of primary production: consequences of variability in quantum yield and specific absorption. - *Mar. Ecol. Progr. Ser.* **143**: 225-238, 1996.
- Stadt, K.J., Lieffers, V.J.: MIXLIGHT: a flexible light transmission model for mixed-species forest stands. - *Agr. Forest Meteorol.* **102**: 235-252, 2000.
- Stroosnijder, L.: Modelling the effect of grazing on infiltration, runoff and primary production in the Sahel. - *Ecol. Model.* **89**: 79-88, 1996.
- Svensson, A.: A diffusion model for the primary production of phytoplankton. - *Deep Sea Res. II* **43**: 37-46, 1996.
- Szyper, J.P.: Observations and model predictions of daily areal primary production in a eutrophic brackish water culture pond. - *Ecol. Model.* **88**: 83-92, 1996.
- Thornley, J.H.M., Cannell, M.G.R.: Managing forests for wood yield and carbon storage: a theoretical study. - *Tree Physiol.* **20**: 477-484, 2000. [Model.]
- Varela, R.A., Cruzado, A., Gabaldón, J.E.: Modelling primary

- production in the North Sea using the European Regional Seas Ecosystem Model. - Neth. J. Sea Res. **33**: 337-361, 1995.
- Velikova, V., Tsonev, T., Yordanov, I.: Light and CO₂ responses of photosynthesis and chlorophyll fluorescence characteristics in bean plants after simulated acid rain. - Physiol. Plant. **107**: 77-83, 1999.
- Vila, X., Colomer, J., Garcia-Gil, L.J.: Modelling spectral irradiance in freshwater in relation to phytoplankton and solar radiation. Ecol. Model. **87**: 59-68, 1996.
- Vourlitis, G.L., Harazono, Y., Oechel, W.C., Yoshimoto, M., Mano, M.: Spatial and temporal variations in hectare-scale net CO₂ flux, respiration and gross primary production of Arctic tundra ecosystems. - Funct. Ecol. **14**: 203-214, 2000. [Model.]
- Vourlitis, G.L., Oechel, W.C., Hope, A., Stow, D., Boynton, B., Verfaillie, J., Jr., Zulueta, R., Hastings, S.J.: Physiological models for scaling plot measurements of CO₂ flux across an arctic tundra landscape. - Ecol. Applications **10**: 60-72, 2000.
- Wang, Y.P.: A refinement to the two-leaf model for calculating canopy photosynthesis. - Agr. Forest Meteorol. **101**: 143-150, 2000.
- Weiss, M., Baret, F., Myneni, R.B., Pragnère, A., Knyazikhin, Y.: Investigation of a model inversion technique to estimate canopy biophysical variables from spectral and directional reflectance data. - Agronomie **20**: 3-22, 2000.
- Wetzel, R.G.: Benthic algae and nutrient cycling in lentic freshwater ecosystems. - In: Stevenson, R.J., Bothwell, M.L., Lowe, R.L. (ed.): Algal Ecology: Freshwater Benthic Ecosystems. Pp. 641-667. Academic Press, New York 1996. [Review, 101 ref.]
- White, A., Cannell, M.G.R., Friend, A.D.: The high-latitude terrestrial carbon sink: a model analysis. - Global Change Biol. **6**: 227-245, 2000.
- Wilson, D.R., Muchow, R.C., Murgatroyd, C.J.: Model analysis of temperature and solar radiation limitations to maize potential productivity in a cool climate. - Field Crops Res. **43**: 1-18, 1995.
- Wittich, K.-P., Hansing, O.: Area-averaged vegetative cover fraction estimated from satellite data. - Int. J. Meteorol. **38**: 209-215, 1995.
- Wright, I.R., Manzi, A.O., da Rocha, H.R.: Surface conductance of Amazonian pasture: Model application and calibration for canopy climate. - Agr. Forest Meteorol. **75**: 51-70, 1995.
- Wright, S.W., Thomas, D.P., Marchant, H.J., Higgins, H.W., Mackey, M.D., Mackey, D.J.: Analysis of phytoplankton of the Australian sector of the Southern Ocean: comparisons of microscopy and size frequency data with interpretations of pigment HPLC data using the 'CHEMTAX' matrix factorisation program. - Mar. Ecol. Progr. Ser. **144**: 285-298, 1996.
- Yajima, M.: Monitoring and forecasting of rice growth and development using crop-weather model. - In: Ishii, R., Horie, T. (ed.): Crop Research in Asia: Achievements and Perspective. (Proc. 2nd Asian Crop Sci. Conf. ACSA.) Pp. 280-285. 1996.
- Yang, C.M., Yang, J.S., Yang, C.K., Chou, C.H.: Long-term ecological research on chlorophyll cycling in the Yuanyang Lake Natural Preserve I. The grey prediction models on chlorophyll degradation of *Chamaecyparis* var. *formosana* leaf. - Photosynthetica **37**: 499-508, 2000.

E. Measurement of leaf area, and surface and volume of plant organs

- Brenner, A.J., Romero, M.C., Haro, J.G., Gilabert, M.A., Incoll, L.D., Martinez Fernandez, J., Porter, E., Pugnair, F.I., Younis, M.T.: A comparison of direct and indirect methods for measuring leaf and surface areas of individual bushes. - Plant Cell Environ. **18**: 1332-1340, 1995.
- Calbo, A.G., Nery, A.A.: Methods for measurement of gas volume of fruits and vegetables. - J. amer. Soc. hort. Sci. **120**: 217-221, 1995.
- López-Serrano, F.R., Landete-Castillejos, T., Martínez-Millán, J., del Cerro-Barja, A.: LAI estimation of natural pine forest using a non-standard sampling technique. - Agr. Forest Meteorol. **101**: 95-111, 2000.
- Meir, P., Grace, J., Miranda, A.C.: Photographic method to measure the vertical distribution of leaf area density in forests. - Agr. Forest Meteorol. **102**: 105-111, 2000.
- Milroy, S.P., Goynes, P.J.: Leaf area development in barley - model construction and response to soil moisture status. - Aust. J. agr. Res. **46**: 845-860, 1995.
- O'Hara, K.L., Valappil, N.I.: Sapwood - leaf area prediction equations for multi-aged ponderosa pine stands in western Montana and central Oregon. - Can. J. Forest Res. **25**: 1553-1557, 1995.
- Oliveira, M., Santos, M.: A semi-empirical method to estimate canopy leaf area of vineyards. - Amer. J. Enol. Viticult. **46**: 389-391, 1995.
- Panta, G.R., NeSmith, D.S.: A model for estimating area of muskmelon leaves. - HortScience **30**: 624-625, 1995.
- Roderick, M.L., Berry, S.L., Noble, I.R.: A framework for understanding the relationship between environment and vegetation based on the surface area to volume ratio of leaves. - Funct. Ecol. **14**: 423-437, 2000. [Model; review, 63 ref.]
- Sellin, A.: Estimating the needle area from geometric measurements: application of different calculation methods to Norway spruce. - Trees **14**: 215-222, 2000.

F. PAR and environmental measurements

- Alados, I., Olmo, F.J., Foyo-Moreno, I., Alados-Arboledas, L.: Estimation of photosynthetically active radiation under cloudy conditions. - Agr. Forest Meteorol. **102**: 39-50, 2000.
- Alados-Arboledas, L., Olmo, F.J., Alados, I., Pérez, M.: Parametric models to estimate photosynthetically active radiation in Spain. - Agr. Forest Meteorol. **101**: 187-201, 2000.
- Mercado, J.M., Jiménez, C., Niell, F.X., Figuerola, F.L.: Comparison of methods for measuring light absorption by algae and their application to the estimation of the package effect. - Sci. mar. **60**: 39-45, 1996.
- Méthy, M.: A two-channel hyperspectral radiometer for the assessment of photosynthetic radiation-use efficiency. - J. agr. Eng. Res. **75**: 107-110, 2000.
- Nackaerts, K., Coppin, P., Muys, B., Hermy, M.: Samplings methodology for LAI measurements with LAI-2000 in small forest stands. - Agr. Forest Meteorol. **101**: 247-250, 2000.
- Nichol, C.J., Huemmrich, K.F., Black, T.A., Jarvis, P.G., Walthall, C.L., Grace, J., Hall, F.G.: Remote sensing of photosynthetic-light-use efficiency of boreal forest. - Agr. Forest Meteorol. **101**: 131-142, 2000.

G. Cultivation of experimental material and phytotronics

- Bubenheim, D.L., Sargis, R., Wilson, D.: Spectral changes in metal halide and high-pressure sodium lamps equipped with electronic dimming. - *HortScience* **30**: 1086-1089, 1995.
- Czarnowski, M.: Important measure units and symbols used in plant physiology. - *Acta Physiol. Plant.* **18**: 173-181, 1996.
- Eriksen, N.T., Geest, T., Iversen, J.J.L.: Phototrophic growth in the lumostat: a photo-bioreactor with on-line optimization of light intensity. - *J. appl. Phycol.* **8**: 345-352, 1996.
- Fujiwara, K., Kozai, T.: Physical microenvironment and its effects. - In: Aitken-Christie, J., Kozai, T., Smith, M.A.L. (ed.): *Automation and Environmental Control in Plant Tissue Culture*. Pp. 319-369. Kluwer Academic Publishers, Dordrecht - Boston - London 1995. [In vitro culture.]
- Greenbaum, E., Lee, J.W., Tevault, C.V., Blankinship, S.L., Mets, L.J.: CO₂ fixation and photoevolution of H₂ and O₂ in a mutant of *Chlamydomonas* lacking photosystem I. - *Nature* **376**: 438-441, 1995. [Device for algae cultivation.]
- Hanada, S., Hiraishi, A., Shimada, K., Matsuura, K.: Isolation of *Chloroflexus aurantiacus* and related thermophilic phototrophic bacteria from Japanese hot springs using an improved isolation procedure. - *J. gen. appl. Microbiol.* (Tokyo) **41**: 119-130, 1995.
- Hannusch, D.J., James, T.D.W., Gillespie, T.J., Boland, G.J.: A simple and inexpensive control of relative humidity in a flow-through environmental chamber. - *Environ. exp. Bot.* **35**: 411-415, 1995.
- Heyerdahl, P.H., Olsen, O.A.S., Hvorslef-Eide, A.K.: Engineering aspects of plant propagation in bioreactors. - In: Aitken-Christie, J., Kozai, T., Smith, M.A.L. (ed.): *Automation and Environmental Control in Plant Tissue Culture*. Pp. 87-123. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Kirdmanee, C., Kitaya, Y., Kozai, T.: Rapid acclimatization of *Eucalyptus* plantlets by controlling photosynthetic photon flux density and relative humidity. - *Environ. Control Biol.* **33**: 123-132, 1995.
- Kozai, T., Kitaya, Y., Oh, Y.S.: Microwave-powered lamps as a high intensity light source for growth. - *Acta Hort.* **339**: 107-112, 1995.
- Marie, D., Vault, D., Partensky, F.: Application of the novel nucleic acid dyes YOYO-1, YO-PRO-1, and PicoGreen for flow cytometric analysis of marine prokaryotes. - *Appl. environ. Microbiol.* **62**: 1649-1655, 1996.
- Matthijs, H.C.P., Balke, H., van Hes, U.M., Kroon, B.M.A., Mur, L.R., Binot, R.A.: Application of light-emitting diodes in bioreactors: Flashing light effects and energy economy in algal culture (*Chlorella pyrenoidosa*). - *Biotechnol. Bioeng.* **50**: 98-107, 1996.
- Miwa, Y., Kushihashi, Y., Kozai, T.: Mechanical engineering approaches to plant biotechnology. - In: Aitken-Christie, J., Kozai, T., Smith, M.A.L.: *Automation and Environmental Control in Plant Tissue Culture*. Pp. 125-143. Kluwer Academic Publishers, Dordrecht - Boston - London 1995.
- Murphy, D.P., Schnug, E., Haneklaus, S.: Yield mapping - A guide to improved techniques and strategies. - In: Robert, P.C., Rust, R.H., Larson, W.E. (ed.): *Site-Specific Management for Agricultural Systems*. Pp. 33-47. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison 1995.
- Noland, T.L., Mohammed, G.H.: Fluorescein diacetate as a viability stain for tree roots and seeds. - *New Forests* **14**: 221-232, 1997. [Growth potential.]
- Pringault, O., de Wit, R., Caumette, P.: A Benthic Gradient Chamber for culturing phototrophic sulfur bacteria on reconstituted sediments. - *FEMS Microbiol. Ecol.* **20**: 237-250, 1996.
- Qiang, H., Richmond, A.: Productivity and photosynthetic efficiency of *Spirulina platensis* as affected by light intensity, algal density and rate of mixing in a flat plate photobioreactor. - *J. appl. Phycol.* **8**: 139-145, 1996.
- Ryan, K.G., Ireland, W.: A small-scale outdoor plant growth chamber with modulated enhancement of solar UV-B radiation. - *J. Environ. Qual.* **26**: 866-871, 1997.
- Sánchez, O., van Gernerden, H., Mas, J.: Description of a redox-controlled sulfidostat for the growth of sulfide-oxidizing phototrophs. - *Appl. environ. Microbiol.* **62**: 3640-3645, 1996.
- Veen, A.: A continuous culture system for the study of UV-B effects on microalgae. - *Sci. mar.* **60** [Suppl. 1; Figueroa, F.L., Jiménez, C., Pérez-Lloréns, J.L., Niell, F.X. (ed.): *Underwater Light and Algal Photobiology*]: 89-93, 1996.
- Watanabe, Y., de la Noüe, J., Hall, D.O.: Photosynthetic performance of a helical photobioreactor incorporating the cyanobacterium *Spirulina platensis*. - *Biotechnol. Bioeng.* **47**: 261-269, 1995.
- Watanabe, Y., Hall, D.O.: Photosynthetic production of the filamentous cyanobacterium *Spirulina platensis* in a cone-shaped helical tubular photobioreactor. - *Appl. Microbiol. Biotechnol.* **44**: 693-698, 1996.
- Wei, C., Tyree, M.T., Bernink, J.P.: The transmission of gas pressure to xylem fluid pressure when plants are inside a pressure bomb. - *J. exp. Bot.* **51**: 309-316, 2000.
- Yoshihara, K.-I., Nagase, H., Eguchi, K., Hirata, K., Miyamoto, K.: Biological elimination of nitric oxide and carbon dioxide from flue gas by marine microalga NOA-113 cultivated in a long tubular photobioreactor. - *J. Ferment. Bioeng.* **82**: 351-354, 1996.

H. Choice of useful tools and laboratory equipment

- Clifford, S.C., Black, C.R., Roberts, J.A., Stronach, I.M., Singleton-Jones, P.R., Mohamed, A.D., Azam-Ali, S.N.: The effect of elevated atmospheric CO₂ and drought on stomatal frequency in groundnut (*Arachis hypogaea* (L.)). - *J. exp. Bot.* **46**: 847-852, 1995. [Leaf press.]
- Ekblad, A., Högborg, P.: Analysis of $\delta^{13}\text{C}$ of CO₂ distinguishes between microbial respiration of added C₄ sucrose and other soil respiration in a C₃ ecosystem. - *Plant Soil* **219**: 197-209,

2000.

- Mortain-Bertrand, A., Etchart, F., De Boucaud, M.-T.: A method for the cryoconservation of *Dunaliella salina* (Chlorophyceae): Effect of glycerol and cold adaptation. - *J. Phycol.* **32**: 346-352, 1996.
- Noland, T.L., Mohammed, G.H.: Fluorescein diacetate as a viability stain for tree roots and seeds. - *New Forests* **14**: 221-232, 1997. [Growth potential.]