

**ANDREW NEIL WEBBER**  
**2017**

**ADDRESS**

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School of Life Sciences  
Arizona State University  
Tempe, Arizona, 85287-4501  
Office: 480-727-9443  
Lab: 480-965-8725  
email: andrew.webber@asu.edu

**EDUCATION**

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<b>Ph.D.</b> in Biology, University of Essex, UK.	1980-84
<b>B.Sc. (Hons.)</b> in Biological Chemistry, University of Essex, UK.	1977-80
Stroud Technical College, UK	1974-77

**ADMINISTRATIVE APPOINTMENTS**

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<b>Executive Director</b> , Office of the Provost	2016-present
<b>Interim Dean</b> , Division of Graduate Education	2015-2016
<b>Vice Provost</b> for Graduate Education	2013-2015
<b>University Accreditation Officer</b>	2013-present
<b>Associate Vice Provost</b> , Graduate College	2007-2013
<b>Associate Dean</b> , Division of Graduate Studies	2005-2007
<b>Associate Director</b> , School of Life Sciences	2003-2005
<b>Director</b> , Center for the Study of Early Events in Photosynthesis	2000-2003

**PROFESSIONAL EXPERIENCE**

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<b>Senior Sustainability Scientist</b> , School of Sustainability	2017-present
<b>Professor</b> , School of Life Sciences, ASU	2003-present
<b>Professor</b> , Department of Plant Biology, ASU	2000-2003
<b>Associate Professor</b> , Department of Plant Biology, ASU	1995-2000
<b>Assistant Professor</b> , Department of Botany, ASU	1989-1995
<b>Postdoctoral scientist</b> , University of California, Berkeley	1988-1989
<b>SERC Postdoctoral Fellow</b> , University of Cambridge, UK.	1986-1988
<b>Postdoctoral scientist</b> , University of California Riverside.	1984 -1986
<b>Visiting Postdoctoral Fellow</b> , University of Nebraska Lincoln.	1984

**SELECTED AWARDS, HONORS AND SERVICE TO PROFESSION**

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Panel Member, Graduate Research Fellowships Program, NSF	2017
Peer Corps Member, Higher Learning Commission	2016-present

Panel Member, Graduate Research Fellowships Program, NSF	2016
Invited Speaker, Council of Graduate Schools Summer Institute	2015
Invited Speaker, Council of Graduate Schools Annual Meeting	2014
Invited Speaker, Interdisciplinary Graduate Education Workshop, NSF	2012
Editorial Board Member, PLoS One	2011-present
Advisory Board Member: Longitudinal Study of Future STEM Faculty	2009-present
Panel Member, NSF Predoctoral Fellowships	2007
Founding Fellow, Academy for the Arts, Science and Technology of Arizona,	2005
Panel Member, NSF Predoctoral Fellowships	2005
Associate Editor, Photosynthesis Research	2002-present
Invited speaker, Gordon Research Conference	2003
Panel member, NSF REU-Site Program	2002
Panel member, NRICPG USDA Plant Biochemistry program	2002
Biology, 6/e (Johnson and Raven): Research highlighted <a href="http://www.mhhe.com/biosci/genbio/raven6/lab3/labs/lab3/home.html">http://www.mhhe.com/biosci/genbio/raven6/lab3/labs/lab3/home.html</a>	2001
Panel member, NSF REU-Site Program	2001
Panel member, NSF Molecular Biochemistry Program	2000
Discussion leader, Gordon Research Conference	1998
Editorial Board, Photosynthesis Research	1998-2002
Panel member, NRICPG USDA Photosynthesis and Respiration Program	1997
Invited speaker, Gordon Research Conference	1996
Organizer, 4th Western Regional Photosynthesis Conference	1995
Invited speaker, Photosystem I Conference, Berlin	1993
Invited Speaker, Photobiology Society Annual Meeting	1991
Director, NSF Research Experience for Undergraduates Program	1993-2003
Postdoctoral Fellowship, Science and Engineering Research Council	1986-1988
Wain Postdoctoral Fellowship, Agricultural and Food Research Council	1984
Natural Environment Research Council Studentship	1980-1983

## **SIGNIFICANT DEPARTMENT, COLLEGE AND UNIVERSITY SERVICE**

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### **University**

University Pandemic Committee, 2014-present  
 University Chief Accreditation Officer, 2013-present  
 Ethics Review Committee, 2012-13  
 Energy Metaplan Executive Committee, 2010-present  
 Graduate Council, 2005-present  
 Research Deans Council, 2006-present  
 Personnel Advisory Committee (PAC20), 2005-2009  
 Council for Research and Creative Activities, 1999-2002.  
 Radiation Protection Committee, 1995-2001.  
 Academic Senate, 1996-98.

## **College**

Reorganization of Life Sciences Steering Committee, 2002-03  
Building Committee (ISTB1), 2003-2004  
Committee of Review, 1999-2002.  
Academic Standards Committee, 1995-98.  
Chair, Molecular and Cell Biology PhD Program Recruitment Committee, 1997-99.  
Member, Molecular and Cellular Biology PhD Program Executive Committee, 1992-94.  
Photosynthesis Center Seminar Committee, 1990-1994  
Photosynthesis Center Personnel Committee, 1997-99.  
Photosynthesis Center Executive Committee, 1989-present

## **Department/School**

Bioenergy Hiring Planning Committee, 2011  
Executive Committee, School of Life Sciences, 2003-2005  
Chair, Biochemistry/SoLS Faculty Search Committee, 2004  
Faculty Search Committee for Bioethics, 2004  
Personnel Committee, Department of Plant Biology (Chair 2002/03), 2000-03  
CBME Chemical Engineering Faculty Search Committee member, 1998-99.  
Departmental AA/EEO Representative, 1995-98  
Student Advisor, 1994-96.  
Chair, Faculty Search Committee for Plant Molecular Geneticist, 1998-99.  
Chair, Faculty Search Committee for Plant Molecular Biologist, 1996-97.  
CBME Chemical Engineering Faculty Search Committee member, 1991-92.  
Faculty Search Committee for Research Scientist (EPR Facility), 1990-91.  
Faculty Search Committee for Urban Horticulturist, 1989-90.

## **GRADUATE STUDENT AND POSTDOCTORAL TRAINING**

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### **Committees Chaired**

Ruo Hui Xu  
Liyang Cui  
Hyeonmoo Lee  
Hui Su  
Joe Austin,  
Asaph Cousins (2012 SoLS Outstanding Alumni Awardee)  
Faye Farmer  
Jayita Goswami  
Michael McConnell

### **Committee member**

Jiujang Yu  
Ghazong Shen  
Lilian Jiang.  
Zhiqian Pan  
Hsin-Sheng Yang  
Richard White

Chia-Yuan Hu  
David Wolfe  
Michael Laird  
Keith Idso  
Martin Tichy  
Donald Crampton  
Cale Lisenbee  
Laura Eggink  
Daniel Dojconovic  
Martin Hohmann-Marriott  
Zhi Cai

**Postdoctoral Fellows**

Rajagopal Subramanian  
Krzysztof Gibasiewicz  
Ramesh, VM  
Gying Nie  
Neal Adam  
Hyeonmoo Lee  
Pamella Gibbs

**FUNDING**

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*\*Awards as Institutional PI*

*\*\*Graduate and Undergraduate Research Training Grants*

*"2012 Bisgrove Scholar Program" Science Foundation Arizona, \$400,000, A. Webber	2012-14
**"IGERT; Solar Utilization Network (SUN)", NSF, \$3,000,000, W. Vermaas, A. Webber, 18 Co-PI's	2012-17
* "Graduate Research Fellowships and K12 partnerships at ASU" Science Foundation Arizona, \$964,000, A. Webber	2009-12
*"Graduate Research Fellowships at ASU" Science Foundation Arizona, \$3,250,000, A. Webber.	2008-11
*"Graduate Research Fellowships at ASU" Science Foundation Arizona, \$3,650,000, A. Webber.	2007-11
"Purchase of an Instrument for Ultrafast, Multidimensional Fluorescence Detection and Imaging," NSF, \$500,000. W. Petuskey, S. Lin, N. Woodbury, A. Webber (5 other Co-PI's)	2006-09

- "Excitation Energy Transfer in the photosystem I," 2005-09  
DOE, \$360,000. A. Webber (PI) and N. Woodbury
- "Structure of Photosystem I supercomplexes," NSF, \$1,400,000 2004-11  
P. Fromme (PI), A. Webber and A. Melakazernov.
- "Excitation energy transfer in the photosystem I core antenna," 2002-05  
DOE, \$300,000. A. Webber (PI) and Neal Woodbury.
- "Pathway of electron transfer in Photosystem I," NRICGP-USDA, \$205,000. 2001-05  
A. Webber.
- \*\*"IGERT: Optical biomolecular devices," NSF, \$2,826,800. 2001-06  
N. Woodbury PI and 12 CoPI's
- \*\*"Research experience in chemical and biochemical aspects of photosynthesis," 2000-03  
NSF, \$150,000. A. Webber.
- "Excitation energy transfer in the photosystem I core antenna: function of 1999-02  
the clustered and connecting chlorophylls," DOE, \$300,000. A. Webber (PI)  
and Neal Woodbury.
- "Analysis of the primary electron donor of photosystem I in 1998-00.  
*Chlamydomonas* mutants," NRICGP-USDA, \$105,000. A. Webber.
- "Carbon balance of a wheat ecosystem from source to sink in response 1997-00  
to Free-Air CO<sub>2</sub> enrichment and nitrogen," Agricultural Research Service,  
USDA, \$148,000. A. Webber.
- "Acquisition of a pulsed FT-EPR spectrometer," NSF, \$324,850, 1997-99  
LoBrutto, R. (PI), Blankenship, R, Frasc, W., Gust, D.,  
Vermaas, W., Webber, A.
- \*\*"Research experience in chemical and biochemical aspects of photosynthesis," 1997-00  
National Science Foundation, \$150,000. A. Webber.
- \*\*"Research training grant in optical biomolecular devices," NSF, \$1,780,000, 1996-01  
Woodbury, N. (PI), Gust, D., Blankenship, R. Pizziconi, V.,  
Webber, A.
- "Spectroscopic analysis of site-directed mutants of photosystem I," 1995-96  
NATO, \$6000, Kuhn, M. (PI) and Webber, A. N.
- "Mutational analysis of the photosystem I reaction center in chloroplasts," 1995-98  
NRICGP-USDA, \$160,000. A. Webber (PI)  
and S. Bingham.

**“Research experience in chemical and biochemical aspects of photosynthesis,” National Science Foundation, \$150, 000. A. Webber.	1994-97
“Specific mutagenesis of the photosystem I reaction center in chloroplasts,” USDA National Research Initiatives Program, \$110,000. A. Webber (PI) and S. Bingham.	1993-95
**“Research experience in photosynthesis,” National Science Foundation \$47, 000. A. Webber (PI).	1993-94
“X-ray crystallography of photosynthetic complexes,”. Department of Energy, \$208,860. Allen, J. (PI), Webber, A. N., (8 additional Co-PI’s).	1992-94
“Manipulation of chloroplast genes for in situ studies of photosystem I Assembly,” USDA National Research Initiatives Competitive Grants Program, \$110,000. A. Webber (PI) and S. Bingham.	1991-93
“A center for the study of early events in photosynthesis,” Department of Energy, \$1,295,882. Blankenship, R. E. (PI), Webber, A. N. and 9 Co-PI’s.	1991-94
“Function of low molecular weight polypeptides in photosystem II,” National Science Foundation, \$170,000. A. Webber.	1991-93
“Electron paramagnetic resonance spectrometer for photosynthesis Research,” \$283, 340. Department of Energy University Instrumentation Program. Dr. R. E. Blankenship (PI), A. Webber (CoPI) and 8 others.	1990-92
“Regulation of chloroplast gene expression,” Science and Engineering Research Council, UK, £7000. A. Webber.	1987-88
“Chloroplast Biogenesis”, Science and Engineering Research Council, UK. Postdoctoral Fellowship Award	1986-88

## **REVIEWER ACTIVITIES**

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Department of Energy, National Science Foundation, United States Department of Agriculture, Human Frontiers Science Program (EU), Biotechnology and Biological Sciences Research Council (UK), Israeli Academy of Sciences, Biochimica Biophysica Acta, Biochemistry, Biophysical Journal, Current Genetics, EMBO Journal, FEBS letters, Journal of Applied Phycology, Journal of Biological Chemistry, Journal of Physical Chemistry, New Phytologist, Photochemistry and Photobiology, Photosynthesis Research, Physiologia Plantarum, Plant, Cell and Environment, Plant Molecular Biology, Plant Journal, Plant Physiology, PLoS, Proceedings of the National Academy of Sciences, Science.

## PUBLICATIONS

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- Webber, A.N.**, Baker, N.R., Platt-Aloia, K. and Thomson, W.W. 1984. Appearance of a state 1-state 2 transition during chloroplast development in the wheat leaf: Energetic and structural considerations. *Physiologia Plantarum* 60, 171-179.
- Webber, A.N.**, Baker, N.R., Paige, C.D. and Hipkins, M.F. 1984. Electron transport between photosystem 1 and photosystem 2 and development of a transthylakoid energy gradient during chloroplast development in the wheat leaf. In *Advances in Photosynthesis Research* (Sybesma, C. ed.) Vol. 4, pp. 665-668, Dr. Junk Publishers, The Hague.
- Baker, N.R., Markwell, J.P., **Webber, A.N.** and Thornber, J.P. 1984. The role of light harvesting complex phosphorylation in mediating the state 1-state 2 transition: A re-examination. In: *Advances in Photosynthesis Research* (Sybesma, C. ed.), Vol. 3, pp. 319-322, Dr. Junk Publishers, The Hague.
- Baker, N.R., **Webber, A.N.**, Bradbury, M., Markwell, J.P., Baker, M.G. and Thornber, J.P. 1984. Development of photochemical competence during growth of the wheat leaf. In *Biosynthesis of the Photosynthetic Apparatus: Molecular Biology, Development and Regulation* (Thornber, J.P., Staehlin, L.A. and Hallick, R.B., eds.), pp. 237-255, Alan R. Liss Inc., New York.
- Percival, M.P., **Webber, A.N.** and Baker, N.R. 1984. Evidence for the role of the light harvesting chlorophyll a/b protein complex in photosystem II heterogeneity. *Biochimica et Biophysica Acta* 767, 582-589.
- Webber, A.N.**, Spencer, L., Sawyer, D.T. and Heath, R.L. 1985. Photosynthetic water oxidation: A new chemical model. *Federation of European Biochemical Societies Letters* 189, 258-262.
- Markwell, J.P., **Webber, A.N.** and Lake, B. 1985. Mutants of sweet clover (*Melilotus alba*) lacking chlorophyll *b*: Studies on pigment-protein complexes and thylakoid protein phosphorylation. *Plant Physiology* 77, 948-951.
- Markwell, J.P., **Webber, A.N.**, Danko, S.J. and Baker, N.R. 1985. Thylakoid protein kinase activities of three higher plant mutants deficient in chlorophyll *b*. *Biochimica et Biophysica Acta* 808, 156-163.
- Gilmour, D.J., Hipkins, M.F., **Webber, A.N.** Baker, N.R. and Boney, A.D. 1985. The effect of ionic stress on photosynthesis in *Dunaliella tertiolecta*.: Chlorophyll fluorescence and spectral characteristics. *Planta* 163, 250-256.
- Webber, A.N.**, Baker, N.R., Paige, C.D. and Hipkins, M.F. 1986. Photosynthetic electron transport and establishment of an associated trans-thylakoid proton electrochemical gradient during development of the wheat leaf. *Plant, Cell and Environment* 9, 203-208.

- Percival, M.P., **Webber, A.N.** and Baker, N.R. 1986. Modification of the interaction between photosystem II and the light harvesting chlorophyll *a/b* complex by protein phosphorylation in developing wheat thylakoids exhibiting different degrees of lateral heterogeneity. *Biochimica et Biophysica Acta* 848, 317-323.
- Bredencampf, G.T., Percival, M.P., **Webber, A.N.** and Baker, N.R. 1986. Organization of the light harvesting apparatus during chloroplast development in wheat. In: *Regulation of Chloroplast Differentiation* (Akoyunoglou, G. and Senger, H. eds.), pp. 259-265.
- Baker N.R. and **Webber, A.N.** 1987. Interactions of photosystems. In: *Advances in Botanical Research* (Callow, ed.), Vol. 13, pp. 1-62.
- Cavello, P., **Webber, A.N.**, Danko, S.J., Markwell, J.P. and Baker, N.R. 1987. Changes in light-regulation of thylakoid protein phosphorylation during chloroplast development in wheat. *Photosynthesis Research* 12, 243-254.
- Webber, A.N.**, Platt-Aloia, K.A., Thomson, W.W. and Heath, R.L. 1987. Composition of the marginal regions of thylakoid membranes. In: *Progress in Photosynthesis Research* (Biggins, J. ed.), Vol. 2, 285-288.
- Nishio, J.N., **Webber, A.N.**, Guralnick, L.J., Heath, R.L. and Ting, I.P. 1987. Photosynthetic properties of the three major tissue layers of the CAM plant *Peperomia camptotricha*. In: *Progress in Photosynthesis Research* (Biggins, J. ed.), Vol. 3, 523-526.
- Spencer, L., Sawyer, D.T., **Webber, A.N.** and Heath, R.L. 1987. Thermodynamic constraints to photosynthetic water oxidation. In: *Progress in Photosynthesis Research* (Biggins, J. ed.), Vol. 1, 717-720.
- Webber, A.N.**, Platt-Aloia, K.A., Heath, R.L. and Thomson, W.W. 1988. The marginal regions of thylakoid membranes: a partial characterization using polyoxyethylene sorbitan monolaurate solubilisation of thylakoid membranes. *Physiologia Plantarum* 72, 288-297.
- Gray, J.C., Dunn, P.P.J., Eccles, C.J., Green, R.M. Hird, S.M., Hoglund, A.S., **Webber, A.N.**, Willey, D.L. and Dyer, T.A. 1988. The chloroplast genome and the biogenesis of the chloroplast thylakoid membrane. *Biochemical Society Transactions* 16, 704-706.
- Webber, A.N.**, Packman, L.C., Chapman, D.J., Barber, J. and Gray, J.C. 1989. A fifth chloroplast-encoded polypeptide is present in the photosystem II reaction centre complex. *Federation of European Biochemical Societies Letters* 242, 259-262.
- Webber, A.N.**, Hird, S.M., Packman, L.C., Dyer, T.A. and Gray, J.C. 1989. A photosystem II polypeptide is encoded by an open reading frame co-transcribed with genes for cytochrome *b-559* in wheat chloroplast DNA. *Plant Molecular Biology* 12, 141-151.
- Webber, A.N.**, Packman, L.C. and Gray, J.C. 1989. A 10kDa polypeptide associated with the oxygen-evolving complex of photosystem II has a putative C-terminal non-cleavable



thylakoid transfer domain. Federation of European Biochemical Societies Letters 242, 435-438.

**Webber, A.N.** and Gray, J.C. 1989. Detection of calcium binding by photosystem II polypeptides immobilized onto nitrocellulose membrane. Federation of European Biochemical Societies Letters 249, 79-82.

**Webber, A.N.**, Wales, R. and Gray, J.C. 1989.  $^{45}\text{Ca}$  binding by photosystem II polypeptides. Techniques and New Developments in Photosynthesis (Barber, J. and Malkin, R. eds.) pp. 133-136, Plenum Press.

Gray, J.C., Hird, S.M., Wales, R., **Webber, A.N.** and Willey, D.L. 1989. Genes and polypeptides for photosystem II. Techniques and New Developments in Photosynthesis (Barber, J. and Malkin, R. eds.) pp. 423-435, Plenum Press.

Zilber, A., Wynn, R. M., **Webber, A.N.** and Malkin, R. 1990. Organization of photosystem I subunits in thylakoid membranes. Current Research in Photosynthesis (Baltscheffsky, M. ed.) Vol. 2, 575-578.

Gray, J. C., **Webber, A.N.**, Hird, S. M., Willey, D. L. and Dyer, T. A. 1990. Genes for photosystem II polypeptides. Current Research in Photosynthesis (Baltscheffsky, M. ed.) Vol. 3, 461-468.

**Webber, A.N.** and Malkin, R. 1990. Photosystem I reaction center proteins contain leucine zipper motifs - a proposed role in dimer formation. Federation of European Biochemical Societies Letters 264, 1-4.

Ikeuchi, M., Eggers, B., Shen, G., **Webber, A.**, Yu, L., Hirano, A., Inoue, Y. and Vermaas, W. 1991. Cloning of the *psbK* gene from *Synechocystis* sp. PCC 6803, and characterization of photosystem II mutants lacking PSII-K. Journal of Biological Chemistry, 266, 11111-11115.

Hird, S.M., **Webber, A.N.**, Dyer, T.A. and Gray, J.C. 1991. Differential expression of the chloroplast genes for the 47kDa chlorophyll a-protein and the 10kDa phosphoprotein during chloroplast development in wheat. Current Genetics 19, 199-206.

Bingham, S.E., Xu, R-H and **Webber, A.N.** 1991. Transformation of chloroplasts with the *psaB* gene encoding a polypeptide of the photosystem I reaction center. Federation of European Biochemical Societies Letters 292, 137-140.

**Webber, A.N.**, Bingham, S.E., Gibbs, P.B., Misra, L.M. and Ward, J.B. 1992. Site-directed mutagenesis of the photosystem I reaction center in *Chlamydomonas reinhardtii*. Research in Photosynthesis (Murata, ed), Vol. I, 561-564.

**Webber, A.N.**, Gibbs, P.B., Ward, J.B. and Bingham, S.E. 1993. Site-directed mutagenesis of the photosystem I reaction center in chloroplasts: the proline-cysteine motif. Journal of Biological Chemistry 268, 12990-12995.

- Xu, R.-H., Bingham, S.E. and **Webber, A.N.** 1993. Increased mRNA accumulation in a chloroplast *psaB* frameshift mutant of *Chlamydomonas reinhardtii* suggests a role for translation in *psaB* mRNA stability. *Plant Molecular Biology* 22, 465-474.
- Webber, A.N.**, Nie, G.-Y. and Long, S.P. 1994. Acclimation of photosynthetic proteins to raising CO<sub>2</sub>. *Photosynthesis Research* 39, 413-426.
- Bingham, S.E. and **Webber, A.N.** 1994. Maintenance and expression of heterologous genes in the chloroplast of *Chlamydomonas reinhardtii*. *Journal of Applied Phycology* 6, 239-245.
- Cui, L., Bingham, S. E., Kuhn, M., Käss H., Lubitz, W. and **Webber, A.N.** 1995. Site-directed mutagenesis of conserved histidines in the helix VIII domain of PsaB impairs assembly of the photosystem I reaction center without altering spectroscopic characteristics of P700. *Biochemistry* 34, 1549-1558.
- Rodday, S.M., **Webber, A.N.**, Bingham, S.E. and Biggins, J. 1995. Evidence that the FX domain in photosystem I interacts with the subunit PsaC: Site-directed changes in PsaB destabilize the subunit interaction in *Chlamydomonas reinhardtii*. *Biochemistry* 34, 6328-6334.
- Nie, G.-Y., Long, S.P., Garcia, R.L. Kimball, B.A., LaMorte, R.L., Pinter, P.J., Wall, G.W., and **Webber, A.N.** 1995. Free-Air CO<sub>2</sub> enrichment effects on the development of the photosynthetic apparatus in wheat, as indicated by changes in leaf proteins. *Plant Cell and Environment*, 18, 855-864.
- Nie, G.-Y., Hendrix, D.L., **Webber, A.N.**, Kimball, B.A. and Long, S.P. 1995. Increased accumulation of carbohydrates and decreased photosynthetic gene transcript levels in wheat grown at an elevated CO<sub>2</sub> concentration in the field. *Plant Physiology* 108, 975-983.
- Webber, A.N.**, Bingham, S.E. and Lee, H. 1995. Genetic engineering of thylakoid protein complexes by chloroplast transformation in *Chlamydomonas reinhardtii*. *Photosynthesis Research* 44, 191-205.
- Hastings, G., Hoshina, S., **Webber, A.N.** and Blankenship, R. E. 1995. Universality of electron and energy transfer processes in photosystem I. *Biochemistry*, 34, 15512-15522.
- Krabben, L., Käß, H., Schlodder, E., Kuhn, M., Lubitz, W., Su, H., Bingham, S. and **Webber, A.** 1995. Site-directed mutations of PsaB for the study of cofactor protein and protein-protein interactions of Photosystem I. In: *Photosynthesis: From Light to Biosphere*, Mathis, P. (Ed.), Kluwer Academic Publishers, Dordrecht, Vol I, pp. 123–126.
- Hu, C.-Y., Houseman, A.L.P., Morgan, L., **Webber, A.N.** and Frasch, W.D. 1995. Catalytic function of a vital carboxylase residue in the beta subunit of the CF1-ATPase from *C. reinhardtii*. In: *Photosynthesis: From Light to Biosphere*, Mathis, P. (Ed.), Kluwer Academic Publishers, Dordrecht, Vol III, pp. 131–134.

- Lee, H., Bingham, S.E. and **Webber, A.N.** 1996. Site-directed mutagenesis and analysis of revertants indicates a requirement for C-terminal amino acids of PsaB for stable assembly of the photosystem I reaction center complex. *Photochemistry Photobiology* 64, 46-52.
- Lee, H., Bingham, S.E. and **Webber, A.N.** 1996. Function of 3' non-coding sequences and stop codon usage in expression of the chloroplast *psaB* gene in *Chlamydomonas reinhardtii*. *Plant Molecular Biology*, 31, 337-354.
- Webber, A.N.** and Baker, N.R. 1996. Control of thylakoid membrane development and assembly. In: *Oxygenic Photosynthesis: the Light Reactions* (Ort and Yocum eds.), pp. 41-58, Kluwer Academic Publishers.
- Hu, C.-Y., Houseman, A.L.P, Morgan, L., **Webber, A.N.** and Frasch, W.D. 1996. Catalytic function of conserved carboxylic residues in the  $\alpha$ -subunit of the chloroplast F<sub>1</sub>-ATPase from *Chlamydomonas reinhardtii*. *Biochemistry*, 35, 12201-12211.
- Webber, A.N.**, Su, H., Bingham S.E., Käss, H., Krabben, L., Kuhn, M., Schlodder, E. and Lubitz, W. 1996. Site-directed mutations affecting the spectroscopic characteristics and mid-point potential of the primary donor in photosystem I. *Biochemistry*, 39, 12857-12863.
- Webber, A.N.**, Lee, H. and Bingham, S. E. 1997. Structure and function of photosystem I: a molecular approach. In: *Handbook of Photosynthesis* (M. Pessarakli, ed.), pp. 219-230, Marcell Dekker, inc.
- Melkorzernov, A.N., Lin, S., Su, H., Bingham, S.E., **Webber, A.N.** and Blankenship, R.E. 1997. Specific mutation near the primary donor in photosystem I from *Chlamydomonas reinhardtii* alters the trapping time and spectroscopic properties of P700. *Biochemistry*, 36, 2898-2907.
- Lee, H., Bingham, S.E. **Webber, A.N.** 1998. Mutational analysis of reaction centers in *Chlamydomonas reinhardtii*. In: *Photosynthesis: Molecular Biology of Energy Capture* (L. McIntosh, Ed.), *Methods in Enzymology*, Vol 297, pp311-319, Academic Press, Inc., FL.
- Webber, A.N.** and Bingham, S.E. 1998. Structure and function of photosystem I. In: *Molecular Biology of Chlamydomonas: Chloroplasts and mitochondria* (J.D. Rochaix, S. Merchant and M. Goldschmidt-Clermont eds.), pp. 323-348, Kluwer Academic Publishers.
- Melkorzernov, A.N., Su, H., **Webber, A.N.** and Blankenship, R.E. 1998. Excitation energy transfer in thylakoid membranes from *Chlamydomonas reinhardtii* lacking chlorophyll *b* and with mutant photosystem I. *Photosynthesis Research* 56, 197-207.
- Austin, J., Backhaus, R. and **Webber, A.N.** 1999. Photosystem I function and assembly in tobacco chloroplast mutants. In: *Photosynthesis: Mechanism and Effects* (G. Garab, ed.), Dordrecht: Kluwer Academic Publishers, 4 pp.

- Webber, A.N.** 2000. Photophosphorylation. In: Encyclopedia of Life Sciences, Macmillan Reference Limited, Stockton Press, 4pp.
- Webber, A.N.** 2000. Development of the photosynthetic apparatus. In: Leaf Development and Canopy Growth (B. Marshall and J. Roberts, eds.), pp. 145-170, Sheffield Academic Press.
- Krabben, L. Schlodder, E., Jordan, R., Carbonera, D., Giacometti, G., Lee, H., **Webber, A.N.** and Lubitz W. 2000. The Influence of the Axial Ligands on the Spectral Properties of P700 of Photosystem I: A Study of Site-Directed Mutants. *Biochemistry*, 39, 13012-13025.
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