Complete Publication List of G. Govindjee (1955- 2024)

(Chronological, then alphabetical – within each year; the initial "[G.]" has been added to Govindjee's name since that is his current legal name.)

A. *1955-1959: Publications from the time Govindjee was a Lecturer at Allahabad University*

1950s

Note: From 1955- till 2012, the initials of only the first authors are after their last names

[1] Laloraya, M.M. and [G.] Govindjee (1955) Effect of Tobacco Leaf-curl and Tobacco Mosaic Virus on the Amino Acid Content of *Nicotiana sp*. **Nature** (London) 175: 907-908.

[2] Laloraya, M.M., [G.] Govindjee, and T. Rajarao (1955) A Chromatographic Study of the Amino Acids (and Sugars) of Healthy and Diseased Leaves of *Acalypha indica*. **Current Science** (India) 24: 203.

[3] Ranjan, S., [G.] Govindjee, and M.M. Laloraya (1955) Chromatographic Studies on the Amino Acid Metabolism of Healthy and Diseased Leaves of *Croton sparsiflorus* Morong. **Proc.Natl.Inst.Sci.** (India) 21: 42-47.

[4] Govindjee, [G.] (1956) Effect of X-rays on the Oxygen Uptake of *Cicer arietinum T87* Seedlings. **Naturwissenschaften** 43: 524.

[5] Govindjee, [G.], M.M. Laloraya, and T. Rajarao (1956) Formation of Asparagine and Increase in the Free Amino Acid Content in Virus Infected Leaves of *Abelmoschus esculentus*. **Experientia** 12: 180-181.

[6] Laloraya, M.M., [G.] Govindjee, R. Varma, and T. Rajarao (1956) Increased Formation of Asparagine in Carica-curl Virus Infected Leaves. **Experientia** 12: 58-59.

[7] Rajarao, T., M.M. Laloraya, and [G.] Govindjee (1956) Absence of Some Free Amino Acids from the Diseased Leaves of *Trichosanthes angiuna*. **Naturwissenschaften** 43: 301.

[8] Govindjee, [G.] (1957) Effect of X-rays on the Content of Free Amino Acids and Amides of *Cicer arietinum T87* Seedlings. **Naturwissenschaften** 44: 183.

B. 1960-1961: Publications from the time Govindjee was a PhD student

1960s

[9] Govindjee, [G.] (1960): Effect of Combining Two Wavelengths of Light on the Photosynthesis of Algae. Doctoral Thesis in Biophysics, **University of Illinois at Urbana-Champaign,** 114 pp; Committee : E.I. Rabinowitch (chair; Biophysics); J.F.Nance (Botany);T.E.Phipps (Chemistry) & Robert Hulsizer (Physics)

[10] Govindjee, [G.], and E. Rabinowitch (1960a) Two Forms of Chlorophyll *a* in vivo with Distinct Photochemical Function. **Science** 132: 355-356.

[11] Govindjee, [G.], and E. Rabinowitch (1960b) Action Spectrum of the Second Emerson Effect. **Biophys. J.** 1: 73-89.

[12] Govindjee, [G.], S. Ichimura, C. Cederstrand, and E. Rabinowitch (1960a) Effect of Combining Far-Red Light with Shorter Wave Light on the Excitation of Fluorescence in Chlorella. **Arch. Biochem. Biophys.** 89: 322-323.

[13] Govindjee, [G.], E. Rabinowitch, and J.B. Thomas (1960b) Inhibition of Photosynthesis in Certain Algae by Extreme Red Light. **Biophys. J.** 1: 91-97.

[14] Rabinowitch, E., [G] Govindjee and J.B. Thomas (1960) Inhibition of Photosynthesis in Some Algae by Extreme-Red Light. **Science** 132: 422.

[15] Thomas, J.B., and [G.] Govindjee (1960) Changes in Quantum Yield of Photosynthesis in the Red Alga *Porphyridium cruentum* Caused by the Stepwise Reduction in the Intensity of Light Preferentially Absorbed by the Phycobilins. **Biophys. J**. 1: 63-72.

[16] Govindjee, [G.], C. Cederstrand, and E. Rabinowitch (1961) Existence of Absorption Bands at 730-740 and 750-760 Millimicrons in Algae of Different Divisions. **Science** 134: 391-392.

[17] Rabinowitch, E., and [G.] Govindjee (1961) Different Forms of Chlorophyll *a* in vivo and Their Photochemical Function. In: **Light and Life** (eds. W.D. McElroy and B. Glass) The Johns Hopkins Press. pp. 378-387.

[18] Thomas , J.B., and [G.] Govindjee (1961) On the Long-wave Decline of the Quantum

Yield of Photosynthesis in the Red Alga *Porphyridium cruentum*.In: **Light and Life** (eds. W.D. McElroy and B. Glass) The Johns Hopkins Press, pp. 475-478.

C. 1962-1965: Publications from the period Govindjee was an Assistant Professor

[19] Govindjee, R., [G.] Govindjee, and G. Hoch (1962) The Emerson Enhancement Effect in TPN-Photoreduction by Spinach Chloroplasts. **Biochem. Biophys. Res. Comm.** 9: 222-225.

[20] Govindjee, [G.] (1963a) Emerson Enhancement Effect and Two Light Reactions in Photosynthesis: Dedicated to the Memory of Late Professor Robert Emerson.In: **Photosynthetic Mechanisms of Green Plants** (eds. B. Kok, and A.T. Jagendorf) Publication 1145, Nat. Acad. Sci. Nat. Res. Council. Washington, D.C. pp. 318-334.

[21] Govindjee, [G.] (1963b) Photosynthesis in Stichococcus. **Carnegie Inst. Wash. Year Book** 62: 363-364.

[22] Govindjee, [G.] (1963c) Observations on P750A from *Anacystis nidulans*. **Naturwissenschaften** 50: 720-721.

[23] Govindjee [G.], and C. Cederstrand (1963) Letter to the Editor. **Biophys. J.** 3: 507-508.

[24] Govindjee, [G.], O.v.H. Owens, and G. Hoch (1963) A Mass Spectroscopic Study of the Emerson Enhancement Effect. **Biochim. Biophys. Acta** 75: 281-284.

[25] Govindjee, [G.], and R. Govindjee (1964a) Induction Transients in O_2 Evolution by *Porphyridium cruentum* in Monochromatic Light. **Carnegie Inst. Wash. Year Book** 63: 468-472.

[26] Govindjee, [G.], and R. Govindjee (1964b) Oxygen Evolution From a Red Alga Exposed to Monochromatic Light Flashes with Background Light of Different Wavelengths and Intensities. **Carnegie Inst. Wash. Year Book** 63: 472-477.

[27] Govindjee, R., [G.] Govindjee, and G. Hoch (1964) Emerson Enhancement Effect in Chloroplast Reactions. **Plant Physiol.** 39: 10-14.

[28] Krey, A., and [G.] Govindjee (1964) Fluorescence Changes in Porphyridium Exposed to

Green Light of Different Intensity: A New Emission Band at 693 nm: Its Significance to Photosynthesis. **Proc. Nat. Acad. Sci. USA** 52: 1568-1572.

[29] Govindjee, [G.] (1965) Modern Trends in Photobiology: Energy Conversion in Photosynthesis. **Science and Culture** 31: 468-476.

[30] Govindjee, [G.], and R. Govindjee (1965a) Two Different Manifestations of Enhancement in the Photosynthesis of *Porphyridium cruentum* in Flashing Monochromatic Light. **Photochem. Photobiol.** 4: 401-415.

[31] Govindjee, [G.], and R. Govindjee (1965b) Action Spectra for the Appearance of Difference Absorption Bands at 480 and in Illuminated Chlorella Cells and Their Possible Significance to a Two-Step Mechanism of Photosynthesis. **Photochem. Photobiol.** 4: 675-683.

[32] Govindjee , [G.], and E. Rabinowitch (1965) The Photochemical Stage of Photosynthesis. **J. Sci. Indus. Res.** 24: 591-596.

[33] Rabinowitch, E., and [G.] Govindjee (1965) The Role of Chlorophyll in Photosynthesis. **Scientific American** 213: 74-83.

D. 1966-1969: Publications from the period Govindjee was an Associate Professor

[34] Bedell, G., and [G.] Govindjee (1966) Quantum Yield of Oxygen Evolution and the Emerson Enhancement Effect in Deuterated Chlorella. **Science** 152: 1383-1385.

[35] Cederstrand, C., and [G.] Govindjee (1966) Some Properties of Spinach Chloroplast Fractions Obtained by Digitonin Solubilization. **Biochim. Biophys. Acta** 120: 177-180.

[36] Cederstrand, C., E. Rabinowitch, and [G.] Govindjee (1966a) Absorption and Fluorescence Spectra of Spinach Chloroplast Fractions Obtained by Solvent Extraction. **Biochim. Biophys. Acta** 120: 247-258.

[37] Cederstrand, C., E. Rabinowitch, and [G.] Govindjee (1966b) Analysis of the Red Absorption Band of chlorophyll *a* in vivo. **Biochim. Biophys. Acta** 126: 1-12.

[38] Cho, F., J. Spencer, and [G.] Govindjee (1966) Emission Spectra of Chlorella at Very Low Temperatures (-269 C to -196 C). **Biochim. Biophys. Acta** 126: 174-176.

[39] Ghosh, A.K., and [G.] Govindjee (1966) Transfer of the Excitation Energy in *Anacystis nidulans* Grown to Obtain Different Pigment Ratios. **Biophys. J.** 6: 611-619.

[40] Ghosh, A.K., [G.] Govindjee, H.L. Crespi, and J.J. Katz (1966) Fluorescence Studies on Deuterated *Chlorella vulgaris*. **Biochim. Biophys. Acta** 120: 19-22.

[41] Govindjee, [G.] (1966a) Photosynthesis. **Catholic Encyclopedia for Home and Schools.** McGraw-Hill Publishers, NY. pp. 425-429.

[42] Govindjee, [G.] (1966b) Fluorescence Studies on Algae, Chloroplasts and Chloroplast Fragments.In: **Currents in Photosynthesis** (eds. J.B. Thomas and J.H.C. Goedheer) Ad Donker Publisher, Rotterdam, pp. 93-103.

[43] Govindjee, [G.], and L. Yang [Ni] (1966) Structure of the Red Fluorescence Band in Chloroplasts. **J.Gen.Physiol.** 49: 763-780.

[44] Krey, A., and [G.] Govindjee (1966) Fluorescence Studies on a Red Alga *Porphyridium cruentum*. **Biochim. Biophys. Acta** 120: 1-18.

[45] Das, M., and [G.] Govindjee (1967) A Long-wave Absorbing Form of Chlorophyll *a* Responsible for the Red Drop in Fluorescence at 298 K and the F723 Band at 77 K. **Biochim. Biophys. Acta** 143: 570-576.

[46] Govindjee, [G.] (1967) Transformation of Light Energy into Chemical Energy: Photochemical Aspects of Photosynthesis. **Crop Science** 7: 551-560.

[47] Govindjee, [G.], and M. Bazzaz (1967) On the Emerson Enhancement Effect in the Ferricyanide Hill Reaction in Chloroplast Fragments. **Photochem. Photobiol.** 6: 885-894.

[48] Govindjee, [G.], J.C. Munday, Jr., and G.C. Papageorgiou (1967a) Fluorescence Studies with Algae: Changes with Time and Preillumination.In: Energy Conversion by the Photosynthetic Apparatus (ed. J.M. Olson) **Brookhaven Symposia in Biology** 19: 434-445.

[49] Govindjee, [G.], G.C. Papageorgiou, and E. Rabinowitch (1967b) Chlorophyll Fluorescence and Photosynthesis.In: **Fluorescence Theory, Instrumentation and Practice** (ed. G.G. Guilbault) Marcel Dekker Inc. NY, pp. 511-564.

[50] Papageorgiou, G.C., and [G.] Govindjee (1967a) Oxygen Evolution from Lyophilized Anacystis with Carbon Dioxide as Oxidant. **Biochim. Biophys. Acta** 131: 173-178.

[51] Papageorgiou, G.C., and [G.] Govindjee (1967b) Changes in Intensity and Spectral Distribution of Fluorescence. Effect of Light Treatment on Normal and DCMU-Poisoned *Anacystis nidulans*. **Biophys. J.** 7: 375-390.

[52] Rabinowitch, E., L. Szalay, M. Das, N. Murty, C. Cederstrand, and [G.] Govindjee (1967) Spectral Properties of Cell Suspensions.In: Energy Conversion by the Photosynthetic Apparatus (ed. J.M. Olson) **Brookhaven Symposia in Biology** 19: 1-7.

[53] Shimony, C., J. Spencer, and Govindjee (1967) Spectral Characteristics of Anacystis Particles. **Photosynthetica** 1: 113-125.

[54] Szalay, L., E. Rabinowitch, N. Murty, and Govindjee (1967a) Relationship Between the Absorption and Emission Spectra and the Red Drop in the Action Spectra of Fluorescence in vivo. **Biophys. J.** 7: 137-149.

[55] Szalay, L., M. Toerok, and [G.] Govindjee (1967b) Effect of Secondary Fluorescence on the Emission Spectrum and Quantum Yield of Fluorescence in chlorophyll *a* Solutions and Algal Suspensions. **Acta Biochim. Biophys. Acad. Sci. Hung**. 2: 425-432.

[56] Govindjee, R., E. Rabinowitch, and [G.] Govindjee (1968) Maximum Quantum Yield and Action Spectra of Photosynthesis and Fluorescence in Chlorella. **Biochim. Biophys. Acta** 162: 530-544.

[57] Papageorgiou, G.C., and [G.] Govindjee (1968a) Light-Induced Changes in the Fluorescence Yield of Chlorophyll *a* in vivo. I. *Anacystis nidulans*. **Biophys. J.** 8: 1299-1315.

[58] Papageorgiou, G.C., and [G.] Govindjee (1968b) Light-Induced Changes in the Fluorescence Yield of Chlorophyll *a* in vivo. II. *Chlorella pyrenoidosa*. **Biophys. J.** 8: 1316-1328.

[59] deKlerk, H., [G.] Govindjee, M.D. Kamen, and J. Lavorel (1969) Age and Fluorescence Characteristics in Some Species of Athiorhodaceae. **Proc. Natl. Acad. Sci. USA** 62: 972-978.

[60] Merkelo, H., S.R. Hartman, T. Mar, G.S. Singhal, and [G.]Govindjee (1969) Mode locked Lasers: Measurements of Very Fast Radiative Decay in Fluorescent Systems. **Science** 164: 301-302.

[61] Munday, Jr., J.C., and [G.] Govindjee (1969a) Light-Induced Changes in the Fluorescence Yield of Chlorophyll *a* in vivo. III. The Dip and the Peak in the Fluorescence Transient of *Chlorella pyrenoidosa*. **Biophys. J.** 9: 1-21.

[62] Munday, Jr. J.C., and [G.] Govindjee (1969) Light-Induced Changes in the Fluorescence Yield of Chlorophyll *a* in vivo. IV. The Effect of Preillumination on the Fluorescence Transient of *Chlorella pyrenoidosa*. **Biophys. J.** 9: 22-35.

[63] Munday, Jr. J.C., and [G.] Govindjee (1969) Fluorescence Transients in Chlorella: Effects of Supplementary Light, Anaerobiosis and Methyl Viologen. **Progress in Photosynthesis Res.** Vol.II: 913-922.

[64] Papageorgiou, G.C., and [G.] Govindjee (1969) The Second Wave of Fluorescence Induction in *Chlorella pyrenoidosa*. **Progress in Photosynthesis Res.** Vol.II: 905-912.

[65] Rabinowitch, E., and [G.] Govindjee (1969) Photosynthesis. **John Wiley and Sons Inc.** NY. 273 pages. **[The Book]**

E.1970-2000 : Publications from the period Govindjee was a Full Professor

1970s

[66] Cho, F. and [G.] Govindjee (1970a) Fluorescence Spectra of Chlorella in the 295-77 K Range. **Biochim. Biophys. Acta** 205: 371-378.

[67] Cho, F., and [G.] Govindjee (1970b) Low-Temperature (4-77 K) Spectroscopy of Chlorella: Temperature Dependence of Energy Transfer Efficiency. **Biochim. Biophys. Acta** 216: 139-150.

[68] Cho, F., and [G.] Govindjee (1970c) Low Temperature (4-77 K) Spectroscopy of Anacystis: Temperature Dependence of Energy Transfer Efficiency. **Biochim. Biophys. Acta** 216: 151-161.

[69] Govindjee,[G.], G. Doering, and R. Govindjee (1970) The Active Chlorophyll *a* II in Suspensions of Lyophilized and Tris-Washed Chloroplasts. **Biochim. Biophys. Acta** 205: 303-306.

[70] Govindjee, R.,[G] Govindjee, J. Lavorel, and J.M. Briantais (1970) Fluorescence Characteristics of Lyophilized Maize Chloroplasts Suspended in Buffer. **Biochim. Biophys. Acta** 205: 361-370.

[71] Mohanty, P., J.C. Munday, Jr., and [G.] Govindjee (1970) Time-dependent Quenching of Chlorophyll *a* Fluorescence from (Pigment) System II by (Pigment) System I of Photosynthesis in Chlorella. **Biochim. Biophys. Acta** 223: 198-200.

[72] Govindjee, [G.] (1971) Bacterial Photosynthesis; Photosynthesis. **McGraw-Hill Encyclopedia of Science and Technology.** McGraw-Hill Book Co Inc, NY, pp. 62-66; 201-210.

[73] Govindjee, [G.], and P. Mohanty (1971) Chlorophyll *a* Fluorescence in the Study of Photosynthesis. **Fluorescence News** (eds. R.A. Passwater and P. Welker) Vol.6 (no. 2). Publ. by Biochemical Instrumentation Div. American Instrument Co. Silver Spring, MD, pp. 1-4.

[74] [G.] Govindjee and G.C. Papageorgiou (1971a) Chlorophyll; Fluorescence Compounds, Plant. **McGraw-Hill Encyclopedia of Science and Technology**. McGraw-Hill Book Co Inc, NY, pp 86-87; 382-386.

[75] Govindjee, [G.], and G.C. Papageorgiou (1971b) Chlorophyll Fluorescence and Photosynthesis: Fluorescence Transients.In: **Photophysiology** (ed. A.C. Giese) Academic Press, NY,Vol. 6: 1-46.

[76] Mar T., and [G.] Govindjee (1971) Thermoluminescence in Spinach Chloroplasts and in Chlorella. **Biochim. Biophys. Acta** 226: 200-203.

[77] Mohanty, P., T.Mar, and [G.] Govindjee (1971a) Action of Hydroxylamine in the Red Alga *Porphyridium cruentum*. **Biochim. Biophys. Acta** 253: 213-221.

[78] Mohanty, P., G.C. Papageorgiou, and [G.] Govindjee (1971) Fluorescence Induction in the Red Alga *Porphyridium cruentum*. **Photochem. Photobiol.** 14: 667-682.

[79] Papageorgiou, G.C., and [G.] Govindjee (1971) pH Control of the Chlorophyll *a* Fluorescence in Algae. **Biochim. Biophys. Acta** 234: 428-432.

[80] Stacy, W.T., T.Mar, C.E. Swenberg, and [G.] Govindjee (1971) An Analysis of a Triplet Exciton Model for the Delayed Light in Chlorella. **Photochem. Photobiol.** 14: 197-219.

[81] Braun (Zilinskas), B.Z., and [G.] Govindjee (1972) Antibodies Against an Intermediate on the Water Side of Photosystem II of Photosynthesis. **FEBS Lett.** 25: 143-146.

[82] Briantais, J.M., H. Merkelo, and [G.] Govindjee (1972) Lifetime of the Excited State t in vivo. III. Chlorophyll During Fluorescence Induction in *Chlorella pyrenoidosa*. **Photosynthetica** 6: 133-141.

[**83]** Govindjee [G.] (1972) (Guest Editor) Photosynthesis, July issue of **Biophysical Journal,** Dedicated to Eugene I. Rabinowitch.

[84] Govindjee [G.] and J.M. Briantais (1972) Chlorophyll b Fluorescence and an Emission Band at 700 nm at Room Temperature in Green Algae. **FEBS Lett.** 19: 278-280.

[85] Govindjee [G.] and P.K. Mohanty (1972) Photochemical Aspects of Photosynthesis in Blue-Green Algae.In: **Biology and Taxonony of Blue-Green Algae** (ed. T. Desikachary) U. Madras, Madras, India pp. 171-196.

[86] Govindjee [G.], J.H. Hammond, and H. Merkelo (1972) Lifetime of the Excited State in vivo. II. Bacteriochlorophyll in Photosynthetic Bacteria at Room Temperature. **Biophys. J.** 12: 809-814.

[87] Jursinic, P., and [G.] Govindjee (1972) Thermoluminescence and Temperature Effects on Delayed Light Emission (Corrected for Changes in Quantum Yield of Fluorescence) in DCMU-Treated Algae. **Photochem. Photobiol.** 15: 331-348.

[88] Jursinic, P., and [G.] Govindjee (1972) Delayed Light Emission in DCMU-treated Chlorella: Temperature Effects.In: **Photosynthesis, Two Centuries After its Discovery by Joseph Priestley** (eds. G. Forti, M. Avron, and A. Melandri). Dr. W. Junk N.V. Publishers, Den Haag, pp. 223-232.

[89] Mar, T., and [G.] Govindjee (1972) Kinetic Models of Oxygen Evolution in Photosynthesis. **J. Theor. Biol.** 36: 427-446.

[90] Mar, T., and [G.] Govindjee (1972) Decrease in the Degree of Polarization of Chlorophyll Fluorescence Upon the Addition of DCMU to Algae. **Photosynthesis, Two Centuries After its Discovery by Joseph Priestley** (eds. G. Forti, M. Avron, and A. Melandri) Dr. W. Junk N.V. Publishers, Den Haag, pp. 271-281.

[91] Mar, T., [G.] Govindjee, G.S. Singhal, and H. Merkelo (1972) Lifetime of the Excited State in vivo. I. Chlorophyll a in Algae, at Room and Liquid Nitrogen Temperature; Rate Constants of Radiationless Deactivation and Trapping. **Biophys. J.** 12: 797-808.

[92] Mohanty, P., B.Z. Braun (Zilinskas), and [G.] Govindjee (1972) Fluorescence and Delayed Light Emission in Tris-Washed Chloroplasts. **FEBS Lett.** 20: 273-276.

[93] Mohanty, P., B.Z. Braun (Zilinskas), [G.] Govindjee, and J. P. Thornber (1972) Chlorophyll Fluorescence Characteristics of System I Chlorophyll a-Protein Complex and System II Particles at Room and Liquid Nitrogen Temperatures. **Plant Cell Physiol.** 13: 81-91.

[94] Bazzaz, M.B. and [G.] Govindjee (1973a) Absorption and Chlorophyll *a* Fluorescence Characteristics of Tris-treated and Sonicated Chloroplasts. **Plant Sci. Lett.** 1: 201-206.

[95] Bazzaz, M.B., and [G.]Govindjee (1973b) Photochemical Properties of Mesophyll and Bundle Sheath Chloroplasts of Maize. **Plant Physiol.** 52: 257-262.

[**96**] Bedell, G.W., and Govindjee (1973) Photophosphorylation in Intact Algae: Effects of Inhibitors, Intensity of Light, Electron Acceptors and Donors. **Plant Cell Physiol.** 14: 1081-1097.

[97] Govindjee, [G.], G.C. Papageorgiou, and E. Rabinowitch (1973) Chlorophyll Fluorescence and Photosynthesis(Revision of 1967 article).In: **Practical Fluorescence Theory, Methods, and Techniques** (ed. G.G. Guilbault) Marcel Dekker Inc, NY, pp. 543-575.

[98] Mohanty, P., and [G.] Govindjee (1973) Light-induced Changes in the Fluorescence Yield of Chlorophyll *a* in *Anacystis nidulans*. I. Relationships of Slow Fluorescence Changes with Structural Changes. **Biochim. Biophys. Acta** 305 95-104.

[99] Mohanty, P., and [G.] Govindjee (1973) Effect of Phenazine Methosulfate and Uncouplers on Light-induced Chlorophyll *a* Fluorescence Yield Changes in Intact Algal Cells. **Photosynthetica** 7: 146-160.

[100] Mohanty, P., and [G.] Govindjee (1973) Light-induced Changes in the Fluorescence Yield of Chlorophyll *a* in *Anacystis nidulans*. II. The Fast Changes and the Effect of Photosynthetic Inhibitors on both the Fast and Slow Fluorescence Induction. **Plant Cell Physiol.** 14: 611-629.

[101] Mohanty, P., B.Z. Braun (Zilinskas), and [G.] Govindjee (1973) Light-induced Slow Changes in Chlorophyll *a* Fluorescence in Isolated Chloroplasts: Effects of Magnesium and Phenazine Methosulfate. **Biochim. Biophys. Acta** 292: 459-476.

[102] Stemler, A., and [G.] Govindjee (1973) Bicarbonate Ion as a Critical Factor in Photosynthetic Oxygen Evolution. **Plant Physiol.** 52: 119-123.

[103] VanderMeulen, D., and [G.] Govindjee (1973) Is There a Triplet State of Chlorophyll in Photosynthesis? **J. Sci. Indust. Res.** 32: 62-69.

[104] Bazzaz, M.B., and [G.] Govindjee (1974a) Effects of Cadmium Nitrate on Spectral Characteristics and Light Reactions of Chloroplasts. **Environ. Lett.** 6: 1-12.

[105] Bazzaz, M.B., and [G.] Govindjee (1974b) Effects of Lead Chloride on Chloroplast Reactions. **Environ. Lett.** 6: 175-191.

[106] Bazzaz, M.B., [G.] Govindjee, and D.J. Paolillo (1974) Biochemical, Spectral, and Structural Study of Olive Necrotic 8147 Mutant in *Zea Mays*. L. **Zeit. f. Pflanzenphysiol.** 72: 181-192.

[107] Braun (Zilinskas), B.Z., and [G.] Govindjee (1974) Antisera Against a Component of the Oxygen-Evolving Side of System II Reaction: Antisera Prepared Against an Extract from Frozen and Thawed Chloroplasts. **Plant Sci. Lett.** 3: 219-227.

[108] Gasanov, R., and [G.] Govindjee (1974) Chlorophyll Fluorescence Characteristics of Photosystems I and II from Grana and Photosystem I from Stroma Lamellae. **Zeit. f. Pflanzenphysiol.** 72: 193-202.

[109] Govindjee, [G.], and R. Govindjee (1974) Primary Events in Photosynthesis.**Scientific American** 231: 68-82.

[110] Govindjee [G.], and B.Z. Braun (Zilinskas) (1974) Light Absorption, Emission and Photosynthesis.In**: Algal Physiology and Biochemistry** (ed. W.D.P. Stewart). Blackwell Scientific Publication Ltd, Oxford, pp. 346-390.

[111] Govindjee, R., W.R. Smith, Jr., and [G.] Govindjee (1974) Interaction of Viologen Dyes with Chromatophores and Reaction-Center Preparations from *Rhodospirillum rubrum*. **Photochem. Photobiol.** 20: 191-199.

[112] Mar, T., G. Roy, and [G.] Govindjee (1974) Effect of Chloride and Benzoate Anions on the Delayed Light Emission in DCMU- treated Spinach Chloroplasts. **Photochem. Photobiol.** 20: 501-504.

[113] Mohanty, P., [G.] Govindjee, and T. Wydrzynski (1974) Salt-induced Alterations of the Fluorescence Yield and of Emission Spectra in *Chlorella pyrenoidosa*. **Plant Cell Physiol.** 15: 213-224.

[114] Stemler, A., and [G.] Govindjee (1974a) Effects of Bicarbonate Ion on Chlorophyll *a* Fluorescence Transients and Delayed Light Emission from Maize Chloroplasts. **Photochem. Photobiol.** 19: 227-232.

[115] Stemler, A., and [G.] Govindjee (1974b) Bicarbonate Stimulation of Oxygen Evolution, Ferricyanide Reduction and Photoinactivation Using Isolated Chloroplasts. **Plant Cell Physiol.** 15: 533-544.

[116] Stemler, A., and [G.] Govindjee (1974) Bicarbonate Stimulation of Oxygen Evolution in Chloroplast Membranes.In: **International Symposium in Biomembranes** (ed. L. Packer). Academic Press, NY, pp. 319-330.

[117] Stemler, A., G.T. Babcock, and [G.] Govindjee (1974) The Effect of Bicarbonate on Photosynthetic Oxygen Evolution in Flashing Light in Chloroplast Fragments. **Proc. Nat. Acad. Sci. USA** 71. 4679-4683.

[118] VanderMeulen, D.L., and [G.] Govindjee (1974) 12-(9-anthroyl)-Stearic Acid and Atebrin as Fluorescence Probes for Energetic Status of Chloroplasts. **FEBS Lett.** 45: 186-190.

[119] VanderMeulen, D.L., and [G.] Govindjee (1974) Relation of Membrane Structural Changes to Energy Spillover in Oats and Spinach Chloroplasts: Use of Fluorescence Probes and Light Scattering. **Biochim. Biophys. Acta** 368: 61-70.

[120] Das, M., and [G.] Govindjee (1975) Action Spectra of Chlorophyll Fluorescence in Spinach Chloroplast Fractions Obtained by Solvent Extraction. **Plant Biochem. J.** 2: 51-60.

[121] Govindjee, [G.] (Editor) (1975) Bioenergetics of Photosynthesis. **Academic Press,** NY, 700 pages. [Edited Book]

[122] Govindjee, [G.] and R. Govindjee (1975) Introduction to Photosynthesis.In: **Bioenergetics of Photosynthesis** (ed. Govindjee) Academic Press, NY, pp. 1-50.

[123] Gross, E.L., T. Wydrzynski, D. VanderMeulen, and [G.] Govindjee (1975) Monovalent and Divalent Cation-induced Changes in Chlorophyll *a* Florescence and Chloroplast Structure.In: **Proc. 3rd Int. Congr. on Photosynthesis,** Vol. I (ed. M. Avron) Elsevier Publ. Co. Amsterdam, pp. 345-361.

[124] Govindjee, [G.], A.J. Stemler, and G.T. Babcock (1975a) A Critical Role of Bicarbonate in the Reaction Center II Complex During Oxygen Evolution in Isolated Broken Chloroplasts.In**: Proc. 3rd Int. Cong. on Photosynthesis,** Vol. I (ed. M. Avron) Elsevier Publ. Co, Amsterdam, pp. 363-371.

[125] Govindjee, [G.], J.H. Hammond, W.R. Smith, R. Govindjee, and H. Merkelo (1975b) Lifetime of the Excited States in vivo. IV. Bacteriochlorophyll and Bacteriopheophytin in *Rhodospirillum rubrum*. **Photosynthetica** 9: 216-219.

[126] Mohanty, P., and [G.] Govindjee (1974, but printed in 1975) The Slow Decline and the Subsequent Rise of Chlorophyll Fluorescence Transients in Intact Algal Cells. **The Plant Biochem. J.** 1: 78-106.

[127] VanderMeulen, D., and [G.] Govindjee (1975a) Interactions of Fluorescent Analogs of Adenine Nucleotides with Coupling Factor Protein Isolated from Spinach Chloroplasts. **FEBS Lett.** 57: 272-275.

[128] VanderMeulen, D.L., and [G.] Govindjee (1975b) Anthroyl Stearate: A Fluorescent Probe for Chloroplasts.In: **Proc. 3rd Int. Cong. on Photosynthesis** Vol. II. (ed. M. Avron) Elsevier Publ. Co, Amsterdam, pp. 1095-1105.

[129] Wydrzynski, T., and [G.] Govindjee (1975) A New Site of Bicarbonate Effect in Photosystem II of Photosynthesis: Evidence from Chlorophyll Fluorescence Transients in Spinach Chloroplasts. **Biochim. Biophys. Acta** 387: 403-408.

[130] Wydrzynski, T., E.L. Gross, and [G.] Govindjee (1975a) Effects of Sodium and Magnesium Cations on the Dark and Light-induced Chlorophyll *a* Fluorescence Yields in Sucrose-washed Spinach Chloroplasts. **Biochim. Biophys. Acta** 376: 151-161.

[131] Wydrzynski, T., N. Zumbulyadis, P.G. Schmidt, and[G.] Govindjee (1975b) Water Proton Relaxation as a Monitor of Membrane- bound Manganese in Spinach Chloroplasts. **Biochim. Biophys. Acta** 408: 349-354.

[132] Zilinskas, B.A., and [G.] Govindjee (1975) Silicomolybdate and Silicontungstate Mediated Dichlorophenyldimethylurea-insensitive Photosystem II Reaction: Electron Flow, Chlorophyll *a* Fluorescence and Delayed Light Emission Changes. **Biochim. Biophys. Acta** 387: 306-319.

[133] Govindjee, [G.], M.P.J. Pulles, R. Govindjee, H.J. van Gorkom, and L.N.M. Duysens

(1976) Inhibition of the Reoxidation of the Secondary Electron Acceptor of Photosystem II by Bicarbonate Depletion. **Biochim. Biophys. Acta** 449: 602-605.

[134] Jursinic,P., J. Warden, and [G.] Govindjee (1976) A Major Site of Bicarbonate Effect in System II Reaction: Evidence from ESR Signal II vf, Fast Fluorescence Yield Changes and Delayed Light Emission. **Biochim. Biophys. Acta** 440: 323-330.

[135] Schooley, R.E., and [G.] Govindjee (1976) Cation-induced Changes in the Circular Dichroism Spectrum of Chloroplasts. **FEBS Lett.** 65: 123-125.

[136] VanderMeulen, D.L., and [G.] Govindjee (1976) Anthroyl Stearate as a Fluorescent Probe of Chloroplast Membranes. **Biochim. Biophys. Acta** 449: 340-356.

[137] Wong, D., and [G.] Govindjee (1976) Effects of Lead Ions on Photosystem I in Isolated Chloroplasts: Studies on the Reaction Center P700. **Photosynthetica** 10: 241-254.

[138] Wydrzynski, T., N. Zumbulyadis, P.G. Schmidt, H.S. Gutowsky, and [G.] Govindjee (1976a) Proton Relaxation and Charge Accumulation During Oxygen Evolution in Photosynthesis. **Proc. Nat. Acad. Sci. USA** 73: 1196-1198.

[139] Wydrzynski, T., [G.] Govindjee, N. Zumbulyadis, P.G. Schmidt, and H.S. Gutowsky (1976b) NMR Studies on Chloroplast Membranes.In: **Magnetic Resonance in Colloid and Interface Science (**eds. H.A. Resing and G.G. Wade) A.C.S. Symposium Series 34, American Chemical Society, pp. 471-487.

[140] Zilinskas, B., and Govindjee (1976) Stabilization by Glutaraldehyde Fixation of Chloroplast Membranes Against Inhibitors of Oxygen Evolution. **Zeit. f. Pflanzenphysiol.** 77: 302-314.

[141] Govindjee, [G.] (1977) Chlorophyll *a* Fluorescence as a Probe for Locating the Site of Bicarbonate Action in Photosystem II of Photosynthesis. **Acta Physica et Chemica Nova Series.** 23: 49-60.

[142] Govindjee, [G.], and R. Govindjee (1977) Light Energy Conversion by Photosynthesis. **J. Sci. Indust. Res.** 36: 662-671.

[143] Govindjee, [G.], and R. Govindjee (1977) Photosynthesis.(Revision of 1971 article.) In: **McGraw-Hill Encyclopedia of Science and Technology.** Volume 10, pp. 200-210.

[144] Govindjee, [G.], and J. Warden (1977) Green Plant Photosynthesis: Upconversion or not? **J. Am. Chem. Soc.** 99: 8088-8090.

[145] Govindjee, [G.],T.S. Desai, V.G. Tatake, and P.V. Sane (1977) A New Glow Peak in *Rhodopseudomonas sphaeroides*. **Photochem.Photobiol.** 25: 119-122.

[146] Govindjee, [G.],T. Wydrzynski, and S.B. Marks (1977) The Role of Manganese in the Oxygen Evolving Mechanism of Photosynthesis. In: **Bioenergetics of Membranes** (eds. L. Packer, G.C. Papageorgiou, and A. Trebst) Elsevier/North Holland Biomedical Press, pp. 305-316.

[147] Hoff , A.J.,[G.] Govindjee, and J.C. Romijn (1977) Electron Spin Resonance in Zero Magnetic Field of Triplet States of Chloroplasts and Subchloroplast Particles. **FEBS Lett.** 73: 191-196.

[148] Jursinic, P., and [G.] Govindjee (1977a) The Rise in Chlorophyll *a* Fluorescence Yield and Decay in Delayed Light Emission in Tris-washed Chloroplasts in the 6-100 Microsecond Time Range after an Excitation Flash. **Biochim. Biophys. Acta** 461: 253-267.

[149] Jursinic, P., and [G.] Govindjee (1977b) Temperature Dependence of Delayed Light Emission in the 6 to 340 Microsecond Range After a Single Flash in Chloroplasts. **Photochem. Photobiol.** 26: 617-628.

[150] Khanna, R., [G.] Govindjee, and T. Wydrzynski (1977) Site of Bicarbonate Effect in Hill Reaction: Evidence from the Use of Artificial Electron Acceptors and Donors. **Biochim. Biophys. Acta** 462: 208-214.

[151] Moya, I., [G.] Govindjee, C. Vernotte, and J.M. Briantais (1977) Antagonistic Effect of Mono-and Divalent Cations on Lifetime t and Quantum Yield of Fluorescence f in Isolated Chloroplasts. **FEBS Lett.** 75: 13-18.

[152] Sane, P.V., T.S. Desai, V.G. Tatake, and [G.] Govindjee (1977) On the Origin of Glow

Peaks in Euglena Cells, Spinach Chloroplasts and Subchloroplast Fragments Enriched in System I or II. **Photochem. Photobiol.** 26: 33-39.

[153] Siggel, U., R. Khanna, G. Renger, and [G.] Govindjee (1977) Investigation of the Absorption Changes of the Plastoquinone System in Broken Chloroplasts: The Effect of Bicarbonate Depletion. **Biochim. Biophys. Acta** 462: 196-207.

[154] K. Vacek, D. Wong, and [G.] Govindjee (1977) Absorption and Fluorescence Properties of Highly Enriched Reaction Center Particles of Photosystem I and of Artificial Systems. **Photochem. Photobiol.** 26: 269-276.

[155] VanderMeulen, D.L., and [G.] Govindjee (1977) Binding of Modified Adenine Nucleotides to Isolated Coupling Factor from Chloroplasts as Measured by Polarization of Fluorescence. **Eur. J. Biochem. 78**: 585-598.

[156] Anton, J.A., P.A. Loach, and [G.] Govindjee (1978) Transfer of Excitation Energy Between Porphyrin Centers of a Covalently- linked Dimer. **Photochem. Photobiol**. 28: 235-242.

[157] Govindjee, [G.] (1978a) Pulsed Nuclear Magnetic Resonance and Thylakoid Membranes. **Nat. Acad. Sci. Lett.** (India) 1: 3-6.

[158] Govindjee, [G.] (1978b) (Guest Editor) December issue of **Photochemistry and Photobiology.** Volume 28 (issue 6), pp.935—1039,

[159] Govindjee, [G.] (1978c) Ultrafast Reactions in Photosynthesis. **Photochem. Photobiol.** 28: 935-938.

[160] Govindjee [G.], and R. Khanna (1978) Bicarbonate: Its Role in Photosystem II. In: **Photosynthetic Oxygen Evolution** (ed. H. Metzner), Academic Press, London, pp. 269-282.

[161] Govindjee, [G.], and J.J.S. van Rensen (1978) Bicarbonate Effects on the Electron Flow in Isolated Broken Chloroplasts. **Biochim. Biophys. Acta** 505: 183-213.

[162] Govindjee, [G.], and D. Wong (1978) Regulation of Excitation Energy Transfer Among the Two Pigment Systems in Photosynthesis. In**: Proc. of 3rd Internat. Seminar on**

Excitation Energy Transfer in Condensed Matter (ed. J. Fiala) Charles University, Prague, Czechoslovakia pp. 19-28.

[163] Govindjee, [G.], T. Wydrzynski, and S.B. Marks (1978) Manganese and Chloride: Their Roles in Photosynthesis. **Symposium on Photosynthetic Oxygen Evolution** (ed. H. Metzner), Academic Press, London, pp. 321-344.

[164] Jursinic, P., [G.] Govindjee, and C.A. Wraight (1978) Membrane Potential and Microsecond to Millisecond Delayed Light Emission After a Single Excitation Flash in Isolated Chloroplasts. **Photochem. Photobiol.** 27: 61-71.

[165] Marks, S.B., T. Wydrzynski, [G.] Govindjee, P.G. Schmidt, and H.S. Gutowsky (1978) An NMR Study of Manganese in Chloroplast Membranes. In: **Biomolecular Structure and Function** (ed. P.F. Agris), Academic Press, NY, pp. 95-100.

[166] van Rensen, J.J.S., D. Wong, and [G.] Govindjee (1978) Characterization of the Inhibition of Photosynthetic Electron Transport in Pea Chloroplasts by the Herbicide 4, 6 Dinitro-o-cresol by Comparative Studies with 3-(3-4-dichlorophenyl)-1,1-dimethylurea. **Zeit. f. Naturforschung** 33c: 413-420.

[167] Wong, D., [G.] Govindjee, and P. Jursinic (1978) Analysis of Microsecond Fluorescence Yield and Delayed Light Emission Changes After a Single Flash in Pea Chloroplasts: Effects of Mono-and Divalent Cations. **Photochem. Photobiol.** 28: 963-974.

[168] Wong, D., K. Vacek, H. Merkelo, and [G.] Govindjee (1978) Excitation Energy Transfer Among chlorophyll *a* Molecules on Polystyrene: Concentration Dependence of Quantum Yield, Polarization and Lifetime of Fluorescence. **Zeit. f. Naturforschung.** 33c: 863-869.

[169] Wydrzynski, T.J., S.B. Marks, P.G. Schmidt, [G.] Govindjee, and H.S. Gutowsky (1978) Nuclear Magnetic Relaxation by the Manganese in Aqueous Suspensions of Chloroplasts. **Biochemistry** 17: 2155-2162.

[170] Fenton, J.M., M.J. Pellin, [G.] Govindjee, and K. Kaufmann (1979) Primary Photochemistry of the Reaction Center of Photosystem I. **FEBS Lett.** 100: 1-4.

[171] Gasanov, R., Z.K. Abilov, R.M. Gazanchyan, U.M. Kurbanova, R. Khanna, and [G.] Govindjee (1979) Excitation Energy Transfer in Photosystems I and II from Grana and in Photosystem I from Stroma Lamellae, and Identification of Emission Bands with Pigment-Protein Complexes at 77 K. **Zeit. f. Pflanzenphysiologie** 95: 149-169.

[172] Govindjee, [G.], and P.A. Jursinic (1979) Photosynthesis and Fast Changes in Light Emission by Green Plants. **Photochem. Photobiol. Reviews** 4: 125-205.

[173] Govindjee, [G.], D. Wong, B.B. Prezelin, and B.M. Sweeney (1979) Chlorophyll *a* Fluorescence of *Gonyaulax polydera* Grown on a Light-Dark Cycle and After Transfer to Constant Light. **Photochem. Photobiol.** 30: 405-411.

[174] Govindjee, [G.], P. Mathis, C. Vernotte, D. Wong, S. Saphon, T. Wydrzynski, and J.M. Briantais (1979) Cation Effects on System II Reactions in Thylakoids: Measurements on Oxygen Evolution, the Electrochromic Change at 515 nm, the Primary Acceptor and the Primary Donor. **Zeit. f. Naturforschung** 34c: 826-830.

[175] Khanna, R., and [G.] Govindjee (1979) (Book Review) Photosynthesis, 2nd ed. by D.O. Hall and K.K. Rao. **Photochem. Photobiol.** 29: 440-441.

[176] Sweeney, B.M., B.B. Prezelin, D. Wong, and [G.] Govindjee (1979) In Vivo Chlorophyll *a* Fluorescence Transients and the Circadian Rhythm of Photosynthesis in *Gonyaulax polyedra*. **Photochem. Photobiol.** 30: 309-311.

[177] Wong, D., and [G.] Govindjee (1979) Antagonistic Effects of Mono-and Divalent Cations on Polarization of Chlorophyll Fluorescence in Thylakoids and Changes in Excitation Energy Transfer. **FEBS Lett.** 97: 373-377.

[178] Wong, D., H. Merkelo, and [G.] Govindjee (1979) Regulation of Excitation Transfer by Cations: Wavelength-Resolved Fluorescence Lifetimes and Intensities at 77 K in Thylakoid Membranes of Pea Chloroplasts. **FEBS Lett.** 104: 223-226.

[179] Younis, H.M., J.S. Boyer, and [G.] Govindjee (1979) Conformation and Activity of Chloroplast Coupling Factor Exposed to Low Chemical Potential of Water in Cells. **Biochim. Biophys. Acta** 548: 228-240.

1980s

[180] Fork, D.C., and [G.] Govindjee (1980) Chlorophyll *a* Fluorescence Transients of Leaves from Sun and Shade Plants. **Naturwissenschaften** 67: 510-511.

[181] Freyssinet, G., C.A. Rebeiz, J.M. Fenton, R. Khanna, and [G.] Govindjee (1980) Unequal Distribution of Novel Chlorophyll a and b Chromophores in Subchloroplast Particles of Higher Plants. **Photobiochem. Photobiophys.** 1: 203-212.

[182]Govindjee, [G.] (1980) The Oxygen Evolving System of Photosynthesis. **Plant Biochem. J.** Sicar Memorial Volume. 7-30.

[183] Govindjee, [G.], and J. Barber (1980) Photosynthesis Session of the British Photobiology Society Meeting. **Photobiochem. Photobiophys.** 1: 183-187.

[184] Govindjee, [G.], D.C. Fork, T. Wydrzynski, M. Spector, and G. D. Winget (1980) Photosystem II Reactions in Liposomes Reconstituted with Cholate-Extracted Thylakoids and a Manganese-Containing Protein. **Photobiochem. Photobiophys.** 1 : 347-351. [**Note:** *The samples were provided by M. Spector, and later real serious concerns were raised about them; thus, if anyone ever cites this paper, it is essential that an e-mail be sent to gov@illinois.edu to discuss the issues involved with the samples provided; we recommend that it must not be cited]*

[185] Jordan, D., and [G.] Govindjee (1980) Bicarbonate Stimulation of Electron Flow in Thylakoids. Golden Jubilee Commemoration Volume of the **National Academy of Sciences (India),** pp. 369-378.

[186] Khanna, R., R. Wagner, W. Junge, and [G.] Govindjee (1980) Effects of CO_2-Depletion on Proton Uptake and Release in Thylakoid Membranes. **FEBS Lett.** 121: 222-224.

[187] S. Malkin, D. Wong, [G.] Govindjee, and H. Merkelo (1980) Parallel Measurements on Fluorescence Lifetime and Intensity Changes from Leaves During the Fluorescence Induction. **Photobiochem. Photobiophys.** 1: 83-89.

[188] Wong, D., [G.] Govindjee, and H. Merkelo (1980) Effects of Bulk pH and of

Monovalent and Divalent Cations on Chlorophyll *a* Fluorescence and Electron Transport in Pea Thylakoids. **Biochim. Biophys. Acta** 592: 546-558.

[189] Govindjee, [G.], and T. Wydrzynski (1981) Oxygen Evolution, Manganese, ESR and NMR. In: **Photosynthesis, Vol. II. Photosynthetic Electron Transport and Photophosphorylation.** (ed. G.Akoyunoglou), Balaban International Science Services, Philadelphia. pp. 293-306.

[190] Govindjee, [G.], W.J.S. Downton, D.C. Fork, and P.A. Armond (1981) Chlorophyll *a* Fluorescence Transient as an Indicator of Water Potential of Leaves. **Plant Sci. Lett.** 20: 191-194.

[191] Khanna, R., K. Pfister, A. Keresztes, J.J.S. van Rensen, and [G.] Govindjee (1981a) Evidence for a Close Spatial Location of the Binding Sites of and for Photosystem II Inhibitors. **Biochim. Biophys. Acta** 634: 105-116.

[192] Khanna, R., S. Rajan, K.E. Steinback, S. Bose, [G.] Govindjee, and H.S. Gutowsky (1981b) ESR and NMR Studies on the Effects of Magnesium Ion on Chloroplast Manganese. **Israel J. Chem.** (Special issue on Photosynthesis). 21: 291-296.

[193] Khanna, R., S. Rajan, [G.] Govindjee, and H.S. Gutowsky (1981c) NMR and ESR Studies of Thylakoid Membranes. In: **Photosynthesis, Vol. II. Photosynthetic Electron Transport and Photophosphorylation** (ed. G. Akoyunoglou) Balaban International Science Services, Philadelphia, pp. 307-316.

[194] Sarojini , G., and [G.] Govindjee (1981a) On the Active Species in Bicarbonate Stimulation of Hill Reaction in Thylakoid Membranes. **Biochim. Biophys. Acta** 634: 340-343.

[195] Sarojini , G., and Govindjee (1981b) Is CO_2 an Active Species in Stimulating the Hill Reaction in Thylakoid Membranes? In: **Photosynthesis, Vol. II. Photosynthetic Electron Transport and Photophosphorylation**. (ed. G. Akoyunoglou), Balaban International Science Services, Philadelphia, pp. 143-150.

[196] Singhal, G.S., P. Mohanty, and Govindjee (1981) Effects of Preheating Intact Algal Cells on Pigments Revealed by Absorption and Fluorescence Spectra. **Zeit. f. Pflanzenphysiologie** 103: 217-228.

[197] Tatake, V.G., T.S. Desai, [G.] Govindjee, and P.V. Sane (1981) Energy Storage States of Photosynthetic Membranes: Activation Energies and Lifetimes of Electrons in the Trap States by Thermoluminescence Method. **Photochem. Photobiol.** 33: 243-250.

[198] Vermaas, W.F.J., and [G.] Govindjee (1981a) The Acceptor Side of Photosystem II in Photosynthesis. **Photochem. Photobiol.** 34: 775-793.

[199] Vermaas, W.F.J., and [G.] Govindjee (1981b) Unique Role(s) of Carbon Dioxide and Bicarbonate in the Photosynthetic Electron Transport System. **Proc. Indian Nat. Sci. Acad.** B47: 581-605.

[200] Wong, D., and [G.] Govindjee (1981) Action Spectra of Cation Effects on the Fluorescence Polarization and Intensity in Thylakoids at Room Temperature. **Photochem. Photobiol.** 33: 103-108.

[201] Wong, D., H. Merkelo, and [G.] Govindjee (1981) Estimation of Energy Distribution and Redistribution Among Two Photosystems Using Parallel Measurements of Fluorescence Lifetimes and Transients at 77 K. **Photochem. Photobiol.** 33: 97-101.

[202] Critchley, C., I.C. Baianu, [G.] Govindjee, and H.S. Gutowsky (1982) The Role of Chloride in O_2 Evolution by Thylakoids from Salt-tolerant Higher Plants. **Biochim. Biophys. Acta** 682: 436-445.

[203] Govindjee, [G.] (editor) (1982) **Photosynthesis. Volume I. Energy Conversion by Plants and Bacteria. (799 pp)** **and** **Volume II. Development, Carbon Metabolism and Plant Productivity (580 pp)**, Academic Press, NY.

[204] Govindjee, [G.], and J. Whitmarsh (1982) Chapter 1: Introduction to Photosynthesis. In: Ph**otosynthesis. I. Energy Conversion by Plants and Bacteria** (ed. Govindjee), Academic Press, NY, pp. 1-16.

[205] Jursinic, P., and [G.] Govindjee (1982) Effects of Hydroxylamine and Silicomolybdate on the Decay in Delayed Light Emission in the 6-100 Microsecond Range after a single 10 ns Flash in Pea Thylakoids. **Photosynth. Res.** 3: 161-177.

[206] Ogawa, T., D. Grantz, J. Boyer, and [G.] Govindjee (1982) Effects of Cations and Abscisic Acid on Chlorophyll *a* Fluorescence in Guard Cells of *Vicia faba*. **Plant Physiol.** 69: 1140-1144.

[207] Vermaas, W.F.J., and [G.] Govindjee (1982a) Bicarbonate Effects on Chlorophyll *a* Fluorescence Transients in the Presence and the Absence of Diuron. **Biochim. Biophys. Acta** 680: 202-209.

[208] Vermaas, W.F.J., and [G.] Govindjee (1982b) Chapter 16: Bicarbonate or CO_2 as a Requirement for Efficient Electron Transport on the Acceptor Side of Photosystem II. In: **Photosynthesis II. Development, Carbon Metabolism, and Plant Productivity** (ed. Govindjee), Academic Press, NY, pp. 541-558.

[209] Vermaas, W.F.J., J.J.S. van Rensen, and [G.] Govindjee (1982) The Interaction Between Bicarbonate and the Herbicide Ioxynil in the Thylakoid Membrane and the Effects of Amino Acid Modification on Bicarbonate action. **Biochim. Biophys. Acta** 681: 242-247.

[210] DeVault, D., [G.] Govindjee, and W. Arnold (1983) Energetics of Photosynthetic Glow Peaks. **Proc. Natl. Acad. Sci. USA** 80: 983-987.

[211] Govindjee, [G.] (1983) Bacterial Photosynthesis; Chlorophyll; Fluorescence compounds, Plant(Revisions of earlier versions). **McGraw Hill Encyclopedia of Science and Technology,** New York, pp. 71-75; 127-131; 510-514. [Note: There are 3 separate articles]

[212] Govindjee, [G.], I.C. Baianu, C. Critchley, and H.S. Gutowsky (1983) Comments on the Possible Roles of Bicarbonate and Chloride Ions in Photosystem II. In: Y. Inoue, A.R. Crofts, Govindjee, N. Murata, G. Renger, and K. Satoh (eds.) **The Oxygen Evolving System of Photosynthesis**. Academic Press, Tokyo and San Diego, pp. 303-315.

[213] Inoue, Y., A.R. Crofts, [G.] Govindjee, N. Murata, G. Renger and K. Satoh (editors) (1983) The Oxygen Evolving System of Photosynthesis. 459 pages, **Academic Pres**s, Tokyo and San Diego.

[214] Khanna, R., S. Rajan, [G.] Govindjee, and H.S. Gutowsky (1983) Effects of Physical and Chemical Treatments on Chloroplast Manganese: NMR and ESR Studies. **Biochim. Biophys. Acta** 725: 10-18.

[215] Baianu, I.C., C. Critchley, [G.] Govindjee, and H.S. Gutowsky (1984) NMR Study of Chloride-Ion Interactions with Thylakoid Membranes. **Proc. Natl. Acad. Sci. USA** 81: 3713-3717.

[216] Blubaugh, D.J., and {G.] Govindjee (1984) Comparison of Bicarbonate Effects on the Variable Chlorophyll *a* Fluorescence of CO_2-depleted and non CO_2-depleted Thylakoids in the Presence of Diuron. **Zeit. f. Naturforschung** 39C: 378-381.

[217] Coleman, W.J., I.C. Baianu, H.S. Gutowsky, and [G.] Govindjee (1984) The Effect of Chloride and Other Anions on the Thermal Inactivation of Oxygen Evolution in Spinach Chloroplasts. In: C. Sybesma (ed.) **Advances in Photosynthesis Research**, Martinus Nijhoff/Dr. W. Junk Publishers, Den Haag, pp. 283-286.

[218] Eaton-Rye, J.J., and {G.] Govindjee (1984) A Study of the Specific Effect of Bicarbonate on Photosynthetic Electron Transport in the Presence of Methyl Viologen. **Photobiochem. Photobiophys** 8: 279-288.

[219] Govindjee, [G.] (1984) Photosystem II: The Oxygen Evolving System of Photosynthesis. In: C. Sybesma (ed.) **Advances in Photosynthesis Research,** Vol. 1, Martinus Nijhoff/Dr. W. Junk Publishers, Den Haag, pp. 227-238.

[220] Govindjee, [G.], H.Y. Nakatani, A.W. Rutherford, and Y. Inoue (1984) Evidence from Thermoluminescence for Bicarbonate Action on the Recombination Reactions Involving the Secondary Quinone Electron Acceptor of Photosystem II. **Biochim. Biophys. Acta** 766: 416-423.

[221] McCain, D.C., T.C. Selig, [G.] Govindjee, and J.L. Markley (1984) Some Plant Leaves have Orientation-Dependent EPR and NMR Spectra. **Proc. Natl. Acad. Sci. USA.** 81: 748-752.

[222] Robinson, H.H., J.J. Eaton-Rye, J.J.S. van Rensen, and {G.] Govindjee (1984) The Effects of Bicarbonate Depletion and Formate Incubation on the Kinetics of Oxidation-

Reduction Reactions of the Photosystem II Quinone Acceptor Complex. **Zeit. f. Naturforschung** 39C: 382-385.

[223] Rutherford, A.W., [G.] Govindjee, and Y. Inoue (1984a) Charge Accumulation and Photochemistry in Leaves Studied by Thermoluminescence and Delayed Light Emission. **Proc. Natl. Acad. Sci. USA** 81: 1107-1111.

[224] Rutherford, A.W., [G.] Govindjee, and Y. Inoue (1984b) Thermoluminescence as a Probe of Photosystem II in Leaves. In: C. Sybesma (ed.) **Advances in Photosynthesis Research,** Martinus Nijhoff/Dr. W. Junk Publishers, Den Haag, pp. 261-264.

[225] Sane, P.V., {G.] Govindjee, T.S. Desai, and V.G. Tatake (1984a) Characterization of Glow Peaks of Chloroplast Membranes: III. Effects of Bicarbonate Depletion on Peaks I and II Associated with Photosystem II. **Ind. J. Experimental Biol. 22**: 267-269.

[226] Sane, P.V., T.S. Desai, V. G. Tatake, and {G.] Govindjee (1984b) Heat-induced Reversible Increase in Photosystem I Emission in Algae, Leaves and Chloroplasts: Spectra, Activities, and Relation to State Changes. **Photosynthetica** 18: 439-444.

[227] Spalding, M.H., C. Critchley, {G.] Govindjee, and W.L. Ogren (1984) Influence of Carbon Dioxide Concentration During Growth on Fluorescence Induction Characteristics of the Green Alga *Chlamydomonas reinhardtii*. **Photosynth. Res.** 5: 169-176.

[228] Coleman, W., and [G.] Govindjee (1985) The Role of Chloride in Oxygen Evolution. In: **Proceedings of the 16th FEBS Congress,** Part B. VNU Science Press, Utrecht, Netherlands, pp. 21-28.

[229] Govindjee, [G.] , H. Koike, and Y. Inoue (1985a) Thermoluminiscence and Oxygen Evolution from a Thermophilic Blue-green Alga Obtained After Single-turnover Light Flashes. **Photochem. Photobiol.** 42: 579-585.

[230] Govindjee, [G.], T. Kambara, and W. Coleman (1985b) The Electron Donor Side of Photosystem II: The Oxygen Evolving Complex. **Photochem. Photobiol.** 42: 187-210.

[231] Govindjee, [G.], J.J. Eaton-Rye, D.J. Blubaugh, and W. Coleman (1985c) Action of Bicarbonate and Chloride Anions on Electron Transport in Thylakoid Membranes. In: **Proceedings of Ion Interactions in Energy Transport Systems.** Nuclear Research Center Demokritos, Athens, Greece, pp. 75-80.

[232] Kambara, T., and [G.] Govindjee (1985) Molecular Mechanism of Water Oxidation in Photosynthesis Based on the Functioning of Manganese in Two Different Environments. **Proc. Natl Acad. Sci. USA** 82: 6119-6123.

[233] Renger, G., and [G.] Govindjee (1985) The Mechanism of Photosynthetic Water Oxidation. **Photosynth. Res.** 6: 33-55.

[234] Blubaugh, D.J., and [G.] Govindjee (1986) Bicarbonate, not CO_2, is the Species Required for the Stimulation of Photosystem II Electron Transport. **Biochim. Biophys. Acta** 848: 147-151.

[235] Eaton-Rye, J.J., D.J. Blubaugh, and [G.] Govindjee (1986) Action of Bicarbonate on Photosynthetic Electron Transport in the Presence or Absence of Inhibitory Anions. In: **Ion Interactions in Energy Transfer Biomembranes** (G.C. Papageorgiou, J. Barber and S. Papa, eds.). Plenum Press, New York, pp. 263-278.

[236] Govindjee, [G.] (1986a) Publications of Warren L. Butler[#] on Photosynthesis. **Photosynth. Res.** 10: 151-159.

[237] Govindjee, [G.] (1986b) Mechanism of Oxygen Evolution in Photosynthesis (translated into Russian). (**Soviet) Journal of D.I. Mendeleeva Chemical Society**. 31: 514-524.

[238] Govindjee, [G.], and J.J. Eaton-Rye (1986) Electron Transfer through Photosystem II Acceptors: Interactions with Anions. **Photosynth. Res.** 10: 365-379.

[239] Govindjee, [G.], and K. Satoh (1986) Fluorescence Properties of Chlorophyll b-and Chlorophyll c-containing Algae. In: **Light Emission by Plants and Bacteria** (Govindjee et al. eds.). Academic Press, Orlando, pp. 497-537.

[240] Govindjee, [G.], J. Amesz, and D.C. Fork (eds.) (1986a) **Light Emission by Plants and Bacteria**. Academic Press, Orlando.

[241] Padhye, S., T.Kambara, D.N. Hendrickson, and [G.] Govindjee (1986b) Manganese-histidine Cluster as the Functional Center of the Water Oxidation Complex in Photosynthesis. **Photosynth. Res.** 9: 103-112.

[242] Coleman, W.J., and [G.] Govindjee (1987a) A Model for the Mechanism of Chloride Activation of Oxygen Evolution in Photosystem II. **Photosynth. Res**. 13: 199-223.

[243] Coleman, W. J., and [G.] Govindjee (1987b) Applications of Cl NMR to the Study of Chloride-binding in the Oxygen-evolving Complex of Photosystem II. **Current Trends in Life Sciences, XIII Biomembranes: Structure, Biogenesis and Transport.** Today and Tomorrow's Printers and Publishers, New Delhi, pp. 215-220.

[244] Coleman, W.J., [G.] Govindjee, and H.S. Gutowsky (1987a) Cl NMR Measurement of Chloride Binding to the Oxygen-Evolving Complex of Spinach Photosystem II. **Biochim. Biophys. Acta** 894: 443-452.

[245] Coleman, W.J., [G.] Govindjee, and H.S. Gutowsky (1987b) Involvement of Ca [2+] in Cl[-] Binding to the Oxygen Evolving Complex of Photosystem II. **Progress in Photosynth Res.** 1: 629-632.

[246] Coleman, W.J., [G.] Govindjee, and H.S. Gutowsky (1987c) The Location of the Chloride Binding Sites in the Oxygen Evolving Complex of Spinach Photosytem II. **Biochim. Biophys. Acta** 894: 453-459.

[247] Eaton-Rye, J.J., and [G.] Govindjee (1987) The Effect of pH and Flash Frequency on Electron Transfer Through the Quinone Acceptor Complex of PSII in Bicarbonate-depleted or Anion-inhibited Thylakoid Membranes. **Progress in Photosynth. Res.** 2: 433-436.

[248] Govindjee, [G.] (1987a) (editorial) Our editors. **Photosynth. Res.** 13: 275-284.
[249] Govindjee, [G.] (1987b) (editorial) Symbols, System International (SI) Units, Abbreviations, Conversion Factors and Special Instructions to be Used in Photosynthesis Research. **Photosynth. Res.** 11: 191-199.

[250] Govindjee, [G.], and J.J. Eaton-Rye (1987) (Book Review) D.O. Hall and K.K. Rao: Photosynthesis. **Photosynth. Res.** 13: 95-98.

[251] Govindjee, [G.], J. Barber, W. A. Cramer, J.H.C. Goedheer, J. Lavorel and R. Marcelle and B. Zilinskas (editors) (1987a) Excitation Energy and Electron Transfer in Photosynthesis. Reprinted in: **Photosynthesis Research** Vol. 10. Martinus Nijhoff/Dr. W. Junk Publishers, the Netherlands. [Dedicated to Warren Butler]

[252] Govindjee, [G.], R. Govindjee, and R. Shopes (1987b) **Photosynthesis: Plant Photosynthesis and Bacterial Photosynthesis.** **McGraw Hill Encyclopedia of Science and Technology,** 6th edition. Volume 13: 430-444.

[253] Ort, D.R., and [G.] Govindjee (1987) Introduction to Oxygenic Photosynthesis. In: **Photosynthesis, Vol. I.** (translated into Russian by A.O. Ganago, E.V. Ganago, and A.A. Melkosernova; Edited by A.A. Krasnovsky and F.F. Litvin). **Mir Publishers**, Moscow, USSR. pp. 8-89.

[254] Wasielewski, M.R., J.M. Fenton, and [G.] Govindjee (1987) The Rate of Formation of P700 Ao Photosystem I Particles from Spinach as Measured by Picosecond Transient Absorption Spectroscopy. **Photosynth. Res.** 12: 181-190.

[255] Blubaugh, D.J., and [G.] Govindjee (1988a) The Molecular Mechanism of the Bicarbonate Effect at the Plastoquinone Reductase Site of Photosynthesis. **Photosynth. Res.** 19: 85-128.

[256] Blubaugh, D.J., and [G.] Govindjee (1988b) Kinetics of the Bicarbonate Effect and the Number of Bicarbonate Binding Sites in Thylakoid Membranes. **Biochim. Biophys. Acta** 936: 208-214.

[257] Blubaugh, D. J., and [G.] Govindjee (1988c) Sites of Inhibition by Disulfiram in Thylakoid Membranes. **Plant Physiol.** 88: 1021-1025.

[258] Cao, J., and [G.] Govindjee (1988) Bicarbonate Effect on Electron Flow in Cyanobacterium *Synechocystis PCC 6803*. **Photosynth. Res.** 19: 277-285.

[259] Coleman, W.J., [G.] Govindjee, and H. S. Gutowsky (1988) The Effect of Chloride on the Thermal Inactivation of Oxygen Evolution. **Photosynth. Res.** 16: 261-276.

[260] Eaton-Rye, J.J., and [G.] Govindjee (1988a) Electron Transfer through the Quinone Acceptor Complex of Photosystem II in Bicarbonate-Depleted Spinach Thylakoid Membranes as a Function of Actinic Flash Number and Frequency. **Biochim. Biophys. Acta** 935: 237-247.

[261] Eaton-Rye, J.J., and [G.] Govindjee (1988) Electron Transfer through the Quinone Acceptor Complex of Photosystem II after one or two Actinic Flashes in Bicarbonate-depleted Spinach Thylakoid Membranes. **Biochim. Biophys. Acta** 935: 248-257.

[262] Garab, Gy., Zs. Rozsa and [G.] Govindjee (1988) Carbon Dioxide affects Charge Accumulation in Leaves. Measurements by Thermoluminescence. **Naturwissenschaften** 75: 517-519.

[263] Govindjee, [G.] (1988) The Discovery of Chlorophyll-protein Complex by Emil L. Smith during 1937-1941. **Photosynth. Res.** 16: 285-289.

[264] Xu, C., L. C. Blair, S.M.D. Rogers, [G.] Govindjee, and J. M. Widholm (1988) Characteristics of Five New Photoautotropic Suspension Cultures Including Two Amaranthus species and a Cotton Strain Growing on Ambient CO_2 Levels. **Plant Physiol.** 88: 1297-1302.

[265] Demeter, S., and , [G.] Govindjee (1989) Thermoluminescence from Plants. **Physiol. Plant.** 75: 121-130.

[266] Govindjee, [G.] (1989a) My Association with Stacey French. In: G.E. Briggs (ed.) Photosynthesis. **Alan Liss Publishers, NY**. pp. 1-3.

[267] Govindjee , [G.] (1989b) The Role of Chloride in Oxygen Evolution. In: **Photosynthesis: Molecular Biology and Bioenergetics** (G.S. Singhal, J. Barber, R. Dilley, Govindjee, R. Haselkorn and P. Mohanty, eds.) Narosa Publishers, New Delhi, pp. 147-162.

[268] Govindjee , [G.], and P. H. Homann (1989) Function of Chloride in Water Oxidation in Photosynthesis. In: **Highlights of Modern Biochemistry (**A. Kotyk, J. Skoda, V. Paces and V. Kostka eds.). VSP International Science Publishers Ziest, pp. 933-960.

[**269]** Govindjee , [G.], and M. R. Wasielewski (1989) Photosystem II: From a Femtosecond to a Millisecond. (G.E. Briggs, ed.) **Photosynthesis. Alan Liss Publishers, NY**, pp. 71-103.

[270] Govindjee, [G.], H. Robinson, A. R. Crofts, and J. J. S. Van Rensen (1989a) Bicarbonate Does not Influence Electron Transfer to the Reaction Center Chlorophyll *a* of Photosystem II: Measurements by Chlorophyll *a* Fluoresence Rise in Microseconds. **Naturwissenschaften** 76: 119-121.

[271] Govindjee, [G.], H.J. Bohnert, W. Bottomley, D.A. Bryant, J.E. Mullet, W.L. Ogren, H. Pakrasi, and C.R. Somerville (eds.) (1989b) Molecular Biology of Photosynthesis. 815 pages. **Kluwer Academic Publishers,** Dordrecht, Netherlands.

[272] Shopes, R.J., D. Blubaugh, C. A. Wraight, and , [G.] Govindjee (1989) Absence of a Bicarbonate-depletion Effect in Electron Transfer Between Quinones in Chromatophores and Reaction Centers of *Rhodobacter sphaeroides*. **Biochim. Biophys. Acta** 974: 114-118.

[273] Wasielewski, M.R., D. G. Johnson, M. Seibert, and , [G.] Govindjee (1989a) Determination of the Primary Charge Separation Rate in Isolated Photosystem II Reaction Centers with 500 Femtosecond Time Resolution. **Proc. Natl. Acad. Sci. USA** 86: 524-548.

[274] Wasielewski, M.R., D. G. Johnson, , [G.] Govindjee, C. Preston and M. Seibert (1989b) Determination of the Primary Charge Separation Rate in Photosystem II Reaction Centers at 15K. **Photosynth. Res.** 22: 89-99.

[275] Xu, C., S.M.D. Rogers, C. Goldstein, J. M. Widholm, and , [G.] Govindjee (1989) Fluorescence Characterestics of Photoautrophic Soybean Cells. **Photosynth. Res.** 21: 93-106.

1990s

[276] Cao, J., and [G.] Govindjee (1990a) Chlorophyll *a* Fluorescence Transient as an Indicator of Active and Inactive Photosystem II in Thylakoid Membranes. **Biochim. Biophys. Acta** 1015: 180-188.

[277] Cao, J., and [G.] Govindjee (1990b) Anion Effects on the Electron Acceptor Side of Photosystem II in a Transformable Cyanobacterium *Synechocystis 6803*. In: **Current Research in Photosynthesis.** (M. Baltscheffsky, ed.). I.2: 515-518. Kluwer Acad. Publ., Dordrecht, Netherlands.

[278] DeVault, D., and [G.] Govindjee (1990) Photosynthetic Glow Peaks and their Relationship with the Free Energy Changes. **Photosynth. Res.** 24 : 175-181.

[279] El-Shintinawy, F., and [G.] Govindjee (1990a) Bicarbonate Effect in Leaf Discs from Spinach. **Photosynth. Res.** 24: 189-200.

[280] El-Shintinawy, F., and [G.] Govindjee (1990b) Reversible Anion Interactions Between Q_A and Q_B and Between Z (or D) and Q_A in leaves and Green Algae. In: **Current Research in Photosyntheses (**M. Baltscheffsky, ed.). I.2: 511-518. Kluwer Academic Publishers, Dordrecht, Netherlands.

[281] El-Shintinawy, F., C. Xu and [G.] Govindjee (1990) A Dual Bicarbonate-Reversible Formate Effect in *Chlamydomonas* cells. **J. Plant Physiol.** 136: 421-428.

[282] Govindjee, [G.] (1990) Photosystem II Heterogeneity: the Acceptor Side. **Photosynth. Res.** 25: 151-160.

[283] Govindjee, [G.], and W. Coleman (1990) How Plants Make Oxygen. **Scientific American** 262: 50-58.

[284] Govindjee, [G.], C. Vernotte, B. Peteri, C. Astier, and A-L. Etienne (1990a) Differential Sensitivity of Bicarbonate-reversible Formate Effects on Herbicide-resistant Mutants of *Synechocystis 6714*. **FEBS Lett.** 267: 273-276.

[285] Govindjee, [G.], M. Van de Ven, C. Preston, M. Seibert, and E. Gratton (1990b) Chlorophyll *a* Fluorescence Lifetime Distributions in Open and Closed Photosystem II Reaction Center Preparations: Analysis by Multifrequency Phase Fluorometry. **Biochim. Biophys. Acta** 1015: 173-179.

[286] Govindjee, [G.], M. Van de Ven, C. Preston, M. Seibert, and E. Gratton (1990c) Recombinational Light Emission from Photosystem II Reaction Centers. In: **Current Research in Photosynthesis** (M. Baltscheffsky, ed.). I.2: 459-462. Kluwer Academic Publishers, Dordrecht, Netherlands.

[287] Shim, H., J. Cao, [G.] Govindjee, and P. G. Debrunner (1990) Purification of Highly Active Oxygen-Evolving Photosystem II from *Chlamydomonas reinhardtii*. **Photosynth. Res.** 26: 223-228.

[288] Wasielewski, M.R., D.G. Johnson, [G.] Govindjee, C. Preston and M. Seibert (1990) The Primary Charge-Separation Rate in Isolated Photosystem II Reaction Center Complex.

In: **Current Research in Photosynthesis**. (M. Baltscheffsky ed.). I.2: 451-454. Kluwer Academic Publishers, Dordrecht, Netherlands.

[289] Xu, C., J. Auger, and [G.] Govindjee (1990) Chlorophyll a Fluorescence Measurements of Isolated Spinach Thylakoids using Single-Laser-based Flow Cytometry. **Cytometry** 11: 349-358.

[290] Cao, J., W.F.J. Vermaas, and [G.] Govindjee (1991) Arginine Residues in the D2 Polypeptide May Stabilize Bicarbonate Binding in Photosystem II of *Synechocystis sp. PCC 6803.* **Biochim. Biophys. Acta** 1059: 171-180.

[291] Govindjee [G.] (1991) A Unique Role of CO_2 in Photosystem II. In: **Impact of Global Climatic Changes on Photosynthesis and Plant Productivity** (Y. Abrol, P. N. Wattal, A. Gnanam, [G.] Govindjee, D. R. Ort and A. H. Teramura, eds.). Oxford/IBH Private Ltd, New Delhi, pp. 349-369.

[292] Govindjee, [G.] , H.G. Weger, D.H. Turpin, J.J.S. van Rensen, O.J. de Vos, and J.F.H. Snel (1991) Formate Releases Carbon di-oxide/Bicarbonate from Thylakoid Membranes: Measurements by Mass Spectroscopy and Infrared Gas Analyzer. **Naturwissenscaften** 78: 168-170.

[293] Govindjee, [G.], B. Schwarz, J-D. Rochaix and R.J. Strasser (1991) The Herbicide-resistant D1 Mutant L275F of *Chlamydomonas reinhardtii* Fails to Show the Bicarbonate-reversible Formate Effect on Chlorophyll *a* Fluorescence Transients. **Photosynth. Res.** 27: 199-208.

[294] Strasser, R.J., and [G.] Govindjee (1991) The Fo and the O-J-I-P Fluorescence Rise in Higher Plants and Algae. In: **Regulation of Chloroplast Biogenesis** (Ed., J.H. Argyroudi-Akoyunoglou) Plenum Press, New York. pp 423-426.

[295] Xu, C., S. Taoka, A. R. Crofts, and [G.] Govindjee (1991) Kinetic Characteristics of Formate/Formic Acid Binding at the Plastoquinone Reductase Site in Spinach Thylakoids. **Biochim. Biophys. Acta** 1098: 32-40.

[296] Cao, J., N. Ohad, J. Hirschberg, J. Xiong, and [G.] Govindjee (1992) Binding Affinity of Bicarbonate and Formate in Herbicide-resistant D1 Mutants of *Synechococcus sp. PCC 7942.* **Photosynth. Res.** 34: 397-408.

[297] Govindjee, [G.] (1992) What About the Bicarbonate Effect in Photosystem II? In: **Research in Photosynthesis** (N. Murata, ed.). Vol. II: 143-146. Kluwer Academic Publishers, Dordrecht, Netherlands.

[298] Govindjee, [G.], P. Eggenberg, K. Pfister, and R. J. Strasser (1992) Chlorophyll *a* Fluorescence Yield Decay in Herbicide-resistant D1 mutants of *Chlamydomonas reinhardtii* and the Formate Effect. **Biochim. Biophys. Acta** 1101: 353-358

[299] Seibert, M., S. Toon, [G.] Govindjee, M. P. O'Neil, and M. R. Wasielewski (1992) Primary Charge Separation in Isolated Photosystem II Reaction Centers. In: **Research in Photosynthesis** (N. Murata, ed.). II: 41-44. Kluwer Academic Publishers, Dordrecht, Netherlands.

[300] Strasser, R,J., and [G.] Govindjee (1992) On the O-J-I-P Fluorescence Transient in Leaves and D1 Mutants of *Chlamydomonas reinhardtii*. In: **Research in Photosynthesis** (N. Murata, ed.). Vol. II: 29-32. Kluwer Acadaemic Publishers, Dordrecht, Netherlands.

[301] Strasser, R.J., P. Eggenberg, K. Pfister and [G.] Govindjee (1992) An Equilibrium Model for Electron Transfer in Photostystem II Acceptor Complex: An Application to *Chlamydomonas reinhardtii* cells of D1 Mutants and Those Treated with Formate. **Archives de Sceance, Geneve** 45: 207-224.

[302] Wang, X., J. Cao, P. Maroti, H. U. Stilz, U. Finkele, C. Lauterwasse, W. Zinth, D. Oesterhelt, [G.] Govindjee, and C. A. Wraight (1992) Is Bicarbonate in Photosystem II the equivalent of the Glutamate Ligand to the Iron Atom in Bacterial Reaction Centers? **Biochim. Biophys. Acta** 1100: 1-8.

[303] Xu, C., Y. Zhu, and [G.] Govindjee (1992) Differential Inhibition and Rephasing of Photosystem II Electron Acceptor Side by Monohalogenated Acetates of Different Hydrophobicity. **Zeit. f. Naturforschung** 47C: 121-126.

[304] Govindjee, [G.] (1993) Bicarbonate-reversible Inhibition of Plastoquinone Reductase in Photosystem II. **Zeit. f. Naturforschung** 48c: 251-258.

[305] Govindjee, [G.], and W. Coleman (1993) Oxidation of Water to Molecular Oxygen. In: **Photosynthesis: Photoreactions to Productivity (**Y. Abrol, P. Mohanty and Govindjee, eds.). Oxford/IBH Private Ltd. New Delhi, pp. 83-108.

[306] Govindjee, [G.], and G. Renger (1993) In Appreciation of Bessel Kok. **Photosynth. Res.** 38: 211-213.

[307] Govindjee, [G.], and J.J.S. Van Rensen (1993) Photosystem II Reaction Centers and Bicarbonate. In: **Photosynthetic Reaction Centers,** Volume I. (J. Deisenhofer and J. R. Norris, eds.). Academic Press, Orlando, pp. 357-389.

[308] Govindjee, [G.], M. Van de Ven, J. Cao, C. Royer, and E. Gratton (1993) Multifrequency Cross-correlation Phase Fluorometry of Chlorophyll *a* Fluorescence in Thylakoid Membranes and PSII-enriched Membranes. **Photochem. Photobiol.** 58: 437-444.

[309] Govindjee, [G.], J.F.H. Snel, O. J. deVos, and J.J.S. Van Rensen (1993) Antagonistic Effects of Light I and II on Chlorophyll a fluorescence yield and P700 turnover as monitors of Carbon Dioxide depletion in intact algal and cyanobacterial cells. **Physiol. Plant.** 89: 143-148.

[310] . Naber, D., J.J.S. Van Rensen, and [G.] Govindjee (1993) High Misses after Odd Flashes in Thoroughly Dark-adapted Thylakoids from Pea and *Chenopodium album*. **Photosynth. Res.** 38: 309-314.

[311] Renger, G., and [G.] Govindjee (Editors) (1993) How Plants and Cyanobacteria Make Oxygen: 25 Years of Period Four Oscillations. **Photosynth. Res.** 38: 211-468.

[312] Shinkarev, V.P., and [G.] Govindjee (1993) Insight into the Relationship of Chlorophyll *a* Fluorescence Yield to the Concentration of Its Natural Quenchers in Oxygenic Photosynthesis. **Proc. Natl. Acad. Sci. USA** 90: 7466-7469.

[313] Kramer, D.M., R.A. Roffey, [G.] Govindjee and R.T. Sayre (1994) The At thermoluminescence band from *Chlamydomonas reinhardtii* and the effects of mutagenesis of histidine residues on the donor side of the photosystem II D1 polypeptide. **Biochim. Biophys. Acta** 1185: 228-237.

[314] Roffey, R.A., D.M. Kramer, [G.] Govindjee and R.T. Sayre (1994) Lumenal side histidine mutations in the D1 protein of photosystem II affect donor side electron transfer in *Chlamydomonas reinhardtii*. **Biochim. Biophys. Acta** 1185: 257-270.

[315] Wiederrecht, G.P., M. Seibert, [G.] Govindjee and M.R. Wasielewski (1994) Femtosecond dichroism studies of isolated photosystem II reaction centers. P**roc. Nat. Acad. Sci. USA** 91: 8999-9003.

---

[316] deVos, O.J., J.J.S. van Rensen,and [G.] Govindjee (1995) Photosystem II electron flow requires bound bicarbonate. **Photosynthesis: from Light to Biosphere** (Ed. P. Mathis), Kluwer Academic Publishers, Netherlands. Volume I, pp. 567-570.

[317] Gilmore, A.M., T. L. Hazlett and [G.] Govindjee (1995a) Xanthophyll cycle-dependent quenching of photosystem II chlorophyll*a* fluorescence: formation of a quenching complex with a short fluorescence lifetime. **Proc. Nat. Acad. Sci. USA** 92: 2273-2277.

[318] Gilmore, A.M., T.L. Hazlett, and [G.] Govindjee (1995b) Xanthophyll cycle dependent non-photochemical quenching of chlorophyll a fluorescence at low physiological temperatures. **Photosynthesis: from Light to Biosphere** (Ed. P. Mathis), Kluwer Academic Publishers, Netherlands. Volume IV, pp.825-828.

[319] Govindjee, [G.] (1995) Sixty-three years since Kautsky: chlorophyll*a*fluorescence. **Aust. J. of Plant Physiol.** 22:131-160.

[320] Greenfield , S.R., M. Wasielewski, [G.] Govindjee and M. Seibert (1995) Femtosecond spectroscopy of PSII reaction centers: new results. **Photosynthesis: from Light to Biosphere** (Ed. P. Mathis), Kluwer Academic Publishers, Netherlands.Volume I, pp. 663-666.

[321] Halls , S., S.R. Downie, and [G.] Govindjee (1995) Phylogenetic analysis of photosystems I and II. **Photosynthesis: from Light to Biosphere** (Ed.P. Mathis), Kluwer Academic Publishers, Netherlands. Volume I, pp. 955-958.

[322] Maenpaa, P., T. Miranda, E. Tyystjarvi, T. Tyystjarvi, [G.] Govindjee, J-M. Ducruet, A.-L. Etienne and D. Kirilovsky (1995) A mutation in the D-de loop of D1 modifies the stability of the $S_2Q_A^-$ and $S_2Q_B^-$ states in photosystem II. **Plant Physiol.** 107: 187-197.

[323] Srivastava, A., R.J. Strasser and [G.] Govindjee (1995a) Differential effects of dimethylbenzoquinone and dichlorobenzoquinone on chlorophyll fluorescencetransient in spinach thylakoids. **J. Photochem. and Photobiol. B: Biology** 31:163-169.

[324] Srivastava, A., Strasser, R.J. and [G.] Govindjee (1995b) Polyphasic rise of chlorophyll*a* fluorescence in herbicide-resistant D1 mutants of*Chlamydomonas reinhardtii*. **Photosynth. Res.** 43:131-141.

[325] Stirbet, A.D., [G.] Govindjee,. B.J. Strasser and R.J. Strasser (1995)Numerical simulation of chlorophyll a fluorescence induction in plants. P. Mathis (editor) **Photosynthesis: from Light to Biosphere.** Kluwer Academic Publishers. Netherlands. Volume II, pp. 919-922.

[326] Strasser, R.J., A. Srivastava and [G.] Govindjee (1995) Polyphasic chlorophyll *a* fluorescence transient in plants and cyanobacteria. **Photochem. and Photobiol.** 61: 32-42.

[327] Vernotte, C., J.-M. Briantais, C. Astier and [G.] Govindjee (1995) Differential effects of formate in single and double mutants of D1 in *Synechocystis species PCC 6714*. **Biochim. Biophys. Acta**1229: 296-301.

[328] Whitmarsh, J., and [G.] Govindjee (1995) Photosynthesis. **Encyclopedia for Applied Physics** 13: 513-532.

[329] Xiong , J., R. Hutchison , R. Sayre, and [G.] Govindjee (1995) Characterization of a site-directed mutant (D1-arginine 269-glycine) of Chlamydomonas reinhardtii. **Photosynthesis: from Light to Biosphere**, (Ed. P. Mathis). Kluwer Academic Publishers. Netherlands. Volume I, pp. 575-578.

[330] Xu,C., R. Li, Y. Shen and [G.] Govindjee (1995) The sequential release of three extrinsic polypeptides in the PS II particles by high concentrations of trichloroacetates. **Naturwissenscfaten** 82: 477-478.

[331] Gilmore, A.M., T.L. Hazlett, P.G. Debrunner and [G.] Govindjee (1996a) Comparative time-resolved photosystem II chlorophyll a fluorescence analyses reveal distinctive

differences between photoinhibitory reaction center damage and xanthophyll cycle dependent energy dissipation. **Photochem. and Photobiol.** 64: 552-563.

[332] Gilmore, A.M., T.L. Hazlett, P.G. Debrunner and [G.] Govindjee (1996b) Photosystem II chlorophyll a fluorescence lifetimes and intensity are independent of the antenna size differences between barley wild-type and chlorina mutants:Photochemical quenching and xanthophyll cycle dependent non-photochemical quenching of fluorescence. **Photosynth. Res.** 48:171-187.

[333] Govindjee, [G.] , R.S. Knox and J. Amesz (1996) Editorial on "Photosynthetic Reaction Centers", a special issue of "Photosynthesis Research" dedicated to William A. Arnold. Volume 48 (Numbers 1 and 2, May 1996: 1-319**. Photosynth. Res.** 48:1-2.

[334] Greenfield, S.R., M. Seibert, [G.]Govindjee and M.R. Wasielewski (1996) Wavelength and intensity dependent primary photochemistry of isolated photosystem II reaction centers at 5 C. **Chemical Physics** 210: 279-295.

[335] Hutchison, R.S. , J. Xiong, R.T. Sayre and [G.]Govindjee (1996) Construction and characterization of a photosystem II D1 mutant (arginine-269-glycine) of*Chlamydomonas reinhardtii*. **Biochim. Biophys. Acta** 1277: 83-92.

[336] Vass, I., and [G.]Govindjee (1996) Thermoluminescence from the photosynthetic apparatus. **Photosynth. Res.** 48:117-126.

[337] Xiong , J., S. Subramaniam and [G.]Govindjee (1996)Modeling of the D1/D2proteins and cofactors of the photosystem II reaction center: Implications for herbicide and bicarbonate binding. **Protein Science** 5: 2054-2073.

[338] Govindjee, [G.], C. Xu and J.J.S. van Rensen (1997) On the requirement of bound bicarbonate for photosystem II. **Zeit. f. Naturforschung** 52C: 24-32.

[339] Govindjee, [G.], C. Xu, G. Schansker and J.J.S. van Rensen (1997) Chloroacetates as inhibitors of photosystem II: effects on electron acceptor side. **J. Photochem. and Photobiol. B: Biology.** 37: 107-117.

[340] Greenfield, S.R. , M. Seibert, [G.]Govindjee and M.R. Wasielewski (1997)Direct measurement of the effective rate constant for primary charge separation in isolated photosystem II reaction centers. **J. Phys. Chem.** *B.*101: 2251-2255.

[341] Li, R., N. Lin, C. Xu, Y. Shen and [G.]Govindjee (1997) Trichloroacetate affects redox active tyrosine 160 of the D2 polypeptide of the photosystem II core. **Zeit. f. Naturforschung** 52 C: 782-788.

[342] Mulo, P., T. Tyystjarvi, E. Tyystjarvi, [G.]Govindjee; P. Maenpaa and E-M. Aro (1997) Mutagenesis of the D-E loop of photosystem II reaction centre protein D1. Function and assembly of photosystem II. **Plant Molecular Biology** 33: 1059-1071.

[343] Shinkarev, V.P., C. Xu, [G.]Govindjee and C.A. Wraight (1997) Kinetics of the oxygen evolution step in plants determined from flash-induced chlorophyll a fluorescence. **Photosynth. Res.** 51: 43-49.

[344] Xiong, J., R.S. Hutchison, R.T. Sayre and [G.]Govindjee (1997)Modification of the photosystem II acceptor side function in a D1 mutant(arginine-269-glycine) of *Chlamydomonas reinhardtii.* **Biochim. Biophys. Acta** 1322: 60-76.

[345] Yu, H., X.-H.Zheng, , K.-B. Li, , H.-Y. Song, , C.-H. Xu and [G.]Govindjee (1997)Comparison of different effects of chloroacetates on electron transport in PS II and in the reaction center of Rb.sphaeroides 601. **Acta Biochimica et Biophysica Sinica** 29: 36-43.

[346] Gilmore, A.M., V.P. Shinkarev, T.L. Hazlett and [G.]Govindjee (1998) Quantitative analysis of the effects of intrathylakoid pH and the xanthophyll cycle pigments on chlorophyll a fluorescence lifetime distributions and intensity in thylakoids. **Biochemistry** 37: 13582-13593.

[347] Gilmore , A.M., V.P. Shinkarev , T.L. Hazlett and [G.]Govindjee (1998)Quantitative analysis of intrathylakoid pH and xanthophyll cycle effects on PSII fluorescence lifetime distributions and intensity. **Photosynthesis: Mechanisms and Effects** (Ed. G. Garab). Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 2297-2300.

[348] Govindjee, [G.] (1998) Book Review: of "Wild A and Ball R (1997) Photosynthetic unit and photosystems- history of research and current views, Backhuys." **Annals of Botany** 81 (6) 793-794.

[349] Govindjee; [G.], A. Srivastava and R.J. Strasser (1998) The "oxygen clock" in greening pea leaves as probed by the period four oscillations in the fluorescence intensity at 50 micro-seconds and 2 milli-seconds after pre-flashing during the OJIP transient. **Photosynthesis: Mechanisms and Effects** (Ed.G. Garab). Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 1467-1450.

[350] Jajoo , A., S. Bharti and [G.]Govindjee (1998a) Anion-induced state changes in spinach thylakoid membranes. **FEBS Lett.** 434: 193-196.

[351] Jajoo , A., S. Bharti and [G.]Govindjee (1998b) Inorganic anions induce state changes in spinach thylakoid membranes.**Photosynthesis: Mechanisms and Effects** (Ed. G. Garab). Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 1227-1230.

[352] Keranen , M., P. Mulo , E.-M. Aro , [G.]Govindjee and E. Tyystjarvi (1998)Thermoluminescence B and Q bands are at the same temperature in an autotrophic and a heterotrophic D1 protein mutant of *Synechocystis sp. PCC 6803*. **Photosynthesis: Mechanisms and Effects**. (Ed. G. Garab). Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 1145-1148. [*Check it out]*

[353] Orr, L., and [G.]Govindjee (1998)Photosynthesis and the World Wide Web. **Photosynthesis:Mechanisms and Effects**. (Ed. G. Garab). Kluwer Academic Publishers. Dordrecht, Netherlands.pp. 4387-4400.

[354] Papageorgiou, G.C., [G.]Govindjee, R. Govindjee , M. Mimuro , K. Stamatakis, A. Alygizaki-Zorba and N. Murata (1998) Temperature and lipid unsaturation effects on plasma and thylakoid membranes of Synechocystis sp PCC6803. **Photosynthesis: Mechanisms and Effects.** (Ed. G. Garab), Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 2485-2488.

[355] Spilotro , P.J., S.C. Patil and [G.]Govindjee (1998) Chlorophyll*a*fluorescence measurements of an*Arabidopsis* mutant, altered in the gamma-subunit of the ATP synthase, display changes in non-photochemical quenching. **Photosynthesis: Mechanisms and**

Effects. (Ed. G. Garab). Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 2253-2256.

[356] Stirbet, A., [G.]Govindjee; B. Strasser and R. Strasser(1998) Chlorophyll *a* Fluorescence Induction in Higher Plants: Modelling and Numerical Simulation. **J. Theor. Biol.** 193: 131-151.

[357] Xiong, J., J. Minagawa, A.R. Crofts, and [G.]Govindjee (1998a)Loss of inhibition by formate in newly constructed Photosystem II D1 mutants, D1-R257E and D1-R257M, of *Chlamydomonas reinhardtii*. **Biochim. Biophys. Acta** 1365: 473-491.

[358] Xiong , J., S. Subramaniam and [G.]Govindjee (1998b) A knowledge-based three dimensional model of the Photosystem II reaction center of *Chlamydomonas reinhardtii*. **Photosynth. Res.**56:229-254.

[359] Xu , C., R. Li , C. Hou , X. Yu , Y. Yu , X. Zeng , Y. Shen and [G.]Govindjee (1998)On differences in accessibility and redox activity of D1-Y161 and D2-Y160 of PSII as probed by halogenated acetates. **Photosynthesis: Mechanisms and Effects** (Ed. G. Garab). Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 1181-1184.

---

[360] Gilmore, A. , and [G.] Govindjee (1999)How higher plants respond to excess light: Energy dissipation in Photosystem II. **Concepts in Photobiology: Photosynthesis and Photomorphogenesis.** Edited by G.S. Singhal, G. Renger, K-D. Irrgang, S. Sopory and Govindjee. Narosa Publishers/Kluwer Academic Publishers. pp. 513-548.

[361] Govindjee, [G.] (1999a) Carotenoids in Photosynthesis: An Historical Perspective. In: **The Photochemistry of Carotenoids,** Edited by H.A. Frank, A.J. Young, G. Britton and R.J. Cogdell. Kluwer Academic Publishers. Dordrecht, Netherlands. pp. 1-19. (Advances in Photosynthesis Series, Volume 8, Series Editor: Govindjee)

[362] Govindjee, [G.] (1999b) On the requirement of minimum number of four versus eight quanta of light for the evolution of one molecule of oxygen in photosynthesis: A historical note. **Photosynth. Res.** 59:249-254.

[363] Papageorgiou , G.C., [G.]Govindjee, R. Govindjee, M. Mimuro, K. Stamatakis, A. Alygizaki-Zorba and N. Murata (1999) Light- induced and osmotically-induced changes in chlorophyll a fluorescence in two *Synechocystic sp. PCC 6803* strains that differ in membrane lipid unsaturation. **Photosynth. Res.** 59:125-136.

[364] Renger, G., S.K. Sopory, G.S. Singhal, K-D. Irrgang, and [G.]Govindjee (1999) Introduction to Photobiology, Photosynthesis and Photomorphogenesis. **Concepts in Photobiology and Photomorphogenesis**. Pages 1-7. Narosa Publishers/ KluwerAcademic Publishers.

[365] Srivastava, A., R.J. Strasser,and [G.]Govindjee (1999) Greening of peas: parallel measurements of 77K emission spectra, OJIP chlorophyll*a* fluorescence transient, period four oscillation of the initial fluorescence level, delayed light emission, and P700. **Photosynthetica** 37(3): 365-392.

[366] van Rensen, J.J.S., C. Xu and [G.]Govindjee (1999) Role of bicarbonate in the photosystem II, the water-plastoquinone oxido-reductase of plant photosynthesis. **Physiologia Plant.** 105: 585-592.

[367] Whitmarsh, J., and [G.]Govindjee (1999)The Photosynthetic Process. Concepts in Photobiology: **Photosynthesis and Photomorphogenesis**. Edited by G.S.Singhal, G. Renger, K-D. Irrgang, S. Sopory and Govindjee. Narosa Publishers/Kluwer Academic Publishers. pp. 11-51.

2000s

[368] Chow, W.S., C. Funk, A. B. Hope and [G.]Govindjee (2000) Greening of intermittent light-grown bean plants in continuous light: Thylakoid components in relation to photosynthetic performance and capacity for photoprotection. **Indian Journal of Biochemistry and Biophysics** 37(6): 395-404. [Special Issue on "Photosynthesis", organized by Prasanna Mohanty and Parag Chitnis]

[369] Gilmore, A., S.S. Itoh and [G.]Govindjee (2000) Global spectral-kinetic analysis of room temperature Chlorophyll*a* fluorescence from light harvesting antenna mutants of barley. **Phil. Trans of Royal Soc. of London** *B*335: 1-14.

[370] Govindjee, [G.] (2000) Milestones in Photosynthesis Research. **Probing Photosynthesis.** Edited by M.Younis,U.Pathre and P.Mohanty. Taylor & Francis, UK. pp. 9-39.

[371] Govindjee [G.], and L. Nedbal (2000) Seeing is believing. **Photosynthetica** 38(4): 481-482.

[372] Holub, O., M.J. Seufferheld, C. Gohlke, [G.]Govindjee, and R.M. Clegg (2000) Fluorescence life-time imaging (FLI)- a new technique in photosynthesis research. **Photosynthetica** 38(4): 583-601.

[373] Yu, Y., X.J. Yu, J.Y. Ye, C.H.Xu, and [G.]Govindjee (2000) Trichloroacetate affects the EPR signal IIslow and signal I in the thylakoid of*Chlamydomonas reinhardtii*. **Chinese Science Bulletin** 45(23): 2162-2168.

F. 2001—2024 :Post Retirement Publications

[374] Govindjee, [G.] (2001a) Our greetings to Olle Bjorkman, Christopher Field, and Alexander Glazer. **Photosynth. Res.** 70:241-243.

[375] Govindjee, [G.] (2001b) Calvin and Hill prizes: 2001. **Photosynth. Res.** 70:325-328.

[376] Govindjee, [G.] (2001c) Lighting the path: a tribute to Robert Emerson (1903- 1959). PS2001 **Proceedings, 12th International congress on Photosynthesis,** Brisbane, CSIRO Publishing. link

[377] Orr, L., and [G.]Govindjee (2001) Photosynthesis and the Web: 2001. **Photosynth. Res.** 68:1-28.

[378] Ruiz, F.A., N. Marchesini,M.Seufferheld, [G.]Govindjee and R. Docampo (2001) The polyphosphate bodies of*Chlamydomonas reinhardtii* possess a proton pumping pyrophosphatase and are similar to acidocalcisomes. **Jour. Biol. Chem.**276 (49): 46196-46203.

[379] Strasser, R.J., G. Schansker, and [G.]Govindjee (2001) Simultaneous measurement of photosystem I and photosystem II probed by modulated transmission at 820 nm and by chlorophyll a fluorescence in the subms to second time range. PS2001 **Proceedings, 12th International congress on Photosynthesis**, Brisbane, CSIRO Publishing. link

[380] Whitmarsh, J., and [G.]Govindjee (2001a) Photosystem II. **Encyclopedia of Life Sciences.** McMillan Reference Ltd, London, UK.

[381] Whitmarsh, J., and [G.]Govindjee (2001b) Photosynthesis: Light Reactions and Plant Sciences. (ed. Richard Robinson). **Macmillan Reference, USA,** Detroit, MI, pp.33-140. SEE http://www.mlr.com, or call 1-800-877-GALE. link

[382] Yu, Y., R. Li, C. Xu, , K. Ruan, Y. Shen and [G.]Govindjee (2001) N-bromosccinimide modification of tryptophan 241 at the C-terminus of the manganese stabilizing protein of plant photosystem II influences its structure and function. **Physiol. Plant.** *111: 108-115.*

[383] Govindjee, [G.] (2002) A Role for a Light-harvesting Antenna Complex of Photosytem II in Photoprotection(Editorial). **Plant Cell** 14: 1663-1668.

[384] Govindjee, [G.], and H. Gest (2002) Editorial: Celebrating the historical highlights photosynthesis research. **Photosynth. Res.** 73: 1-6.

[385] Govindjee, [G.], and D. Krogmann (2002) A list of personal perspectives with selected quotations, list of tributes, historical notes, Nobel and Kettering wards, related to photosynthesis. **Photosynth. Res.** 73: 11-20.

[385] Govindjee, [G.], and M.J. Seufferheld (2002) Non-photochemical quenching of chlorophyll*a* fluorescence: Early history and characterization of two xanthophyll cycle mutants of Chlamydomonas reinhardtii. **Functional Plant Biology** 29: 1141-1155.

[386] Govindjee, [G.], and P. Spilotro (2002) An *Arabidopsis thaliana* mutant, altered in the g subunit of the ATP synthase, has a different pattern of intensity dependent changes in non-photochemical quenching and kinetics of the P- to- S fluorescence decay. **Functional Plant Biology** 29 (4),. 425-434.

[387] Govindjee, [G.], Z. Sestak, and W.R. Peters (2002) The early history of "Photosynthetica", "Photosynthesis Research", and their publishers. **Photosynthetica** 40(1): 1-11.

[388] Govindjee, [G.], J.T. Beatty , and H. Gest (2003) Editorial: Celebrating the millinnium--historical highlights of photosynthesis research, Part 2. **Photosynth. Res.** 76: 1-11.

[389] Nedbal, L., V. Brezina, F. Adamec, D. Stys, V. Oja, A. Laisk, and [G.] Govindjee (2003) Negative feedback regulation is responsible for the non-linear modulation of photosynthetic activity in plants and cyanobacteria exposed to a dynamic light environment. **Biochim. Biophys. Acta** 1607: 5-17.

[390] Schansker, G., A. Srivastava, [G.] Govindjee, and R. J. Strasser (2003) Characterization of the 820-nm transmission signal paralleling the chlorophyll*a* fluorescence rise (OJIP) in pea leaves. **Functional Plant Biology** 30: 1-10.

[391] Govindjee, [G.] (2004 a) Chlorophyll a Fluorescence: A Bit of Basics and History. (Ed. G. Papageorgiou and Govindjee) **Chlorophyll a Fluorescence: A Probe of Photosynthesis.** pp. 2-42 Kluwer Academic. Dordrecht, Netherlands.

[392] Govindjee , [G.] (2004b) A list of photosynthesis conferences and of edited books in photosynthesis. **Photosynth. Res.** 80:447-460.

[393] Govindjee , [G.] (2004c) Robert Emerson, and Eugene Rabinowitch: Understanding Photosynthesis. Lillian Hoddeson (editor). **"No Boundaries: University of Illinois Vignettes",** Chapter 12, pp. 181-194. University of Illinois Press, Urbana and Chicago.

[394] Govindjee , [G.], and D.W. Krogmann (2004) Discoveries in oxygenic photosynthesis (1727-2003): A perspective. **Photosynth. Res.** 80:15-57.

[395] Govindjee, [G.], J.F. Allen, and J.T. Beatty (2004) Celebrating the millenium: historical highlights of photosynthesis research, Part 3. **Photosynth. Res.** 80:1-13.

[396] Govindjee, [G.] (2005a) Announcement: Advances in Photosynthesis and Respiration, Volume 19: 'Chlorophyll a Fluorescence: A Signature of Photosynthesis', edited by George C. Papageorgiou and Govindjee. **Photosynth. Res**. 83:101-105.

[397] Govindjee, [G.] (2005b) Announcement: Advances in Photosynthesis and Respiration, Volume 17 and 18: Focus on Plant Respiration. **Photosynth. Res.** 85:255-259.

[398] Govindjee, [G.], and C. H. Foyer (2005) Book Review of Molecular to Global Photosynthesis. **Photosynth. Res.** 85:251-253.

[399] Zhu, X.G., [G.] Govindjee, N.R. Baker, E. deSturler, D.R. Ort and S.P. Long (2005) Chlorophyll a fluorescence induction kinetics in leaves predicted from a model describing each discrete step of excitation energy and electron transfer associated with Photosystem II. **Planta** 223: 114-133.

[400] Govindjee, [G.] (2006a) Editorial: Celebrating 20 years of historical papers in Photosynthesis Research. **Photosynth. Res.** 87:151-158.

[401] Govindjee, [G.] (2006b) Editorials: The two Letters to the editors by Steve Vik and Wolfgang Junge. **Photosynth. Res.** 87:229-229.

[402] Govindjee, [G.] (2006c) Announcement: Discoveries in Photosynthesis, Volume 20, Advances in Photosynthesis and Respiration. **Photosynth. Res.** 87:235-239.

[403] Govindjee, [G.] (2006d) Announcement: Photosystem II: The Light-Driven Water: Plastoquinone Oxidoreductase, Volume 22, Advances in Photosynthesis and Respiration. **Photosynth. Res.** 87:331-335.

[404] Govindjee, [G.] (2006e) Announcement: Photoprotection, Photoinhibition, Gene Regulation, and Environment, Volume 21, Advances in Photosynthesis and Respiration. **Photosynth. Res**. 89:53-57.

[405] Govindjee, [G.] (2006f) Announcement: Advances in Photosynthesisis and Respiration, Volume 23, Structure and Function of Plastids. **Photosynth. Res.** 89:173-177.

[406] Govindjee, [G.] (2006g) Announcement: Advances in Photosynthesis and Respiration, Volume 24 (Photosystem I) and Volume 25 (Chlorophylls and Bacteriochlorophylls). **Photosynth. Res.** 90:91-96.

[407] Govindjee, [G.] (2006h) Book Review of Photosynthesis: Regulation under Varying Light Regimes. **Photosynth. Res.** 87:243-244.

[408] Govindjee, [G.], and D.C. Fork (2006) Charles Stacy French (1907-1995). **Biographical Memoirs (National Academy of Sciences**, *Washington, DC)* 88:2-29.

[409] Govindjee, [G.], and D. Knaff (2006) Editorial: International Photosynthesis Congresses (1968--2007). **Photosynth. Res**. 89:1-2.

[410] Govindjee [G.], and D. Krogmann (2006) Discoveries in Oxygenic Photosynthesis (1727-2003): A Perspective. **Chemistry and Biology: the Transition Between the Two Centuries.** Accademia Nazionale dei Lincei, pp. 204-256.

[411] Govindjee, [G.], and A.R. Portis (2006) Book Review: Thirty Years of Photosynthesis 1974-2004, by Grahame J. Kelly and Erwin Latzko. **Photosynth. Res.** 90:261-262.

[412] Berkowitz, G.A., A.R. Portis, Jr. and [G.]Govindjee (2007) Carbon dioxide fixation. **The Encyclopedia of Science and Technology**, 10th Edition, Volume 13, pp. 475-481. McGraw Hill Publishers,New York.

[413] Björn, L.O., and [G.] Govindjee (2007) The evolution of photosynthesis and its environmental impact. L.O. Björn (ed.) **Photobiology: The Science of Light and Life**. pp 243-274, Springer,New York.

[414] Blankenship, R.E., and [G.] Govindjee (2007) Photosynthesis. **The Encyclopedia of Science and Technology**, 10th Edition, Volume 13, pp. 468-475. McGraw Hill Publishers, New York.

[415] Govindjee, [G.] (ed.) (2007a) Amma and Babuji: Our Life at Allahabad. **PDQ Printing, Urbana, Illinois;** 122 pages.

[416] Govindjee, [G.] (2007b) Editorial: A tale of naming a photosynthetic bacterium. **Photosynth. Res.** 92:1-2.

[417] Govindjee, [G.], and A. Telfer (2007) Six young research investigators were honored at an international conference in Russia. **Photosynth. Res.** 92: 139-141.

[418] Govindjee, [G.], and H. Yoo (2007) The international society of photosynthesis research (ISPR) and its associated international congress on photosynthesis (ICP) a pictoral report. **Photosynth. Res.** 91: 95-106.

[419] Govindjee, [G.], R.J. Porra, and G.C. Papageorgiou (2007a) Chlorophyll. **The Encyclopedia of Science and Technology**, 10th Edition, Volume 4, pp. 113-116. McGraw Hill Publishers, New York.

[420] Govindjee, [G.], R.E. Blankenship, and R. Shopes (2007b) Bacterial photosynthesis. **The Encyclopedia of Science and Technology**, 10thEdition, Volume 13, pp. 481-486. McGraw Hill Publishers, New York.

[421] Govindjee, [G.], A.W. Rutherford, and R.D. Britt (2007c) Four young research investigators were honored at the 2006 Gordon research conference on photosynthesis. **Photosynth. Res.** 92:137-138.

[422] Holub, O., M.J. Seufferheld, C, Gohlke, [G.] Govindjee, G.J. Heiss, and R.M. Clegg, (2007) Flourescence lifetime imaging microscopy of Chlamydomonas reinhardtii: non-photochemical quenching mutants and the effect of photosynthetic inhibitors on the slow chlorophyll fluorescence transient. **Journal of Microscopy** Vol. 226/Pt.2, May 2007, pp. 90-120.

[423] Kiang, N.Y., J. Siefert, [G.] Govindjee, and R.E. Blankenship (2007a) Spectral signatures of photosynthesis. I. Review of earth organisms. **Astrobiology** 7(1): 222-251.

[424] Kiang, N.Y., A. Segura, G.Tinetti, [G.] Govindjee, R.E. Blankenship, M. Cohen, J. Siefert, D. Crisp, and V.S. Meadows (2007b) Spectral signatures of photosynthesis. II. Coevolution with other stars and the atmostphere on extra-solarworlds. **Astrobiology** 7(1): 252-274.

[425] Nozzolillo, C.G., H.H. Gorham, and [G.] Govindjee (2007) Obituary: Paul R. Gorham (April 16,1918—November 9, 2006). **Photosynth. Res.** 92:3-5.

[426] Orr, L., and [G.] Govindjee (2007) Photosynthesis and the Web: 2008. **Photosynth. Res.** 91:107-131.

[427] Black, C.C., and [G.] Govindjee (2008) Martin Gibbs and the peaceful uses of nuclear radiation, 14C. **Photosynth. Res**. 99:63-80.

[428] Govindjee, [G.] (2008a) Recollections of Thomas John Wydrzynski. **Photosynth. Res.** 98:13-31.

[429] Govindjee, [G.] (2008b) Teaching Photosynthesis: Some Thoughts. Allen, J.F., Gantt, E., Golbeck, J.H., and Osmond, B. (eds.) **Photosynthesis. Energy from the Sun,** pp. 1619-1624. Springer, Dordrecht.

[430] Prasil , O., J. Suggett , J.J. Cullen , M. Babin, and [G.] Govindjee (2008) Aquafluo 2007: chlorophyll fluorescence in aquatic sciences, an international conference held in Nové Hrady. **Photosynth. Res.** 95:111-115.

[431] Rose , S., J. Minagawa , M. Seufferheld, S. Padden , B. Svensson , D.R.J.Kolling, A.R. Crofts and [G.] Govindjee (2008) D1-arginine mutants (R257E, K and Q) of *Chlamydomonas reinhardtii*have a lowered QB redox potential: analysis of thermoluminescence and fluorescence measurements. **Photosynth. Res.** 98:449-468.

[432] Björn, L.O., and [G.] Govindjee (2009) The evolution of photosynthesis and chloroplasts. **Current Science** 96:1466-1474.

[433] Björn ,L.O., G.C. Papageorgiou , D. Dravins. and [G.] Govindjee (2009a) Detectability of life on exoplanets. **Current Science** 96:1171-1175.

[434] Björn, L.O., G.C. Papageorgiou, R. Blankenship and [G.] Govindjee (2009b) A viewpoint: why chlorophyll a? **Photosynth. Res**. 99:85-98.

[435] Govindjee, [G.] (2009a) List of biography and history published mostly in Photosynthesis Research, 1988-2008. **Photosynth. Res.** 99:139-153.

[436] Govindjee, [G.] (2009b) A tribute to Achim Trebst, a friend. **Photosynth. Res.** 100:113-115.

[437] Govindjee , [G.] (2009c) Young research investigators honored at the 2008 and 2009 Gordon research conferences on photosynthesis: ambiance and a personal perspective. **Photosynth. Res.** 102:1-6.

[438] Kaňa , R., O. Prášil , O. Komárek , G.C. Papageorgiou, and [G.] Govindjee (2009) Spectral characteristic of fluorescence induction in a model cyanobacterium, *Synechococcus sp.* (PCC 7942). **Biochim. Biophys. Acta** 1787:1170–1178.

[439] Laisk, A., L. Nedbal, and [G.] Govindjee (eds.) (2009) Photosynthesis *in silico*: Understanding Complexity from Molecules to Ecosystem. **Springer, Dordrecht**, ISBN 978-1-4020-9236-7 (Hard Copy); ISBN 978-1-4020-9237-4

[440] Messinger , J., A. Alia, and [G.] Govindjee (Editorial) (2009a) Special educational issue on 'Basics and application of biophysical techniques in photosynthesis and related processes'-[Part A]. **Photsynth. Res**. 101:89-92.

[441] Messinger , J., A. Alia, and [G.] Govindjee (Editorial) (2009b) Special educational issue on 'Basics and application of biophysical techniques in photosynthesis and related processes'-[Part B]. **Photosynth. Res.** 102:103-106

[442] Pareek, A., S.K. Sopory, H. J. Bohnert, and [G.] Govindjee (eds.) (2009) Abiotic Stress Adaptation in Plants: Physiological, Molecular and Genomic Foundation. **Springer, Dordrecht,** XLI, 526. Page 25 illus. in color., Hardcover: ISBN: 978-90-481-3111-2.

2010s

[443] Clegg, R.M., M. Sener, and [G.] Govindjee (2010) From Förster Resonance Energy Transfer (FRET) to Coherent Resonance Energy Transfer (CRET) and Back --*A wheen o' mickles mak's a muckle.* SPIE (Society for Promotion of Instrumentation and Engineering) **Proceedings in Optical Biopsy VII**, edited by Robert R. Alfano, Vol. 7561 (SPIE, Bellingham, WA): 1-21.

[444] Govindjee, [G.] (2010a) Celebrating Andrew Alm Benson's 93rd birthday. **Photosynth. Res.** 105:201-208.

[445] Govindjee, [G.] (2010b) Obituary of Sam Aronoff. **ASPB** *(American Society of Plant Biologists)* **News** 37 (2) 21-22.

[446] Govindjee, [G.] (2010c) Book Review: Gernot Renger (ed): Primary processes of photosynthesis: principles and apparatus, parts 1 and 2. The Royal Society of Chemistry (RSC). 2008; **Photosynth. Res**. 103: 61-63.

[447] Govindjee, [G.], and M. Seibert (2010) Picosecond spectroscopy of the isolated reaction centers from the photosystems of oxygenic photosynthesis-ten years (1987-1997) fun. A tribute to Michael R. Waisielewski on his 60th birthday. **Photosynth. Res.** 103:1-6.

[448] Govindjee, [G.], and S.L.Srivastava (eds.) (2010) A Tribute: Krishnaji (January 13, 1922 - August 14, 1997). (xii + 266 pages + graphics + new appx) 3-page Appendix, by S. Bhandari, added at back of the book, in January, 2020; the 2010 original was published by **Apex Graphics, Allahabad**.

[449] Govindjee, [G.], J.F.Kern , J. Messinger J, and J. Whitmarsh(2010) Photosystem II. (February 2010) Photosystem II. **Encyclopedia of Life Sciences** *(ELS).* John Wiley & Sons, Ltd: Chichester.

[450] Hirsch, R.E., M. Rich, and [G.] Govindjee(2010) A tribute to Seymour Steven Brody: in memoriam (November 29, 1927 to May 25, 2010). **Photosynth Res** 106: 191-199.

[451] Orr, L., and [G.] Govindjee (2010)Photosynthesis online. **Photosynth. Res.** 34 pages: **See Orr and Govindjee (2013)**

[452] Yusuf, M.A., D. Kumar , R. Rajwanshi , R.J. Strasser, M. Tsimilli-Michael , [G.] Govindjee and N.B. Sarin (2010) Overexpression of y-tocopherol methyl transferase gene in transgenic*Brassica juncea* plants alleviates abiotic stress: Physiological and chlorophyll fluorescence measurements. **Biochim Biophys Acta (BBA) - Bioenergetics** 1797 : 1428–1438.

[453] Allakhverdiev , S.I., I.M. Huseynova, and [G.] Govindjee (2011) International Conference on "Photosynthesis Research for Sustainability-2011", July 24-30, 2011, Baku, Azerbaijan. **Photosynth. Res.** 110:205-212 DOI 10.1007/s11120-011 -9713-6

[454] Garcia-Mendoza ,E., H. Ocampo-Alvarez , and [G.] Govindjee (2011) Photoprotection in the brown alga Macrocystis pyrifera: Evolutionary implications. **J. Photochem. Photobiol. B: Biol.**104:377-385

[455] Govindjee, [G.], and D. Shevela (2011) Adventures with cyanobacteria: a personal perspective. **Frontiers in Plant Science**, Vol. 2, article # 28: 117;DOI:10.3389/fpls.2011.00028

[456] Govindjee, [G.], G.M. Ananyev, and S. Savikhin (2011) Young research investigators honored at the 2011 Gordon research conference on photosynthesis: ambiance and a perspective**.** **Photosynth. Res.** 110:143-149. DOI 10.1007/s11120-011 -9706-5

[457] Hagar, W., H. Punnett, L. Punnett, and [G.] Govindjee (2011) A tribute to Thomas Roosevelt Punnet, Jr. (1926-2008) **Photosynth. Res.** 110:1-7. DOI 10.1007/s11120-011 -9695-4

[458] Kalaji, H.M., [G.] Govindjee, K. Bosa , J. Kościelniak, and K. Zuk-Gołaszewska (2011) Effects of salt stress on photosystem II efficiency and CO_2 assimilation of two Syrian barley landraces. **Environmental and Experimental Botany** 73:64-72. DOI:10.3389/fpls.2011.00028

[459] Matsubara , S., Y.-C. Chen , R. Caliandro , [G.] Govindjee, and R. M. Clegg (2011) Photosystem II fluorescence lifetime imaging in avocado leaves: Contributions of the lutein-epoxide and violaxanthin cycles to fluorescence quenching. **J. Photochem. Photobiol. B: Biol.** 104:271-284

[460] Najafpour, M.M., and [G.] Govindjee (2011) Oxygen evolving complex in Photosystem II: Better than excellent. **Dalton Transactions** 40:9076-9084. DOI: 10.1039/c1dt10746a

[461] Nickelsen, K., and [G.] Govindjee (2011) The Maximum Quantum Yield Controversy: Otto Warburg and the Midwest Gang. **Bern Studies in the History and Philosophy of Science**, University of Bern, Switzerland; Institute für Philosophie.

[462] Papageorgiou, G.C. and [G.]Govindjee (2011) Photosystem II fluorescence: Slow changes - Scaling from the past **J. Photochem. Photobiol. B: Biol.** 104:258-270

[463] Stirbet, A., and [G.] Govindjee (2011) On the relation between the Kautsky effect (chlorophyll a fluorescence induction) and Photosystem II: Basics and applications of the OJIP fluorescence transient. **J. Photochem. Photobiol. B: Biol.** 104:236-257

[464] Biswal, A.K., G.K. Pattanayak, S.S. Pandey, S.Leelavathi, V.S. Reddy, [G.] Govindjee, and B.C. Tripathy (2012a) Light intensity-dependent modulation of chlorophyll b biosynthesis and photosynthesis by overexpression of chlorophyllide a oxygenase (CAO) in tobacco. **Plant Physiol.** 159:433-459.

[465] Biswal, A.K., G.K. Pattanayak, S. Leelavathi , V.S. Reddy, [G.] Govindjee, and B.C. Tripathy (2012b) Modulation of chlorophyll *b* biosynthesis and photosynthesis by overexpression of chlorophyllide *a* oxygenase (CAO) in Tobacco. C.Lu (Ed.) Photosynthesis: Research for Food, Fuel and Future–**15th International Conference on Photosynthesis, Symposium** 04 02, pp. 137-140, Zhejiang University Press, Springer-Verlag GmbH.

[466] Chen, S., C. Yin, R.J. Strasser,[G.] Govindjee, C. Yang, and S. Qiang (2012a) Reactive oxygen species from chloroplasts contribute to 3-acetyl-5-isopropyltetramic acid-induced leaf necrosis of Arabidopsis thaliana. **Plant Physiol. and Biochem.** 52:38-51.

[467] Chen , S., R.J. Strasser, S. Qiang, and [G.] Govindjee (2012b) Tenuazonic acid, a novel natural PSII inhibitor, impacts on photosynthetic activity by occupying the Q_B-binding site and inhibiting forward electron flow. C.Lu (Ed.) Photosynthesis: Research for Food, Fuel and Future–**15th International Conference on Photosynthesis, Symposium** 16 02, pp. 453-456,Zhejiang University Press, Springer-Verlag GmbH.

[468] Chen , Y., S. Matsubara, R. Caliandro , [G.] Govindjee, and R.M. Clegg (2012) FLIM (Fluorescence Lifetime Imaging Microscopy) of Avocado leaves during slow fluorescence transient (the P to S decline and the S to M rise). C.Lu (Ed.) Photosynthesis: Research for Food, Fuel and Future–**15th International Conference on Photosynthesis, Symposium** 16 19, pp. 524-528,Zhejiang University Press, Springer-Verlag GmbH.

[469] Fleischman, D., G.E. Edwards, [G.] Govindjee, L. Mayne, V. Tyagi, and K. Jacobsen-Mispagel (2012) Berger C. Mayne (1920–2011): a friend and his contributions to photosynthesis research. **Photosynth. Res.** 112: 81–89.

[470] Govindjee, [G.], and L.O. Björn (2012) Dissecting Oxygenic Photosynthesis: The Evolution of the "Z"-Scheme for Thylakoid Reactions. **Photosynthesis: Overviews on Recent Progress and Future Perspective**, edited by S. Itoh, P. Mohanty, and K. N. Guruprasad (I.K. Publishers, New Delhi, India), pp. 1–27.

[471] Govindjee, [G.], L. Björn , and K. Nickelsen (2012) Evolution of the Z-Scheme of electron transport in oxygenic photosynthesis. C.Lu (Ed.) Photosynthesis: Research for Food, Fuel and Future–**15th International Conference on Photosynthesis, Symposiu**m: Education Session, pp.835-841, Zhejiang University Press, Springer-Verlag GmbH.

[472] Kalaji, H.M., V. Goltsev, K. Bosa, S. Allakhverdiev, R.J. Strasser, and [G.] Govindjee (2012a) Experimental in vivo measurements of light emission in plants: A a perspective dedicated to David Walker. **Photosynth. Res.** 114: 69-96.

[473] Kalaji, H.M., [G.] Govindjee, K. Bosa, J. Koscielniak, and K. Zuk-Golaszewska (2012b) Effects of salt stress on Photosystem II efficiency and CO_2 assimilation in two Syrian barley landraces. C.Lu (Ed.) Photosynthesis: Research for Food, Fuel and Future—**15th International Conference on Photosynthesis, Symposium** 22 04, pp.774-778, Zhejiang University Press, Springer-Verlag GmbH.

[474] Kana, R., E. Kotabová, O. Komárek, B. Šedivá, G.C. Papageorgiou, [G.] Govindjee, and O. Prášil (2012a) The slow S to M fluorescence rise in cyanobacteria is due to a state 2 to state 1 transition. **Biochim. Biophys. Acta** 1817:1237-1247.

[**475]** Kana, R., O. Komárek , E. Kotabová , G.C. Papageorgiou, [G.] Govindjee, and O. Prášil (2012b) The Slow S to M fluorescence rise is missing in the RpaC mutant of *Synechocystis* sp. (PCC 6803). C.Lu (Ed.) Photosynthesis: Research for Food, Fuel and Future–**15th International Conference on Photosynthesis,** Symposium 16 13, pp. 499-502, Zhejiang University Press,Springer-Verlag GmbH.

[476] Moore, G., G. Ananyev, and [G.] Govindjee (2012) Young research investigators honored at the 2012 Gordon Research Conference on photosynthesis. **Photosynth. Res.** 114: 137-142.

[477] Najafpour, M.M., J. Barber, J.-R. Shen, G. Moore,and [G.] Govindjee (2012a) Running on sun. **Chemistry World,** November, page 43.

[478] Najafpour, M.M., N.A. Moghaddam, S.I. Allakhverdiev, and [G.] Govindjee (2012b) Biological water oxidation: Lessons from Nature. **Biochim. Biophys. Acta** 1817: 1110-1121

[479] Najafpour, M.M., M.A. Tabrizia, B. Haghighia, and [G.] Govindjee (2012c) A manganese oxide with phenol groups as a promising structural model for water oxidizing complex in Photosystem II: A 'Golden fish'. **Dalton Transactions**, Royal Society of Chemistry, 41:3906-3910.

[480] Portis, Jr,A,R., and [G.] Govindjee (2012) William L. Ogren was honored with a Lifetime Achievement Award by the Rebeiz Foundation for Basic Research. **Photosynth. Res.** 110: 1-8.

[481] Shevela, D., J.J. Eaton-Rye, J.-R. Shen, and [G.] Govindjee (2012) Photosystem II and unique role of bicarbonate: A historical perspective. **Biochim. Biophys. Acta** 1817:1134-1151

[482] Stirbet, A., and [G.] Govindjee (2012) Chlorophyll *a* Fluorescence Induction: A Personal Perspective of the Thermal Phase, the J-I-P rise. **Photosynth. Res.** 113:15-61.

[483] Wang, Q.J., A. Singh, H. Li, L. Nedbal, L.A. Sherman, [G.] Govindjee, and C.J. Whitmarsh (2012) Net light-induced oxygen evolution in photosystem I deletion mutants of the cyanobacterium Synechocystis sp. PCC 6803. **Biochim. Biophys. Acta.** 1817:792—801 [*[Wim Vermaas asked Govindjee - in October 2024 --if the sample was really PSI- minus mutant*; this needs to be checked]

[484] Zhou, Y., L.C. Schideman, [G.] Govindjee, S.I. Rupassara, and M.J. Seufferheld (2012) Improving the photosynthetic productivity and light utilization in algal biofuel systems: Metabolic and physiological characterization of a potentially advantageous mutant of *Chlamydomonas reinhardtii.* C.Lu (Ed.) Photosynthesis: Research for Food, Fuel and Future–**15th International Conference on Photosynthesis, Symposium** 16 20, pp. 529-533, Zhejiang University Press, Springer-Verlag GmbH.

Note: From 2013 to 2024, the initials of all the authors are after their last names .

[485] Allakhverdiev, S.I., Huseynova, I.M. and Govindjee [G.] (2013) International conference on "Photosynthesis research for sustainability-2013: In honor of Jalal A. Aliyev", held during June 5-9, 2013, Baku, Azerbaijan. **Photosynth. Res**. 118: 297-307; DOI 10.1007/s11120-013-9901-7

[486] Blankenship, R.E., Musick, J., Cooley, J. Dutcher, S. and Govindjee [G.] (2013) An invitation to the 16th international congress on photosynthesis research in 2013: Opportunities and challenges in the 21st century. **Photosynth. Res**. 115: 215-218; DOI 10.1007/s11120-013-9847-9

[487] Najafpour M., Moghaddam, A.N., Shen J-R and Govindjee [G.](2013a) Water Oxidation and Water Oxidizing Complex in Cyanobacteria. A. Srivastava et al., (eds.) **Stress Biology of Cyanobacteria**. Taylor & Francis, UK. pages 41-60

[488] Najafpour, M.M., Tabrizi, M.A., B. Haghighi, B., and Govindjee [G.] (2013) A 2-(2-hydroxyphenyl)-1H-benzimidazole-manganese oxide hybrid as a promising structural model

for tyrosine 161/histidine 190-manganese cluster in Photosystem II. **Dalton Transactions** 42: 879-884. available online: DOI 10.1039/c2dt32236f

[489] Ocampo-Alvarez, H., García-Mendoza, E., and Govindjee [G.] (2013) Antagonist effect between violaxanthin and de-epoxidated pigments in nonphotochemical quenching induction in the qE deficient brown alga *Macrocystis pyrifera*. **Biochim. Biophys. Acta** 1827:427-437.

[490]] Orr, L. , and Govindjee [G.] (2013) Photosynthesis Web resources. **Photosynth. Res.** 115: 179-214; DOI 10.1007/s11120-013-9840-3

[491] Shevela, D. , Björn, L.O. and Govindjee[G.] (2013a) Oxygenic Photosynthesis. In: **Natural and Artificial Photosynthesis: Solar Power as an Energy Source**, edited by R. Razeghifard. John Wiley and Sons, Hoboken, NJ. pages 13-63

[492] Shevela, D., Pishchalinikov, X., Eichacker, L.A. , and Govindjee [G.] (2013) Oxygenic Photosynthesis in Cyanobacteria. In: A. Srivastava et al., eds.) **Stress Biology of Cyanobacteria.** Taylor & Francis, UK. pages 3-40

[493] Allakhverdiev, S.I., Tomo, T., and Govindjee [G.] (2014) International conference on "photosynthesis research for sustainability-2014: in honor of Vladimir A. Shuvalov", held on June 2-7, 2014, in Pushchino, Russia. **Photosynth. Res.** 122: 337-347; DOI 10.1007/s11120-014-0032-6

[494] Choules, L., and Govindjee [G.] (2014) Stories and photographs of William A. Arnold (1904-2001): A pioneer of photosynthesis. **Photosynth. Res.** 122: 87-95; DOI 10.1007/s11120-014-0013-9

[495] Govindjee [G.] (2014) Book Review: Alexander V. Ruban: The Photosynthetic Membrane: Molecular Mechanisms and Biophysics of Light Harvesting. John Wiley, UK, 2012, ISBN 978-1119-96054-6 and -96053-9. **Photosynth. Res.** 122: 233-234; DOI 10.1007/s11120-014-0015-7

[496] Govindjee [G], and Srivastava, N. (2014) William A. Arnold (1904-2001)-A Biographical Memoir. **National Academy of Sciences, Washington, DC.** 18 pages; nasonline.org/publications/biographical-memoirs/

[497] Hill, J.F., and Govindjee[G] (2014) The controversy over the minimum quantum requirement for oxygen evolution. **Photosynth. Res.** 122: 97-112.: DOI 10.1007/s11120-014-0014-8

[498] Hou, H.J.M., Allakhverdiev, S.I., Najafpour, M.M. and Govindjee, [G.] (eds.) (2014) Current challenges in photosynthesis: From natural to artificial. Frontiers Research Topic; Ebook, **Frontiers in Plant Science**; ISBN: 978-2-88919-286-1, pp 2-102, September, 2014. DOI 10.3389/fpls.2014.00232

[499] Kalaji, H.M., Goltsev, V., Brestic, M., Bosa, K., Allakhverdiev, S.I., Strasser, R.J., and Govindjee, [G.] (2014) In vivo measurements of light in plants. In: **Contemporary Problems of Photosynthesis**, Allakhverdiev, S.I., Rubin, A.B., and Shuvalov, V.A. (eds.) *Institute of Computer Science, Izhevsk-Moscow,* Vol. 1, pages 1-30.

[500] Karapetyan, N.V., and Govindjee, [G.] (2014) Alexander Abramovich Krasnovsky (1913-1993): 100th birth anniversary in Moscow, Russia. **Photosynth. Res**. 120: 347-353; DOI 10.1007/s11120-014-9971-1

[501] Ostroumov, E.E., Khan, Y.R., Scholes, G.D., and Govindjee, [G.] (2014) Photophysics of Photosynthetic Pigment-Protein Complexes. In: Demmig-Adams, B. , Garab, G., Adams III, W. and Govindjee (eds.) **Non-Photochemical Quenching and Energy Dissipation In Plants, Algae and Cyanobacteria**. Pp. 97-128; Springer, Dordrecht

[502] Papageorgiou, G.C., and Govindjee, [G.] (2014) The Non-Photochemical Quenching of the Electronically Excited State of Chlorophyll a in Plants: Definitions, Timelines, Viewpoints, Open Questions. In: Demmig-Adams, B. , Garab, G., Adams III, W. and Govindjee (eds.) **Non-Photochemical Quenching and Energy Dissipation In Plants, Algae and Cyanobacteria.** Pp. 1-44;Springer, Dordrecht

[503] Stirbet, A., Riznichenko, G. Yu., Rubin, A.B., and Govindjee, [G.] (2014) Modeling chlorophyll a fluorescence transient: relation to photosynthesis. **Biochemistry (Moscow)** 79: 291-323; DOI 10.1134/S0006297914040014

[504] Tiwari , S., Tripathy, B.C., Jajoo, A., Das, A.B., Murata, N., Sane, P.V., and Govindjee, [G.] (2014) Prasanna K. Mohanty (1934-2013): a great photosynthetiker and a wonderful human being who touched the hearts of many. **Photosynth. Res.** 122: 235-260; DOI 10.1007/s11120-014-0033-5 ???

[505] Zivcak, M., Brestic, M., Kalaji, H.M., and Govindjee, [G.] (2014) Photosynthetic responses of sun- and shade-grown barley leaves to high light: Is the lower connectivity in shade leaves associated with protection against excess of light. **Photosynth. Res.** 119: 339-354.: DOI 10.1007/s11120-014-9969-8

[506] Björn, L.O., and Govindjee [G.] (2015) The Evolution of Photosynthesis and its Environmental Impact. In L.O. Björn (Ed.), **Photobiology: The Science of Light and Life;**DOI 10.1007/978-1-4939-1468-5_16 Springer Science+Business Media, New York, pp 25 [contact Govindjee by e-mail:gov@illinois.edu]

[507] Govindjee, [G.] (2015) Matthias Rögner (ed): Biohydrogen, Walter de Gruyter GmbH, Berlin/Munich/Boston, ISBN 978-3-11-033645-0. **Photosynth. Res.** 124: 337-339; DOI 10.1007/s11120-015-0147-4

[508] Govindjee, [G.]. and Frenkel, S. (2015a) Obituary: Albert W. Frenkel, 1919-2015. **ASPB News**, May/June 2015 42(3): 29-31.

[509] Govindjee, [G.], and Frenkel, S. (2015b) Albert W. Frenkel (1919-2015): photosynthesis research pioneer, much-loved teacher, and scholar. **Photosynth. Res.** 124: 243-247; DOI 10.1007/s11120-015-0109-x

[510] Govindjee, [G.], Prince, R.C., and Ort, D.R. (2015) Memoir: Colin A. Wraight November 7, 1945 July 10, 2014. **Photosynthetica** 53: 478-480; DOI 10.1007/s11099-015-0154-x

[511] Hamdani, S., Qu, M., Xin, C.-P., Li,M., Chu,C., Govindjee, [G.], and Zhu, X.-G. (2015) Variations between the photosynthetic properties of elite and landrace Chinese rice cultivars revealed by simultaneous measurements of 820 nm transmission signal and Chlorophyll a fluorescence induction **J. Plant Physiol.** 177:128-138; DOI 10.1016/j.jplph.2014.12.019

[512] Kodru, S., Malavath, T., Devadasu E., Nellaepalli, S., Stirbet, A., Subramanyam, R., and Govindjee, [G.] (2015) The slow S to M rise of chlorophyII a fluorescence induction reflects transition from state 2 to state 1 in the green alga Chlamydomonas reinhardtii. **Photosynth. Res**. 125: 219-231; DOI 10.1007/s11120-015-0084-2

[513] Lichtenthaler, H.K., Buchanan, B.B., Douce, R., and Govindjee, [G.] (2015a) Obituary: Andrew A. Benson 1917-2015. **ASPB**(American Society for Plant Biology) **News**, March/April 2015, 25-26

[514] Lichtenthaler, H.K., Buchanan, B.B., Douce, R., and Govindjee, [G.] (2015b) Andrew A. Benson, 1917-2015. **Photosynth. Res**,124: 131-135; DOI 10.1007/s11120-015-0119-8

[515] Mamedov, M., Govindjee, [G.], Nadtochenko, V., and Semenov, A. (2015) Primary electron transfer processes in photosynthetic reaction centers from oxygenic organisms. **Photosynth. Res.** 125: 51-63; DOI 10.1007/s11120-015-0088-y

[516] Rappaport, F. Malnoe, A., and Govindjee, [G.] (2015) Gordon research conference on photosynthesis: from evolution of fundamental mechanisms to radical re-engineering **Photosynth. Res.** 123: 213-223; DOI 10.1007/s11120-014-0058-9

[517] Shabnam, N., Sharmila, P., Sharma, A., Strasser, R.J., Govindjee, [G.], and Pardha-Saradhi, P.(2015) Mitochondrial electron transport protects floating leaves of long leaf pondweed (Potamogeton nodosus Poir) against photoinhibition: comparison with submerged leaves. **Photosynth. Res.** 125: 305-319; DOI 10.1007/s11120-014-0051-3

[518] Zhou, Y., Schideman,LC, Park, D.S., Stirbet,A., Rupassara, S.I., Govindjee,[G.], and Seuffereleld, M.J.(2015) Characterization of a *Chlamydomonas reinhardtii* mutant strain with improved biomass production under low light and mixotrophic conditions. **Algal Research** 11:134-147; DOI 10.1016/j.algal.2015.06.001

[519] Allakhverdiev, S.I., Tomo, T., Stamatakis, K., and Govindjee,[G.] (2016) International Conference on "Photosynthesis research for sustainability-2015 in honor of George C. Papapageorgiou", September 21-26, 2015, Crete Greece. **Photosynth. Res.** 130: 1-10; DOI 10.1007/s11120-015-0207-9

[520] Briggs, W.R., and, Govindjee ,[G.] (2016) Remembering Jeanette Snyder Brown (1925-2014) **Photosynth. Res.** 127: 287-293; DOI 10.1007/s11120-015-0181-2

[521] Buchanan, B.B., Douce,R., Govindjee, ,[G.], Lichtenthaler, H.K., and Summons, R.E. (2016) Andrew A. Benson, 1917-2015. **Biographical Memoir of the National Academy of Science**, USA. (16 pages)

[522] Elchuri, S.V., and Govindjee ,[G.] (2016) Vallabhaneni Sita Rama Das, 1933-2010: teacher and mentor. **Photosynth. Res**.128: 109-115; DOI 10.1007/s11120-015-0210-1

[523] Govindjee, [G.], and Marcelle, D, (2016) René Marcelle (December 30, 1931-December 18, 2011), the first editor-in-chief of Photosynthesis Research. **Photosynth. Res.** 129: 13-15; DOI 10.1007/s11120-016-0258-6

[524] Govindjee, [G.], and Pulles, M.P.J. (2016) Louis Nico Marie Duysens (March 15, 1921-September 8, 2015): A leading biophysicist of the 20th century. **Photosynth. Res.** 128: 223-234; DOI 10.1007/s11120-016-0256-8

[525] Govindjee, ,[G.], Grossman, A.R., and Bhaya, D. (2016a) Gordon research conference on the dynamics and regulation of photosynthesis: from the origin of bio-catalysis to innovative solar conversion. **Photosynth. Res.** 127: 379-389; DOI 10.1007/s11120-015-0187-9

[526] Govindjee ,[G.], Bassham, H., and, Bassham, S. (2016b) Remembering James Alan Bassham (1922-2012) **Photosynth. Res.** 128: 3-13. DOI 10.1007/s11120-015-0201-2

[527] Govindjee, [G.], Prince, R.C., and Ort, D. R, (2016c) Colin A. Wraight, 1945-2014. **Photosynth. Res.** 127: 237-256; DOI 10.1007/s11120-015-0174-1

[528] Huseynova, I.M., Allakhverdiev, S.I. , and Govindjee, [G.] (2016) Jalal A. Aliyev (1928-2016): A great scientist, a great teacher and a great human being. **Photosynth. Res.** 128: 219-222; DOI 10.1007/s11120-016-0242-1

[529] Joliot, P., Crofts, A.R., Björn, L.O., Yerkes, C.T., and Govindjee, [G.] (2016) In photosynthesis, oxygen comes from water: From a 1787 book for women by Monsieur De Fourcroy. **Photosynth. Res.** 129: 105-107; DOI 10.1007/s11120-016-0266-6

[530] Kaňa, R., and Govindjee,[G.] (2016) Role of Ions in the Regulation of Light Harvesting: **Frontiers in Plant Science** 7: article # 1849, 17 pages; DOI 10.3389/fpls.2016.01849

[531] Kandoi, D., Mohanty, S., Govindjee, [G.], and Tripathy, B.C. (2016) Towards efficient photosynthesis: overexpression of *Zea mays* phosphoenolpyruvate carboxylase in *Arabidopsis thaliana*. **Photosynth. Res.** 130: 47-72; DOI 10.1007/s11120-016-0224-3

[532] Maroti, P., and Govindjee, [G.] (2016) The two last overviews by Colin Allen Wraight (1945-2014) on energy conversion in photosynthetic bacteria. **Photosynth. Res.** 127: 257-271; DOI 10.1007/s11120-015-0175-0

[533] Mishra, K.B., Mishra, A., Klem, K., and Govindjee, [G.] (2016) Plant phenotyping: a perspective. **Ind. J. Plant Physiol**. 21(4): 514-527; DOI 10.1007/s40502-016-0271-y

[534] Nonomura, A., Lorimer,G., Holtz, B., Vacquier, V., Biel,K.Y., and Govindjee, [G.] (2016) Andrew A. Benson: personal recollections. **Photosynth. Res.** 127: 369-378; DOI 10.1007/s11120-015-0186-x

[535] Sharkey, T.D., and Govindjee, G. (2016) Hartmut Lichtenthaler: an authority on chloroplast structure and isoprenoid biochemistry. **Photosynth. Res.** 128: 117-123.

[536] Stamatakis, K., Papageorgiou, G.C., and Govindjee, [G.] (2016a) Effects of b-carotene, a chemical scavenger of singlet oxygen, on the millisecond rise of chlorophyll a fluorescence of cyanobacteria Syncechocystis sp. PCC 7942. **Photosynth. Res.** 130: 317-324; DOI 10.1007/s11120-016-0255-9

[537] Stamatakis, K., Allakhverdiev, S.I., Garab, G., and Govindjee, [G.] (2016b) Honoring George C. Papageorgiou . **Photosynthetica** 54(1): 158-160. DOI 10.1007/s11099-015-0183-5

[538] Stirbet, A., and Govindjee, [G.] (2016) The slow phase of chlorophyll *a* fluorescence induction in silico: Origin of the S-M fluorescence rise. **Photosynth. Res.** 130: 193-213; DOI 10.1007/s11120-016-0243-0

[539] Bernát, G., Steinbach, G., Kaňa, R., Govindjee, [G.], Misra, A.N., and Prášil, O. (2017/ published in 2018) On the origin of the slow M-T chlorophyll a fluorescence decline in cyanobacteria: interplay of short-term light-responses. **Photosynth. Res.** 136: 183-193; DOI 10.1007/s11120-017-0458-8

[540] Brand, J.J., Kerfeld, C.A., Cramer, W.A., and Govindjee, [G.] (2017) David W. Krogmann, 1931-2016. **Photosynth. Res.** 132: 1-12; DOI 10.1007/s11120-016-0335-x

[541] Govindjee, [G.] (2017) André Tridon Jagendorf (1926-2017). **Photosynth. Res.** 132: 235-24; DOI 10.1007/s11120-017-0380-0

[542] Govindjee, [G.], and Redding, K. (2017) Honoring Jean-David Rochaix. **Photosynth. Res.** 131: 221-225; DOI 10.1007/s11120-016-0308-0

[543] Govindjee, [G.], Munday, J.C. Jr ,and Papageorgiou, G.C. (2017) Frederick Yi-Tung Cho (1939-2011): His PhD days in Biophysics, the Photosynthesis Lab, and his patents in engineering physics. **Photosynth. Res.** 132: 227-23;: DOI 10.1007/s11120-017-0391-x

[544] Govindjee, [G.], Shevela, D. and Björn, L.O. (2017) Evolution of the Z-scheme of photosynthesis. **Photosynth. Res.** 133: 5-15; DOI 10.1007/s11120-016-0333-z

[545] Latimer, M.G., Bannister, T.T, and Govindjee, [G.] (2017) Paul Henry Latimer (1925-2011): Discoverer of selective scattering in photosynthetic systems. **Photosynth. Res.** 134: 83-91; DOI 10.1007/s11120-017-0390-y

[546] Mircovic, T., Ostrumov, E.E., Anna, J.M., van Grondelle, R., Govindjee, [G.], and Scholes, G.D. (2017) Light absorption and energy transfer in the antenna complexes of photosynthetic organisms. **Chemical Reviews** 117 (2): 249-293; DOI 10.1007/10.1021/acs.chemrev.6b00002

[547] Nonomura, A.M., Holtz, B., Biel, K.Y., Cooney, R., Lorimer, G., and Govindjee, [G.] (2017) The paths of Andrew A. Benson: a radio-autobiography. **Photosynth. Res.** 134: 93-105. DOI 10.1007/s11120-017-0410-y

[548] Shabnam, N., Sharmila,P., Govindjee, [G.], Kim, H., and Pardha-Saradhi, P. (2017) Differential response of floating and submerged leaves of longleaf pondweed to silver ions **Frontiers in Plant Science**, Vol. 8, article #1052 (13 pages); DOI 10.3389/fpls.2017.01052

[549] Tsygankov, A.A., Allakhverdiev,S.I. , Tomo, T., and Govindjee, [G.] (2017) International conference on Photosynthesis Research for Sustainability-2016: In honor of Nathan Nelson and Turhan Nejat Veziroglu. **Photosynth. Res.** 131: 227-236; DOI 10.1007/s11120-016-0311-5

[550] Yurina, N.P., Popov, V.O., Krasnovsky Jr., A.A., and Govindjee,[G.] (2017) Remembering Navasard V. Karapetyan (1936-2015). **Photosynth. Res.** 132: 221-226. DOI 10.1007/s11120-017-0361-3

[551] Allakhverdiev, S.I., Zharmukhamedov, S.K., Rodionova,M.V., Shuvalov, V.A., Dismukes,C., Shen, J.-R., Barber, J., Samuelsson, G., and Govindjee, [G.] (2018) Vyacheslav (Slava) Klimov (1945-2017): A scientist par excellence, a great human being, a friend, and a Renaissance man. **Photosynth. Res.** 136: 1-16. DOI 10.1007/s11120-017-0440-5

[552] Gisriel,C., Saroussi, S. Ramundo, S., Fromme, P., and, Govindjee, [G.] (2018) Gordon Research Conference on photosynthesis: photosynthetic plasticity from the environment to synthetic systems. **Photosynth. Res.** 136: 393-405; DOI 10.1007/s11120-017-0472-x

[553] Govindjee, [G.] (2018) Robert Emerson's 1949 Stephen Hales Prize Lecture: "Photosynthesis and the World". **Journal of Plant Science Research** 34(2): 119-125.

[554] Govindjee, [G.] and Blankenship, R.E. (2018) Martin D. Kamen, Whose Discovery of 14C Changed Plant Biology as Well as Archaeology. **Plantae; Historical Perspectives on Plant Science** (10 Pages)

[555] Govindjee, [G.] and Tanner, W. (2018) Remembering Otto Kandler (1920-2017) and his contributions. **Photosynth. Res.** 137(3): 337-340.

[556] Govindjee, [G.],Khanna, R., and Zilinskas, B. (2018) Remembering Tom Wydrzynski (1947-2018), one who had the guts to go after what he wanted and excelled at it. **Current Plant Biology** 16:2-8; DOI 10.1016/j.cpb.2018.10.003 \

[557] Herbert, S.K., Siderer, Y., and Govindjee , [G.] (2018) Shmuel Malkin (1934-2017) Listening to photosynthesis and making music. **Photosynth. Res.**137: 1-15; DOI 10.1007/s11120-018-0478-z

[558] Laws, E., Weidemann, A, Hoch, G., Bannister, H., Knox, R.S., and Govindjee , [G.] (2018) In memory of Thomas Turpin Bannister (1930-2018). **Photosynth. Res.** 138(2): 129-138.

[559] Naithani, S., and Govindjee, [G.] (2018) Remembering Professor Prasanna K. Mohanty (April 1,1934 - March 9, 2013). **Current Plant Biology** 13:2-5.

[**560]** Stirbet, A., Lazár,D., Kromdijk, J., and Govindjee, [G.] (2018) Chlorophyll a fluorescence induction: Can just a one-second measurement be used to quantify abiotic stress responses? **Photosynthetica** 56(1): 86-104.

[561] Soda, N., Gupta, B.K., Anwar,K., Sharan,A., Govindjee, [G.], Singla-Pareek, S.L., and Pareek, A.(2018) Rice intermediate filament, OsIF, stabilizes photosynthetic machinery and yield under salinity and heat stress. **Scientific Report,** Vol 8, article #4072; DOI 10.1038/s41598-018-22131-0 (13 pages) [PDF file includes Supplementary Material and a photograph of the authors]

[562] Borisova-Mubarakshina, M.M., Tsygankov, A.A., Tomo, T., Allakhverdiev ,S.I., Eaton-Rye, J.J., and Govindjee, G* (2019) The 10th international conference on "Photosynthesis and Hydrogen Energy Research for sustainability": A pictorial report in

honor of Tingyun Kuang, Anthony Larkum, Cesare Marchetti and Kimiyuki Satoh. **International Journal of Hydrogen Energy** 44: 30927-30934; DOI 10.1016/j.ijhydene.2019.09.224 [*NOTE: This is the first time Govindjee has used "Govindjee Govindjee" as his full name in publication.]

[563] Conlan, B., Govindjee, [G.], and Messinger, J. (2019) Thomas John Wydrzynski (8 July 1947-16 March 2018). **Photosynth. Res.** 140: 253-261; DOI 10.1007/s11120-018-0606-9

[564] Govindjee , [G.] (2019a) My turn to thank many around the World: For photosynthesis research in my life. **Journal of Plant Science Research** 35(1): 69-84.

[565] Govindjee, [G.] 2019b) A sixty-year tryst with photosynthesis and related processes: an informal personal perspective. **Photosynth. Res.** 139: 15-43. DOI 10.1007/s11120-018-0590-0

[566] Govindjee , [G.] and Messinger, J. (2019) We remember those who left us in the recent past. **Physiologia Plantrum** 166(1): 7-11. DOI 10.1111/ppl.12859

[567] Govindjee, , [G.] , Papageorgiou,G.C., and Govindjee, R. (2019) Eugene I. Rabinowitch: A prophet of photosynthesis and of peace in the world. **Photosynth. Res.** 141(2): 143-150; DOI 10.1007/s11120-019-00641-w

[568] Govindjee, [G.], Srivastava, A., Stirbet, A., Soni, V., and Sarin, N.B. (2019) Reto Jörg Strasser: An innovator, a wonderful friend and "Professor of the World". **Journal of Plant Science Research** 35(2): 147-158.

[569] Hamdani, S., Wang, H., Zheng, G., Perveen, S., Qu, M., Khann, N., Khan,W., Jiang, J., Li, M., Liu, X., Zhu, X. Govindjee, [G.], Chu, C., and Zhu, X.-G. (2019) Genome-wide association study identifies variation of glucosidase being linked to natural variation of the maximal quantum yield of photosystem II. **Physiologia Plantarum** 166(1): 105-119; DOI 10.1111/ppl.12957

[570] Hamdani, S., Khan, N., Perveen, S., Qu, M., Jiang, J., Govindjee, [G.], and Zhu, X.G. (2019) Changes in the photosynthesis properties and photoprotection capacity in rice (*Oryza*

sativa) grown under red, blue, or white light. **Photosynth. Res.** 139:107-121; DOI 10.1007/s11120-018-0589-6

[571] Jimenez-Francisco, B., Stirbet, A., Aguado-Santacruz, G.A., Campos, H., Conde-Martinez, F.V., Padilla-Chacon, D., Trejo, C., Bernacchi, C.J., and Govindjee, G. (2019) A comparative chlorophyll a fluorescence study on isolated cells and intact leaves of Bouteloua gracilis (blue grama grass). **Photosynthetica** 57(SI): 77-89; DOI 10.32615/ps.2019.148

[572] Kaur, D., Gisriel, C., Burnap, R., Fromme, P., and Govindjee, G. (2019) Gordon research conference 2019: From the biophysics of natural and artificial photosynthesis to bioenergy conversion. **Current Plant Biology**, Vol. 22, #100129; DOI 10.1016/j.cpb.2019.100129 ;Volume 22,ISSN 2214-6628; https://doi.org/10.1016/j.cpb.2019.100129.(https://www.sciencedirect.com/science/article/pii/S2214662819302683)

[573] Mishra, K.B., Mishra, A., Kubásek,J., Urban, O., Heyer, A.G., and Govindjee, [G.] (2019) Low temperature induced modulation of photosynthetic induction in non-acclimated and cold-acclimated *Arabidopsis thaliana*: chlorophyll *a* fluorescence and gas-exchange measurements. **Photosynth. Res.** 139:123-143. DOI 10.1007/s11120-018-0588-7

[574] Shevela, D., Bjorn, L., and Govindjee, [G.] (2019) Photosynthesis: Solar Energy for Life. **World Scientific, Singapore--**Online at Amazon or Agrisera Book

[575] Stirbet, A., Lazar, D., Papageorgiou, G., and Govindjee,[G.] (2019) Chlorophyll *a* fluorescence in cyanobacteria: Relation to photosynthesis. In: A.N. Mishra, D.N. Tiwari and A.N. Rai (eds.) Cyanobacteria: **From Basic Science to Applications,** Chapter 5, pp. 79-130; Elsevier Publishers Academic Press, an imprint of Elsevier. Chapter in a Book

[576] Subramanyam, R., Allakhverdiev, S., and Govindjee,[G.] (2019) Honoring eight senior distinguished plant biologists from India. **Photosynth. Res.** 139: 45-52; DOI 10.1007/s11120-018-0531-y Tribute

[577] Wungrampha, S., Joshi, R., Rathore, R.S., Singla-Pareek, S.L., Govindjee, [G.]. and Pareek, A. (2019) CO_2 and chlorophyll *a* fluorescence of *Suaeda fruticosa* grown under diurnal rhythm and after transfer to continuous dark. **Photosynth. Res.** 142: 211-227; DOI 10.1007/s11120-019-00659-0

2020s

[578] Borisova-Mubarakshina, M.M., Tsygankov, A.A., Tomo, T., Allakhverdiev, S.I., Eaton-Rye, J.J., and Govindjee, G. (2020) International conference on "Photosynthesis and Hydrogen Energy Research for Sustainability-2019": in honor of Tingyun Kuang, Anthony Larkum, Cesare Marchetti, and Kimiyuki Satoh. **Photosynth. Res.** 146: 5-15; DOI 10.1007/s11120-019-00687-w

[579] Fu, L., Govindjee, G., Tan, J., and Guo, Y. (2020) Development of a minimized model structure and a feedback control framework for regulating photosynthetic activities. **Photosynth. Res.** 146: 213-225; DOI 10.1007/s11120-019-00690-1

[580] Govindjee, G., Nonomura, A., and Lichtenthaler, H.K. (2020) Remembering Melvin Calvin (1911-1997), a highly versatile scientist of the 20th century. **Photosynth. Res.** 143: 1-11; DOI 10.1007/s11120-019-00693-y

[581] Govindjee, G., Briskin DP, Benning C, Daniell H, Kolossov V, Scheer H and Rebeiz M (2020) From δ-aminolevulinic acid to chlorophylls and every step in between: In memory of Constantin (Tino) A. Rebeiz, 1936-2019. **Photosynth. Res**. 145: 71-82; DOI 10.1007/s11120-020-00750-x

[582] Govindjee, G., Zilinskas, B.A., Brereton, R.G., Khanna, R., and Govindjee, R .(2020) A tribute to Maarib (Darwish Lutfi Bakri) Bazzaz (1940-2020): the one who proved the existence of "new" chlorophylls in plants. **Plant Physiology Reports** 25(3): 377-385; DOI 10.1007/s40502-020-00534-4

[583] Govindjee, [G.], Razjivin, A.P., and Kozlovsky, V.S. (2020) Unique features of the 'photo-energetics' of purple bacteria: a critical survey by the late Aleksandr Yuryevich Borisov (1930-2019). **Photosynth. Res.** 146: 17-24; DOI 10.1007/s11120-019-00683-0

[584] Hu, K., Govindjee, G., Tan, J., Xia, Q., Dai, Z., and Guo, Y. (2020) Co-author and co-cited reference network analysis for chlorophyll fluorescence research from 1991 to 2018. **Photosynthetica** 58(1): 110-124; DOI 10.32615/ps.2019.154

[585] Khan, N., Essemine, J., Hamdani, S., Qu, M., Lyu, M.J.A., Perveen, S., Stirbet, A., Govindjee, G., and Zhu, X.G. (2020) Natural variation in the fast phase of chlorophyll a fluorescence induction curve (OJIP) in a global rice minicore panel. **Photosynth. Res.** 150: 137-150; DOI 10.1007/s11120-020-00794-z

[586] Negi, S., Perrine, Z., Friedland, N., Kumar, A., Tokutsu, R., Minagawa, J.. Berg, R., Barry, A., Govindjee, G., and Sayre, R. (2020) Light-regulation of light harvesting antenna size substantially enhances photosynthetic efficiency and biomass yield in green algae. **The Plant Journal** 103(2): 584-603; DOI 10.1111/tpj.14751

[587] Nonomura, A.M., Shevela, D., Komath, S.S., Biel, K.Y., and Govindjee, G. (2020) The carbon reactions of photosynthesis: role of lectins and glycoregulation. **Photosynthetica** 58(5): 1090-1097. supplements: Plant Lectin Bypass & Cycle posters, αMeM binds lectin & displaces glucose video, vacoule presses against cell wall video; DOI 10.32615/ps.2020.064

[588] Pareek, A., Soni, V., Sopory, S.K., Khurana, J.P., Sree, K.S., Tyagi, A.K., Narsimhan, S. and Govindjee, G. (2020) Satish Chandra Maheshwari (1933-2019) - a brilliant, passionate and an outstanding shining light for all of plant biology. **Physiol. Mol. Biol. Plants** 26(6): 1087-1098; DOI 10.1007/s12298-020-00794-2

[589] Sayre, T., Negi, S., and Govindjee, G (2020) Light regulation of photosynthetic light harvesting doubles the biomass yield in the green alga Chlamydomonas. **Photosynthetica** 58(4): 974-975; DOI 10.32615/ps.2020.049

[590] Semenov, A.Y., Kotova, E.A., Andrei, P., Razjivi, A.P., and Govindjee, [G.] (2020) Tribute: a salute to Alexander Yurievich Borisov (1930-2019), an outstanding biophysicist. **Photosynth. Res.** 146: 1-3; DOI 10.1007/s11120-019-00674-1

[591] Stirbet, A., Lazar, D., Guo, Y., and Govindjee, G. (2020) Photosynthesis: basics, history and modelling. **Annals of Botany** 126: 511-537. DOI 10.1093/aob/mcz171

[592] Vredenberg, W.J., and Govindjee, G. (2020) Christiaan Sybesma (August 31, 1928-January 31, 2018), an extraordinary biophysicist of our time. **Photosynth. Res.** 144: 297-300. DOI 10.1007/s11120-020-00734-x

[593] Dau, H., Ivanov, B., Shevela, D., Armstrong, W.H., and Govindjee, G.(2021) Three overlooked photosynthesis papers of Otto Warburg (1883-1970), published in the 1940s in German and in Russian, on light-driven water oxidation coupled to benzoquinone reduction. **Photosynth. Res.** 149: 259-264; DOI 10.1007/s11120-021-00858-8

[594] Govindjee, G. (2021a) James Barber (1940-2020): A very remarkable biochemist of our time. **Photosynthetica** 59(4): 606-614; DOI 10.32615/ps.2021.058

[595] Govindjee, G (2021b) In honor of Hartmut Karl Lichtenthaler. **Photosynthetica** 59(SI): 1-3. available online: DOI 10.32615/ps.2020.080

[596] Govindjee G (2021c) Robert Emerson, a major contributor to Photosynthesis, had pioneered research in Respiration in the 1920s, under Otto Warburg. **Journal of Plant Science Research** 36(1-2): 1-4.

[597] Govindjee, G., and Blankenship, R.E. (2021) Martin David Kamen (1913-2002): discoverer of carbon 14, and of new cytochromes in photosynthetic bacteria. **Photosynth. Res.** 149: 265-273; DOI 10.1007/s11120-0-00854-y

[598] Govindjee, G., and Govindjee, R. (2021) Personal Reminiscences of Robert Emerson and Eugene Rabinowitch. **Journal of Plant Science Research** 37(1): 101-106.

[599] Govindjee, G., and Naithani, S. (2021) Lalit Mohan Srivastava (1931-2012): a highly respected authority on plant growth, hormones, and environment. **Current Plant Biology** 25: # 100183 (2pages) ; ISSN 2214-6628; DOI 10.1016/j.cpb.2020.100183(https://www.sciencedirect.com/science/article/pii/S2214662820300645)

[600] Govindjee, G., and Reddy, D.V.R. (2021) Ramesh Chandra Sinha (1934-2020). **Archives of Virology** 166(2): 671-672; DOI 10.1007/s00705-020-04888-w

[601] Govindjee, G., Sawhney, B., and Mattoo, A. (2021) Ravindar Kaur Sawhney (1931-2020): An Innovative Plant Physiologist. **Plant Physiology Reports** 26: 1-3; DOI 10.1007/s40502-020-00554-0

[602] Govindjee, G., Shen, Y. K., Zhu, X.G., Mi, H, and Ogawa, T, (2021) Honoring Bacon Ke at 100: a legend among the many luminaries and a highly collaborative scientist in photosynthesis research. **Photosynth. Res.** 147: 243-252; DOI 10.1007/s11120-021-00820-8

[603] Naithani, S., Komath, S. S., Nonomura, A., and Govindjee, G (2021) Plant lectins and their many roles: Carbohydrate-binding and beyond. **Journal of Plant Physiology** 266: # 153531; ISSN 0176-1617;DOI 10.1016/j.jplph.2021.153531(https://www.sciencedirect.com/science/article/pii/S017616172100170X)

[604] Padhi, B., Chauhan, G., Kandoi, D., Stirbet, A., Tripathy, B.C., and Govindjee, G. (2021) A comparison of chlorophyll fluorescence transient measurements, using Handy PEA and FluorPen fluorometers. **Photosynthetica** 59(SI): 39-48; DOI 10.32615/ps.2021.026

[605] Pandiyan, S., Govindjee, G., Meenatchi, S., Prasanna, S., Gunasekaran, G., and Guo, Y. (2021) Evaluating the Impact of Summer Drought on Vegetation Growth Using Space-Based Solar-Induced Chlorophyll Fluorescence Across Extensive Spatial Measures. **Big Data** 10 (3): 16 pages; DOI 10.1089/big.2020.0350

[606] Shevela, D., Kern, J., Govindjee, G., Whitmarsh, J., and Messinger, J (2021) Photosystem II. **Encyclopedia of Life Sciences** 2(7): 1-20. DOI 10.1002/9780470015902.a0029372

[607] Govindjee G and Thorhaug, A. (2022) Francis Theodore Haxo (March 9, 1921-June 10, 2010): Innovator, Dedicated Biologist, and Grand master of the Carotenoids in Marine organisms **Jour. Pl. Sci. Res.** 38(2): 449-454.

[608] Govindjee, G.(2022) Govindjee on the 1958 Historical Lecture of Robert (Bob) Emerson: Discovery of Auxiliary Pigments working in Synchrony with Chlorophyll *a* in algae, Ed. Morris, J. J. **Jour. Pl. Sci. Res.** 38(2): 455-464.

[609] Govindjee, G., Kaur, H.K., Prasad, S.M., and Murti, G.S.R. (2022) Tadimeti Raja Rao (1930-2022): A Superb Plant Physiologist and Wonderful Mentor. **Jour. Pl. Sci. Res.** 38(2): 465-474.

[610] Kandoi, D., Ruhil, K., Govindjee, G., and Tripathy , B.C. (2022) Overexpression of cytoplasmic C4 Flaveria bidentis carbonic anhydrase in C3 Arabidopsis thaliana increases amino acids, photosynthetic potential, and biomass. **Plant Biotechnology Journal** 20 (8); 1518- 1532; PMID: 35467074; DOI 10.1111/pbi.13830

[611] Vasilieva, L.G., Kaminskay, O.P., Yakovlev, A.G., Shkuropatov, A.Y., Semenov, A.Y., Nadtochenko, V.A., Krasnovsky, A.A,Jr., Parson, W.W., Allakhverdiev, S.I., and Govindjee, G. (2022) In memory of Vladimir Anatolievich Shuvalov (1943-2022): an outstanding biophysicist **Photosynth. Res.** 154: 207-223; DOI 10.1007/s11120-022-00932-9

[612] Yilimulati, M., Jin, J., Wang, Xin, Wang Xiaomeng, Shevela, D., Wu, B., Wang, K., Zhou, L., Jia, Y., Pan, B., Govindjee, G., and Zhang, S. (2021) Regulation of Photosynthesis in Bloom-Forming Cyanobacteria with the Simplest β-Diketone. **Environmental Science & Technology** 5(20): 14173-14184; DOI 10.1021/acs.est.1c04683

[613] Carlson, S., Bauer, C., and Govindjee, G (2022) Remembering Robert (Bob) Togasaki (1932-2019): A leader in *Chlamydomonas* genetics and in plant biology, as well as a teacher par excellence. **Photosynth. Res.** 152: 73-86; DOI 10.1007/s11120-021-00893-5

[614] Cederstrand, L., and Govindjee, G. (2022) Carl Nelson Cederstrand (1927-2022): A Biophysicist, an Innovator and a Wonderful Person. **International Journal of Life Sciences** 11(1): 1-7; DOI 10.5958/2319-1198.2022.00002.1

[615] Govindjee, G. (2022a) Discovery of auxiliary pigments working in synchrony with chlorophyll *a* in algae, followed by a reprint of: Emerson R and Chalmers RV (1958) "Speculations concerning the function of the accessory pigments of algae" from the News Bulletin of the Phycological Society of America (PSA), X1 (35), November 1958. **Phycological Newsletter**, a publication of the PSA, 58(1): 11-20, March 2022; Winter/Spring 2022 Volume 58 Number 1

[616] Govindjee, G. (2022b) Frederick Robert (Bob) Whatley (1924-2020): Codiscoverer of photophosphorylation in chloroplasts and much more. **Jour Pl Sci Res** 38(1): 1-7.

[617] Govindjee, G., Malkin, R., and Ogawa, T. (2022) Bacon Ke (1920-2022): a pioneer of primary photochemistry of photosynthesis **Photosynthetica** 60(3): 360-361; DOI 10.32615/ps.2022.026

[618] Kumar, D., Tiwari, S., Naithani, S., and Govindjee, G. (2022) Remembering Professor Krishna K. Tewari (1937-2017): A Pioneer in Plant Molecular Biology. **Current Plant Biology** 29: article #100240 (3 pages);DOI 10.1016/j.cpb.2022.100240

[619] Lauterbur, M.E., and Govindjee, G. (2022) Paul C. Lauterbur (1929-2007): Discoverer of MRI, Father of 13C NMR and 2003 Nobel Laureate. **International Journal of Life Sciences** 11(1): 8-27.

[620] Lazar, D., Stirbet, A., Björn, L.O., and Govindjee, G. (2022) Light quality, oxygenic photosynthesis and more. **Photosynthetica** 60(SI): 23-56; DOI 10.32615/ps.2021.055

[621] Prásil, O., Kana, R. and Govindjee G (2022) Special issue in honor of Prof. George C. Papageorgiou. **Photosynthetica** 60(SI): 1-2. Editorial

[622] Yuan, S., Tang, H., Fu, L. J., Tan, J. L., Govindjee, G., and Guo, Y, (2022) An open Internet of Things (IoT)-based framework for feedback control of photosynthetic activities. **Photosynthetica** 60(SI): 77-85; DOI 10.32615/ps.2021.066

[623] Balashov, S., Imasheva, E., Misra, S., Kono, M., Liu, S., Liang, J., Govindjee, G., and Ebrey, T.G, (2023) Contributions of Rajni Govindjee in the Life Sciences: Celebrating her 88th birthday. **International Journal of Life Sciences** 12(1):1-14.

[624] Biswal, A.K., Pattanayak, G.K, Ruhil K., Kandoi, D., Mohanty, S.S., Leelavati, S., Reddy, V.S. Govindjee, G., and Tripathy, B.C. (2023/2024) Reduced expression of chlorophyllide *a* oxygenase (CAO) decreases the metabolic flux for chlorophyll synthesis and downregulates photosynthesis in tobacco plants. **Physiology and Molecular Biology o**f **Plants** 30: 1-16; DOI 10.1007/s12298-023-01395-5

[625] Björn, L.O., Shevela, D., and Govindjee, G. (2023/2024) What Is Photosynthesis? - A Broader and Inclusive View. In: Dalal VK and Misra AN (eds.) A Closer Look at Photosynthesis, Chapter 1, 43 pp; **Biochemistry and Molecular Biology in Post Genomic**

Era. Plant Science Research and Practices, Nova Science Publishers. ISBN: 979-8-88697-815-5

[626] Breidenbach, R.W., Castelfranco, A.M., Castelfranco, J., Govindjee, G., Smith, K.M., and Stemler, A. (2023) Paul A. Castelfranco (1921-2021): a scientist par excellence, a man of lasting faith, and ever a humanist. **Photosynth. Res.** 157: 147-157. DOI 10.1007/s11120-023-01017-x

[627] Foyer , C.H., Keys, A.J., Parry, M.A.J., and Govindjee, G. (2023) Professor Charles Percival Whittingham (1922-2011). **Photosynthetica** 61(1): 94-96;DOI 10.32615/ps.2023.010

[628] Govindjee, G. (2023a) In appreciation of an ingenious scientist and a great friend: Győző Garab. **Photosynthetica** 61 (SI): 57-60; DOI 10.32615/ps.2023.040

[629] Govindjee, G. (2023b) On the evolution of the concept of two light reactions and two photosystems for oxygenic photosynthesis: A personal perspective. **Photosynthetica** 61(1): 37-47; DOI 10.32615/ps.2023.006

[630] Govindjee,G.,and Frenkel, S. (2023) The life story of Albert W. Frenkel (1919-2015): A pioneer in photosynthesis research. **Photosynthetica** 61(1): 108-114; DOI 10.32615/ps.2023.015

[631] Govindjee, G., Tiwari, D.P., Prasad, R.R., Kehri, H.K., Narain, A., and Sinha, D.P. (2023a) Reminiscences of Manmohan Manohar Laloraya: A great friend to many, and a visionary leader. **Journal of Plant Science Research** 39(2): 15-30.

[632] Govindjee, G., Peterson, L.F., Satoh, K., Herbert, H., de Kouchkovsky, Y., Schreiber, U., Murata, N., Öquist, G., Larkum, A.W.D., Hiyama, T., and Berry, J.A. (2023b) David (Dave) Charles Fork (1929-2020): A gentle human being, a great experimenter, and a passionate researcher. **Photosynth. Res.** 155: 107-125;DOI 10.1007/s11120-022-00964-1

[633] Guru, S.K., Saxena, P., Borah, L., Paul, V., Pandey, R., and Govindjee, G. (2023) Honoring Dinesh Chandra Uprety (1945-2023): A Great Teacher, An Outstanding Scientist,

and A Wonderful Human Being. **Journal of Plant Science Research** 39 (2): 1-13; DOI 10.32381/JPSR.2023.39.02.1

[634] Korres, N.E., Norsworthy, J.K., FitzSimmons, T., Roberts, T.L., Ossterhuis, D.M., and Govindjee, G. (2023) Evaluation of secondary sexual dimorphism of the dioecious Amaranthus palmeri under abiotic stress. **Scientific Reports** 13: #13156; 16 pages. DOI 10.1038/s41598-023-40453-6

[635] Li, Y., Si, D., Wang, W., Xue, S., Shang, W., Chi, Z., Li, C., Hao, C., Govindjee, G., and Shi, Y. (2023) Light-driven CO_2 assimilation by Photosystem II and its relation to photosynthesis. **Chinese Journal of Catalysis** 44: 117-126.

[636] Pandey, R.S., Kaur, H.K., Prasad, R.R., and Govindjee, G. (2023) Remembering Someshwar Nath Bhargava (1937-1983): A Great Human Being and An Outstanding Plant Pathologist / Mycologist from Allahabad University, Prayagraj. LS-**International Journal of Life Sciences** 12(3): 186-202. DOI 10.5958/2319-1198.2023.00016.7

[637] Shevela, D., Kern, J.F., Govindjee, G., and Messinger, J. (2023) Solar energy conversion by photosystem II: principles and structures. **Photosynth. Res.** 156: 279-307; DOI 10.1007/s11120-022-00991-y

[638] Xia,Q., Tang, H., Fu, L., Tan, J., Govindjee, G., and Guo, Y. (2023) Determination of Fv/Fm [variable/maximum] from chlorophyll a fluorescence without dark adaptation by an LSSVM [least squares support vector machine] model. **Plant Phenomics - A Science Partner Journal**, Vol. 5, # 0034l 21 pages; DOI 10.34133/plantphenomics.0034

[**639]** Anwar, K., Joshi, R., Bahugna, R.N., Govindjee, G., Sasidharan, R., Singla-Pareek, S.L., and Pareek, A. (2024) Impact of individual, combined and sequential stress on photosynthesis machinery in rice (*Oryza sativa* L.). **Physiologia Plantarum** 176 (1), e14209 (16 pages); DOI 10.1111/ppl.14209

[640] Badshah, SL, Stirbet, A., Siddique, M., Govindjee, G., Kang D.-W., Bridgeman, T., and Seo, Y. (2024) Inhibition of CO_2 fixation as a potential target for the control of freshwater cyanobacterial harmful algal blooms. **ACS Environ. Sci. Technol. Water** : 4 (8): (11 pages); DOI 10.1021/acsestwater.4c00191. CS ES&T Water

[641] Govindjee, G. (2024a) Contributions by Christa Critchley to photosynthesis research and to plant ecophysiology. **Photosynthetica** 62 (1): 40-43; DOI 10.32615/ps.2024.011

[642] Govindjee, G. (2024b) George Edward Hoch (1931-2023): a great photosynthesis scholar, a real family man, and a wonderful friend to many **Photosynthetica** 62 (1): 1-5. DOI 10.32615/ps.2024.001

[643] Govindjee,G. (2024c) On the discovery of the two-light effect on chlorophyll a fluorescence: Quenching of chlorophyll a fluorescence of Photosystem II by Photosystem I light. **Photosynthetica** 62 (3): 302-304; DOI 10.32615/ps.2024.035.

[**644]** Govindjee, G., Sharkey, T.D., and Melis, A. (2024a) Honoring Hartmut Karl Lichtenthaler, innovative pioneer of photosynthesis, on his 90th birthday **Photosynthetica** 62 (4): 326-338; DOI 10.32615/ps.2024.017.

[645] Govindjee, G., Stirbet, A., Lindsey, J.S., and Scheer, H. (2024b) On the Pelletier and Caventou (1817, 1888) papers on chlorophyll and beyond. **Photosynth. Res.** 160: 55-60; DOI 10.1007/s11120-024-01081-x; plus the Supplementary Material.

[646] Govindjee, G., Amesz, B., Garab, G., and Stirbet, A. (2024c) Remembering Jan Amesz (1934-2001): A great gentleman, a major discoverer, and an internationally renowned biophysicist of both oxygenic and anoxygenic photosynthesis. **Photosynth. Res.** 160: 125-142; DOI 10.1007/s11120-024-01102-9.

[647] Govindjee,G., Canaani, O., Cellarius, R.A., Diner, B., Greenbaum, E., Hou, H.J.M., Kiang, N.Y., Lindsey, J.S., Mauzerall, D.L., Mauzerall,M.E., Seibert, M., and Stirbet, A. (2024) Contributions of David Mauzerall to photosynthesis research – celebrating his 95th birthday. **Photosynthetica** 62 (3): 271-288. also see a draft of its graphical abstract. DOI 10.32615/ps.2024.029.

[648] Stirbet, A., Guo, Y., Lazár, D., and Govindjee, G. (2024) From leaf to multiscale models of photosynthesis: applications and challenges for crop improvement **Photosynth. Res.** 161: 21—49; DOI 10.1007/s11120-024-01083-9.

[649] Vinyard, D., and Govindjee, G. (2024) Bicarbonate is a key regulator but not a substrate for O_2 evolution in Photosystem II **Photosynth. Res.** 162: 93-99;DOI 10.1007/s11120-024-01111-8.

[650] Ye, Z.P., An,T. , Govindjee, G., Robakowski, P., Stirbet, A., Yang, X.-L., Hao, X.-Y., Kang, H.J., and Wang, F.-B. (2024) Addressing the long-standing limitations of double exponential and non- rectangular hyperbolic models in quantifying light-response of electron transport rates in different photosynthetic organisms under various conditions. **Front. Plant Sci.** 15: 15 pages; DOI 10.3389/fpls.2024.1332875