Andreas P.M. Weber – *Curriculum Vitae*

Department of Plant Biochemistry
Heinrich-Heine-Universität
Geb. 26.03.01
D-40225 Düsseldorf

Phone +49-211-81-12347
Fax +49-211-81-13706
andreas.weber@uni-duesseldorf.de
http://www.biologie.uni-duesseldorf.de/Institute/Biochemie_der_Pflanzen

EDUCATION

Institution	Major/Area	Degree	Year
University of Würzburg	Botany	Diploma	1991
University of Würzburg	Plant Biology	Dr. rer.nat.	1996
University of Cologne	Plant Biology	Habilitation	2002

APPOINTMENTS

2007- Professor (W3) and Chair, Department of Plant Biochemistry, Heinrich-Heine-University, Düsseldorf, Germany

2007- Adjunct Professor of Plant Biology, Department of Plant Biology, Michigan State University

2002-2007 Associate Professor, Department of Plant Biology
Michigan State University

1997-2002 Research Group Leader, Department of Plant Biology
University of Cologne, Germany

2000-2001 Visiting Scientist (Honorary Fellow), Department of Botany
University of Wisconsin-Madison

1996-1997 Postdoctoral Fellow, Department of Plant Biology
University of Cologne, Germany

RESEARCH INTERESTS

Intracellular solute transport in plant cells; biochemistry and structural biology of solute transporters; compartmentation of metabolic pathways; metabolic networks; coordination and regulation of carbon and nitrogen metabolism; photorespiration; extremophilic eukaryotes;

SELECTED PROFESSIONAL ACTIVITIES

Organized (alone or with others):

Minisymposium and Workshop “Biosynthesis and Degradation of Starch”, University of Cologne, 2000

Minisymposium and Workshop “Progress in Photosynthesis Research”, University of Cologne, 2001

"13th International Congress on Photosynthesis", Session Chair "Photosynthate transport and transporters", Montreal, Canada, 2004.
Workshop on Algal Genomics, ISPL Meeting 2006, Michigan State University, 2006.
"New Vistas in Microbial Extremes" (Co-Chair), International Symposium on Microbial Ecology, Cairns, Australia, 2008.
Session Chair, Photosynthesis: C3, C4, CAM, 2011, Biannual Meeting of the German Botanical Society

Invited reviews:

Annual Review of Plant Biology (2011), Current Opinion in Plant Biology (2010), Annual Review of Genetics (2007), International Review of Cytology (2007), FEBS Letters (2007), Annual Review of Plant Biology (2005), Current Opinion in Plant Biology (2004), Journal of Experimental Botany (2002, 2003), Trends in Plant Sciences (2002).

Editorial work:

Plant Physiology (Associate Editor)
Plant Biology, Stuttg. (Reviews Editor)
Frontiers in Plant Physiology (Associate Editor)

Grant Review Panel Member:

NSF, Metabolic Biochemistry (2004 – 2007)
AERES Evaluation Committee, CEA Cadarache, France.

Ad Hoc Reviewing:

Grants for NSF, USDA, BARD, DFG, BBSRC, ISTC-CRDF, ISF
Manuscripts for Biochemistry; Biochim Biophys Acta; FEBS Lett; Gene; J Biol Chem; J Exp Bot; J Mem Biol; J Plant Physiol; Mol Cell Proteomics; New Phytol; Nat Biotech, Nat Genet; Plant Cell; Plant Cell Environ; Plant Cell Physiol; Plant Mol Biol; Plant J; Plant Physiol; Plant Physiol Biochem, Physiol Plant; Plant Sci; Planta; Proc Natl Acad Sci USA; Trends Plant Sci.

Community Service:

Associate Chairperson, Section Plant Physiology and Molecular Biology, German Botanical Society (2007 - 2009)
Chairperson, Section Plant Physiology and Molecular Biology, German Botanical Society (since 2010)

HONORS AND AWARDS

DFG Graduate Fellowship, University of Würzburg, 1991-1994
DFG Habilitation Fellowship, University of Cologne, 2000-2002
Six DFG awards, University of Cologne, (WE2231/1 – WE2231/3-1) 1997-2002
> $4 Mio in funding awarded 2002 – 2007 (NSF, DOE, MSU IRGP, MSU CPPT); Lead-PI only; funding obtained as Co-PI on collaborative research proposals (e.g., Arabidopsis 2010) not included.

University of Cologne (1997 – 2002)

08/97 Characterization of a starch free mutant of *Arabidopsis thaliana*. DFG (WE2231/1-1).

07/98 Plastidic dicarboxylate translocators in *Arabidopsis thaliana* and *Nicotina tabacum*. DFG (WE2231/2-1).

03/00 Characterization of a starch free mutant of *Arabidopsis thaliana* DFG (WE2231/1-3). Renewal of WE2231/1-1.

03/00 Habilitation Award DFG (WE2231/3-1): Studies on the carbon and nitrogen metabolism

of plastids, with particular emphasis on the transport processes interconnecting plastids and cytosol and the regulation of metabolic pathways in cytosol and plastids.

09/00 Plastidic dicarboxylate translocators in *Arabidopsis thaliana* and *Nicotina tabacum*. DFG (WE2231/2-2). Renewal of WE2231/2-1.

05/01 Interaction of plastidic and cytosolic nitrogen metabolim. DFG national key action 1108 „Dynamics and regulation of plant membrane transport during development of cell- and organ-specific characteristics“ (WE2231/2-3).

11/01 Joint GABI-Génoplant Project „Functional genomics of nitrogen utilisation and nitrogen signalling“; subproject: „Nitrogen metabolism and the interaction of C/N pathways in plastids and the cytosol“. Project stopped and remaining funds returned after my transfer to MSU.

Michigan State University (2002 – 2007)

MSU Center for Plant Products and Technologies. “Unravelling regulatory elements and limiting steps in plant secondary metabolism”. (2002-2003; $50,000). Role: PI

MSU New Faculty Intramural Research Grant Competition: “Plastidic carbohydrate translocators”. (2003-2004; $50,000). Role: PI

MSU Center for Plant Products and Technologies: “Phenylalanine-insensitive Mutants of *Arabidopsis thaliana*”. (2003-2004; $35,000). Role: PI

National Science Foundation (NSF) “Genome Analysis of *Galdieria sulphuraria* – a unique thermo-acidophilic photosynthetic microorganism”. (2003-2005; $1,200,000). Role: PI

National Science Foundation: “Role of Plastidic Dicarboxylate Translocators in Plant Ammonia Assimilation”. (2004-2007; $578,887). Role: PI

National Science Foundation: REU Supplement to “Role of Plastidic Dicarboxylate Translocators in Plant Ammonia Assimilation”. (2004; $9,688). Role: PI

US Department of Energy: “Maltose Biochemistry and Transport in Leaves”. (2004-2007; $360,000). Role: PI

National Science Foundation: “Arabidopsis 2010: Understanding plastid function”. $3,999,999. PI: Last; CoPIs: Benning, DellaPenna, Osteryoung, Ohlrogge, Shachar-Hill, Wedemeyer, Weber, Wilkerson

National Science Foundation (Metabolic Biochemistry): Research Experience for Undergraduates (REU). (2005; $9,900).

National Science Foundation (Emerging Frontiers): Research Experience for Undergraduates (REU). (2005; $9,900).

National Science Foundation (NSF) Supplemental Funding Request to: “Genome Analysis of *Galdieria sulphuraria* – a unique thermo-acidophilic photosynthetic microorganism”. (2005-2006; $225,685).

National Science Foundation (NSF) ”Functional and evolutionary analysis of chloroplast metabolite transporters in the C4 plant maize”. (2006-2009; $450,000).

National Science Foundation (NSF) “Understanding protein networks in plant peroxisomes”. (2006-2010; $2,080,000).

MSU Foundation “A Next Generation Sequencing Center for MSU”. (2006-2009; $1,000,000).

Heinrich-Heine-University, Düsseldorf (2007 – current)

09/07 Understanding the role of the plastid outer envelope membrane for integrating plastids into cellular metabolic and regulatory networks (WE 2231/4-1)

06/08 The role of bundle sheath cell-generated metabolic signals in controlling the differentiation of mesophyll cells (DFG CRC 590, Project B9)

07/08 Primary carbon partitioning in red algae and green plants (DFG 2231/7-1)

01/09 OPTIMAS: Systems Biology of Maize Plants (German Ministry of Research and Education)

06/09 The Dynamic Response of Plants to a Changing Environment (DFG International Graduate Research School IRTG 1525; Lead-PI, 9 Co-PIs)

07/09 Annotation and functional characterization of novel components of the plastid permeome through comparative analysis of C3 and C4 plants (DFG CRC TR1, Project C12)

07/09 Functional and comparative analysis of the chloroplast proteomes of the red algae *Galdieria sulphuraria* and *Cyanidioschyzon merolae* (DFG CRC TR1, Project B9)

10/09 Transport of photorespiratory intermediates between cellular compartments (DFG 2231/8-1; DFG Research Network FOR 1186, PROMICS)

PROFESSIONAL MEMBERSHIPS

American Society of Plant Biologists (ASPB)
German Society of Plant Biologists, Associate Chair of Plant Physiology section
Deutscher Hochschulverband (German Association of University Professors)

RESEARCH PRESENTATIONS (2000 TO PRESENT)

Invited Lectures at Professional Meetings

The presenting author is identified by an asterisk (*).

Weber A* International Workshop on Plant Primary Carbon Metabolism, Stellenbosch, South Africa, November 2010.

Weber A* Korean-German Joint Symposium, Jinju, Korea, September 2010.

Weber A* Trinational Arabidopsis Meeting, Salzburg, Austria, September 2010.

Weber A* Meeting of the International Society of Endocytobiology, Tromso, Norway, August 2010.

Weber A* International Conference on C4 Photosynthesis, Shanghai, China, August 2010.

Weber A* Symposium: Evolution of Transport Systems, University of Frankfurt, Frankfurt, Germany, July 2010.

Weber A* Symposium: Plant Primary Metabolism. Synthesis-, Storage- and Degradation Processes. Kaiserlautern, Germany, May 2010.

Weber A* Workshop on C4 Photosynthesis, Honolulu, HI, July 2009.

Weber A* Meeting of the International Society of Molecular Biology and Evolution, University of Iowa, Iowa City, IA, June 2009.

Weber A* Symposium: Bacteria made Endosymbionts made Organelles, Tokyo, Japan, December 2008.

Weber A* "Intracellular metabolite transport in C3 and C4 plants." COMBIO Conference, Canberra, Australia, September 2008.

Weber A* "Red hot genomics – Genome sequence of the thermo-acidophilic microalga *Galdieria sulphuraria*". 12th International Symposium of Microbial Ecology, Cairns, Australia, August 2008.

Weber A* "The origin of chloroplasts – merger of equals or unfriendly takeover?" Frontiers of Science, Potsdam, Germany, May 2008.

Weber A* "Making the connections – the role of intracellular metabolite transport in photosynthesis and photorespiration". 98th Botanical Congress, Hamburg, Germany, September 2007.

Weber A* "Functional and evolutionary genomics of intracellular metabolite transport in plant cells". "II. Minisymposium Membrane Transport/Protein-Protein Interactions". Bad Münster am Stein, August 2007.

Weber A* "Profiling plant transcriptomes by massively-parallel pyrosequencing". Bielefeld Symposium on Ultrafast Sequencing Technologies, Bielefeld, Germany, July 2007.

Weber A* "Intracellular solute transport in maize". International Workshop on CAM and C4 photosynthesis, Cambridge, UK, July 2007.

Weber A* "Making the connections: Intracellular transport in plant cells". Workshop Raps – Nutzpflanze mit Zukunft", Wittenberg, Germany, June 2007

Weber A* "Osmo-adaption in the thermo-acidophilic microalga *Galdieria sulphuraria* - an 'omics approach". Gordon Conference on Cellular Osmoregulation, Aussois, France, June 2007.

Weber A* "The red, hot genome project - genome sequence of the extremophilic microalga *Galdieria sulphuraria"*. Plant & Animal Genome Conference XV, San Diego, CA,

January, 2007.

Weber A* "From Genomics to Proteomics to Protein Function in the Thermoacidophilic Red Microalga *Galdieria sulphuraria*". The 4th Matsuyama International Symposium on Cell-Free Sciences, Ehime University, Matsuyama, Japan, October 2006.

Weber A* "Evolutionary Genomics of Plastid Envelope Membrane Transport". 2nd Pan-American Plant Membrane Biology Workshop, South Padre Island, TX, May 2006.

Weber A* "Lessons from the red, hot genome project." 19th Plant Molecular Biology Meeting, Dabringhausen, Germany, January 2006.

Weber A* "Bioinformatics and Proteomics Approaches Towards Defining the Proteome of Chloroplast Envelope Membranes." American Electrophoresis Society Annual Meeting, Cincinnati, OH, November 2005.

Weber A* "Red, hot, sweet, and sour: genomics of the thermo-acidophilic red alga *Galdieria sulphuraria*." Symposium: From bacteria to organelles. Rikkyo University, Tokyo, Japan. August 2005.

Weber A* "Red, hot, sweet, and sour: genomics of the thermo-acidophilic red alga *Galdieria sulphuraria*." Instruments, Methods, and Missions for Astrobiology IX: Microbial Extremophiles – Thermophiles. San Diego, CA. August 2005.

Weber A* "Red, hot, sweet, and sour: Genomics of the thermoacidophilic red microalga *Galdieria sulphuraria*." 26th Annual Conference on the Organisation and Expression of the Genome, Cowes, Victoria, Australia. February 2005.

Weber A* "Red, hot, sweet, and sour: Genomics of the thermoacidophilic red microalga *Galdieria sulphuraria*." 13th Plant & Animal Genome Conference, San Diego, CA. January 2005.

Weber A* "Photosynthate transport and transporters. Chair's Introduction". 13th International Congress on Photosynthesis, Montreal, Canada. August 2004.

Weber A* "Mutant analysis of plastid transporter function". "Novel approaches to photosynthetic performance", Colchester, Essex, UK. September 2003.

Weber A*. "The role of SEX1 and sugar transporters in starch degradation". Gordon Conference "CO2-Assimilation and Metabolism", Mount Holyoke College, South Hadley, USA. August 2002.

Weber A*. „Coordination of cytosolic and plastidic carbohydrate- and nitrogen-metabolism by transporters of the plastid envelope membrane". 6th International Symposium on Inorganic Nitrogen assimilation, Reims, France. July 2001.

Kofler, H*, Hille D, Fischer KL, Häusler RE, Flügge UI & Weber A. "Starch in excess: What effects the *Arabidopsis thaliana* mutant *sex1*?". 12th International Conference on Arabidopsis Research, Madison, WI, 2001.

Weber A*, Servaites JC, Geiger DR, Kofler H, Hebbeker U, Hille D & Flügge UI. "The glucose translocator of chloroplasts: a new class of plant hexose transporters". Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Other Presentations at Professional Meetings

Voll L*, Allaire E, Lee Y-H*, Fiene G, Foster J, Tegeder M, Weber A. "The *Arabidopsis thaliana pig* mutants reveal control steps in amino acid homeostasis and partitioning." Plant Biology 2005, Seattle, WA, 2005

Lee Y-H*, Foster J, Chen J, Voll L, Weber A, Tegeder M. "AtAAP1 plays a role in uptake of

amino acids from the soil." Plant Biology 2005, Seattle, WA, 2005

Linka N*, Neuhaus, HE, Weber A. "Functional characterization of peroxisomal ATP transporter family in *Arabidopsis thaliana*." Plant Biology 2005, Seattle, WA, 2005

Truchina YO*, Weber A. "Putative plastidic monosaccharide transporters of *Arabidopsis thaliana*." Plant Biology 2005, Seattle, WA, 2005

Jamai A*, Salomé P, Voll L, Weber A, McClung CR. "Interactions between SHMT and GOGAT in photorespiration". 16th International Conference on Arabidopsis Research. University of Wisconsin-Madison, Madison, WI, 2005.

Allaire E*, Voll LM, Weber A. "Examining the cross resistance of *pig* mutants to amino acids". Plant Biology 2004, Orlando, FA, 2004.

Voll LM*, Fiene G, Weber APM. "The novel Arabidopsis *phenylalanine insensitive growth* mutant *pig1-1* displays a deregulated homeostasis of free amino acids". Plant Biology 2004, Orlando, FA, 2004.

Weber A*, Schneidereit J. "A novel model for the rapid regulation of nitrate reduction in leaves by redox coupling of plastidic and cytosolic metabolism". Plant Biology 2004, Orlando, FA, 2004.

Weber A*, Schneidereit J. "A novel model for the rapid regulation of nitrate reduction in leaves by redox coupling of plastidic and cytosolic metabolism". Annual Meeting of the Midwest Section of ASPB, Ohio State University, Columbus, OH, 2004.

Allaire E*, Voll LM, Weber A. "Examining the cross resistance of *pig* mutants to amino acids". Annual Meeting of the Midwest Section of ASPB, Ohio State University, Columbus, OH, 2004.

Voll L, Renné P, Voll H, Weber A*. "Molecular characterization of the Arabidopsis *shm*-mutant". Annual Meeting of the Midwest Section of ASPB, Ohio State University, Columbus, OH, 2004.

Weber A*. "Red, hot, sweet, and sour: *Galdieria sulphuraria*, a unique photosynthetic eukaryotic extremophile". CMB/Genetics Retreat 2003, Higgins Lake, Roscommon, MI, 2003.

Weber A*, Zimmermann M, Jamai A, Oesterhelt C, Gross, W, Garavito M, Bennig C. "Genome analysis of *Galdieria sulphuraria* – a unique thermo-acidophilic photosynthetic microorganism". Plant Biology 2003, Honolulu, HI, 2003.

Schneidereit J*, Flügge UI, Kaiser WM, Weber A. "Antisense repression of the plastidic 2-oxoglutarate/malate-translocator (DiT1) has massive impact on plant nitrogen metabolism". Plant Biology 2003, Honolulu, HI, 2003.

Voll LM*, Weber A, Häusler RE, Löttgert T, Hecker R, Weissenböck G, Waffenschmidt S, Fiene G, Flügge UI. "Phosphoenolpyruvate levels in the plastid control the pattern and the quantity of vacuolar phenylpropanoids". Plant Biology 2003, Honolulu, HI, 2003.

Bräutigam A, Weber A*. "Similar domains, different substrates. A reverse genetics approach to characterize a glycosyltransferase in *A. thaliana*". 14th International Conference on Arabidopsis Research. University of Wisconsin-Madison, Madison, WI, 2003.

Krassovskaya I*, Wiese A, Weber A. "Hexokinase-like proteins in the Arabidopsis genome". 14th International Conference on Arabidopsis Research. University of Wisconsin-Madison, Madison, WI, 2003.

Renne P, Dressen U, Flügge UI, Westhoff P, Weber A*. "*Dct* is deficient in the plastidic glutamate/malate translocator". 14th International Conference on Arabidopsis Research. University of Wisconsin-Madison, Madison, WI, 2003.

Weber A*, "Some like it hot: Membrane transporters from the thermo-acidophilic red microalga

Galdieria sulphuraria". 1st Pan-American Plant Membrane Biology Workshop, Cuernavaca, México, 2003.

Weber A*, Zimmermann M, Horlacher T, Jamai A, Garavito M, Bennig C. "Genome analysis of *Galdieria sulphuraria* – a unique thermo-acidophilic photosynthetic microorganism". Annual Meeting of the Midwest Section of ASPB, Iowa State University, Ames, Iowa, 2003.

Schneidereit J*, Flügge UI, Kaiser WM, Weber A. "Antisense repression of the plastidic 2-oxoglutarate/malate-translocator (DiT1) has massive impact on plant nitrogen metabolism". Annual Meeting of the Midwest Section of ASPB, Iowa State University, Ames, Iowa, 2003.

Voll L*, Weber A. "Phenylalanine and its control on secondary metabolism". Annual Meeting of the Midwest Section of ASPB, Iowa State University, Ames, Iowa, 2003.

Trukhina J*, Schneider A, Weber A. "Plastidic carbohydrate transporters: physiological role and molecular characterization". Annual Meeting of the Midwest Section of ASPB, Iowa State University, Ames, Iowa, 2003.

Krassovskaya I*, Weber A. "New group of hexokinase proteins from *Solanum tuberosum* and *Arabidopsis thaliana*". Annual Meeting of the Midwest Section of ASPB, Iowa State University, Ames, Iowa, 2003.

Bräutigam A*, Weber A. "Similar domains, different substrates. A reverse genetics approach to characterize a glycosyltransferase in *A. thaliana*". Annual Meeting of the Midwest Section of ASPB, Iowa State University, Ames, Iowa, 2003.

Schneidereit J, Renné P, Flügge UI & Weber A*. "The role of plastidic dicarboxylic acid transporters in plant ammonia assimilation". Midwest Photosynthesis Meeting, Turkey Run State Park, Marshall, IN, 2002.

Weber A*, Schneidereit J, Flügge UI & Kaiser WM. "Antisense repression of the plastidic 2-oxoglutarate/malate translocator in transgenic tobacco plants". Plant Biology 2002, Annual ASPB Meeting, Denver, CO, 2002.

Krassovskaya I*, Wiese A, Fiene G, Hebbeker U, Flügge UI & Weber A. "Investigation of a novel group of plant hexokinases". Poster, 12th International Conference on Arabidopsis Research, Madison, WI, 2001.

Renne P*, Hille D, Kolukisaoglu Ü, Schulz B, Flügge UI & Weber A. " Dicarboxylate Transport of the plastidial membrane". Poster, 12th International Conference on Arabidopsis Research, Madison, WI, 2001.

Renne P*, Kofler H, Hille D, Fischer K, Flügge UI & Weber A. "Positional cloning of a gene encoding a serine hydroxymethyltransferase involved in the photorespiratory pathway". Poster, 12th International Conference on Arabidopsis Research, Madison, WI, 2001.

Weber A*, Weise SE & Sharkey TD. "Comparative analysis of starch metabolism in starch deficient and starch excess mutants of Arabidopsis thaliana". Poster, 12th International Conference on Arabidopsis Research, Madison, WI, 2001.

Wiese A*, Gröner F, Hebbeker U, Flügge UI & Weber A. "Plant hexokinases – subcellular localization and function". Poster, 12th International Conference on Arabidopsis Research, Madison, WI, 2001.

Kofler H*, Hille D, Flügge UI & Weber A. "Starch in excess: What effects the *Arabidopsis thaliana* mutant *sex1*". Poster, Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Voll L*, Häusler RE, Weber A, Fiene G, Weissenböck G & Flügge UI. "Pleiotrope Effekte eines mutierten Locus am Beispiel der *cue1*-Mutanten aus *Arabidopsis thaliana*". Poster,

Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Häusler RE*, Baur B, Teichmann T, Eicks M, Fischer KL, Flügge UI, Schubert S, Weber A & Fischer K. "Plastidäre Metabolittransporter und ihre Funktion in der induzierbaren Crassulaceen-Säure-Stoffwechsel-(CAM)-Pflanze *Mesembryanthemum crystallinum*". Poster, Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Renne P*, Hille D, Flügge UI & Weber A. "Dikarbonsäure-Translokatoren der plastidären Hüllmembran". Poster, Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Jamai A, Schon O, Flügge UI & Weber A*. "A plastidic phosphate translocator of *Galdieria sulphuraria*". Lecture, Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Weber A*, Häusler RE, Fiene G, Flügge UI & Kaiser WM. "Antisense repression of the plastidic 2-oxoglutarate/malate translocator in transgenic tobacco plants". Poster, Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Wiese A*, Gröner F, Hebbeker U, Flügge UI & Weber A. "Pflanzliche Hexokinase-Homologe". Poster, Deutsche Botanikertagung, Biannual Meeting of the German Botanical Society, Jena, Germany, 2000.

Invited Lectures at Academic Institutions

Helmholtz Institute, Neuherberg (Munich), Germany, December 2010.

Rutgers University, New Brunswick, NJ, August 2010.

University of Darmstadt, Darmstadt, Germany, June 2010.

University of Montpellier, Montpellier, France, May 2010.

Max-Planck-Institute for Plant Breeding Research, Cologne, Germany, March 2010.

Michigan State University, East Lansing, MI, February 2010.

Oklahma State University, Stillwater, OK, January 2010.

University of Vienna, Vienna, Austria, July 2009.

University of Osnabrück, Osnabrück, Germany, May 2009.

University of Cambridge, Cambridge, UK, February 2009.

University of Münster, Münster, Germany, December 2008.

University of Münster, Münster, Germany, November 2008.

"Shedding light on a mysterious organelle - proteomics and reverse genetics approaches to understanding peroxisome function". University of Braunschweig, Braunschweig, Germany, May 2008.

"Systems Biology of Intracellular Metabolite Transport in Plant Cells". Department of Plant Physiology, University of Rostock, Rostock, Germany, January 2008.

"Systems Biology of Intracellular Metabolite Transport in Plant Cells". Institute for Phytosphere Research, Julich Research Center, Julich, Germany, January 2008.

"Systems Biology of Intracellular Metabolite Transport in Plant Cells". ECROPS Seminar-Series, University of Erlangen, Erlangen, Germany, January 2008.

"Evolutionary and Functional Genomics of Intracellular Metabolite Transport in Plant Cells."

Department of Biology, University of Kaiserlautern, Kaiserslauter, Germany, December 2007.

"Profiling Plant Transcriptomes Using Massively-Parallel Pyrosequencing." Department of Molecular Biology, Center for Comparative Genomics, Copenhagen, DK, October 2007.

"Systems Biology of Intracellular Metabolite Transport in Plant Cells." Department of Plant Biology, Martin-Luther-University, Halle, Germany, October 2007.

"Systems Biology of Intracellular Metabolite Transport in Plant Cells." Department of Genetics, Albertus-Magnus-University, Cologne, Germany, September 2007.

"Functional and evolutionary genomics of intracellular metabolite transport in plant cells." Department of Plant Biology, Ludwig-Maximilians-Universität München, Germany, July 2007.

"Functional and evolutionary genomics of intracellular metabolite transport in plant cells." Universität Bonn, Bonn, Germany. May 2007.

"Making the connections – Intracellular metabolite transport in plant cells. "University of Minnesota, St. Paul, MN. April 2007.

"Functional and evolutionary genomics of intracellular metabolite transport in plant cells." Department of Biology, Colorado State University, Fort Collins, CO. March 2007.

"Making the connections – Intracellular metabolite transport in plant cells." Department of Botany, Oklahoma State University, Stillwater, OK. November 2006.

"Functional and evolutionary genomics of intracellular solute transport in plant cells". Department of Plant Biology, Noble Foundation, Ardmore, OK. November 2006.

"Making the connections – Intracellular metabolite transport in plant cells." Department of Genetics, Development, and Cell Biology, Iowa State University, Ames, IA. November 2005.

"Making the connections – Intracellular metabolite transport in plant cells." Heinrich-Heine-Universität, Düsseldorf, Germany. October 2005.

"Making the connections – Intracellular metabolite transport in plant cells." University of Tokyo, Institute for Molecular and Cellular Biosciences, Halle. August 2005.

"Making the connections – Intracellular metabolite transport in plant cells." Martin-Luther-Universität Halle-Wittenberg, Halle. July 2005.

"Making the connections – Intracellular metabolite transport in plant cells." Georg-August-Universität Göttingen, Institut für Biochemie der Pflanze. July 2005.

"Red, hot, sweet, and sour: genomics of the thermo-acidophilic red alga *Galdieria sulphuraria*." Georg-August-Universität Göttingen, Institut für Mikrobiologie und Genetik. July 2005.

"Red, hot, sweet, and sour: Genomics of the thermoacidophilic red microalga *Galdieria sulphuraria*." Department of Biochemistry, University of Wisconsin-Madison, June 2005.

"Red, hot, sweet, and sour: Genomics of the thermoacidophilic red microalga *Galdieria sulphuraria*." Department of Botany, University of Wisconsin-Madison, June 2005.

"The red, hot, sweet, and sour Genome Project: *Galdieria sulphuraria*, a red alga that lives in hot acid." University of Iowa, Iowa City, IA. April 2005.

"Intracellular transport and regulation of metabolic networks in plants". Westfälische-Friedrichs-Wilhelms-Universität, Münster, Germany. January 2005.

"Intracellular transport and regulation of metabolic networks in plants". Purdue University, West Lafayette, IN. November 2004.

"Intracellular transport and regulation of metabolic networks in plants". MSU-DOE Plant

Research Lab Retreat. October 2004.

"Transporters of all stripes – what do we know about transporters in the plastid envelope membrane". Cornell University, Ithaca, NY. October 2004.

"A novel model for the rapid modulation of nitrate reduction in leaves by redox coupling of plastidic and cytosolic metabolism". Ohio State University, Columbus, OH. March 2004

"Intracellular transport and regulation of metabolic networks in plants". Botanische Staatsanstalten, Ludwig-Maximilians-Universität, Munich, Germany, January 2004.

"Intracellular transport and regulation of metabolic networks in plants". Department of Molecular Plant Physiology, Friedrich-Alexander-Universität, Erlangen, Germany, January 2004.

"Metabolite transporters in the plastid envelope membrane - connecting and coordinating elements between metabolism in cytosol and plastids". Institute of Biological Chemistry, Washington State University, Pullman, WA. December 2003.

"Biochemistry, molecular biology, and genetics of intracellular transport in plant cells". University of Düsseldorf, Germany. January 2003.

"N-metabolism and interaction of C/N pathways in plastid and cytosol. Role of plastidic dicarboxylate translocators and PII." Symposium of DFG Key Action Membrane Transport, Schloss Hirschberg, Germany, September 2002.

"N-metabolism and interaction of C/N pathways in plastid and cytosol". INRA-Versailles, France. June 2002.

"The interface between stroma and cytosol - transporters of the plastid envelope membrane". John-Innes Centre, Norwich, UK. January 2002

"Transporters of the plastid envelope membrane as connecting elements between plastidic and cytosolic metabolism". Ruhr-Universität Bochum, Plant Biochemistry Department. November 2001.

"Transporters of the plastid envelope membrane as connecting elements between plastidic and cytosolic metabolism." John-Innes Centre, Norwich, UK. November 2001.

"Transporters of the plastid envelope membrane as connecting elements between plastidic and cytosolic metabolism". IACR-RES, Rothamsted, UK. November 2001.

"Transporters of the plastid envelope as connecting elements between plastidic and cytosolic C- and N-metabolism". Institute de Biotechnologie des Plantes, Orsay, France. June 2001.

"Transporters of the plastid envelope as connecting elements between plastidic and cytosolic C- and N-metabolism". University of Sasketchewan, Saskatoon, Canada. March 2001.

"Transporters of the plastid envelope as connecting elements between plastidic and cytosolic C- and N-metabolism". University of North Carolina at Wilmington, USA. February 2001.

"Transporters of the plastid envelope as connecting elements between plastidic and cytosolic C- and N-metabolism". Max-Planck-Institute of Molecular Plant Physiology, Golm. December 2000.

"Transporter der Plastiden-Hüllmembran als Verbindungselemente des plastidären und cytosolischen Kohlenstoff- und Stickstoff-Stoffwechsels". Botanisches Kolloquium, Universität zu Köln. July 2000.

LIST OF COURSES TAUGHT

University of Cologne

SS95	Lab Course „Molecular Biology and Biochemistry of Plant Metabolism“
WS95/96	Exercises in Botany for Beginners (Anatomy and Morphology of Seed Plants) Lab Course „Molecular Biology and Biochemistry of Plant Metabolism“
SS96	Lab Course „Molecular Biology and Biochemistry of Plant Metabolism“
WS96/97	Exercises in Botany for Advanced Students
SS97	Exercises in Botany for Advanced Students Lab Course “Methods in Plant Molecular Biology and Genetics”
WS97/98	Exercises in Botany for Advanced Students Lab Course “Methods in Plant Molecular Biology and Genetics”
SS98	Exercises in Botany for Advanced Students Lab Course “Methods in Plant Molecular Biology and Genetics” Seminar “Transport Processes in Plants”
WS98/99	Exercises in Botany for Beginners (Anatomy and Morphology of Seed Plants) Lab Course “Methods in Plant Molecular Biology and Genetics” Seminar “Molecular Physiology of Transport Processes in Plants”
SS99	Exercises in Botany for Advanced Students Lab Course “Methods in Plant Molecular Biology and Genetics” Seminar “Membrane Transporters in Plant Cells” Seminar with Exercises “Use of the Internet in Biology”
WS99/00	Exercises in Botany for Advanced Students Lab Course “Methods in Plant Molecular Biology and Genetics” Seminar “Biotechnology of Higher Plants”
SS00	Lab Course “Molecular Plant Physiology” Lab Course “Methods in Plant Molecular Biology and Genetics” Seminar “Biotechnology of Higher Plants” Seminar with Exercises “Use of the Internet in Biology”

Michigan State University (2002 through 2007)

FS02	Lecture “Plant Ammonia Assimilation” (guest lecture in PLB301, 56 students) Co-taught “Plant Biochemistry” BCH864 (18 students)
FS03	Lecture and Lab “Introductory Plant Physiology” PLB301 (54 students) “Undergraduate Research” PLB498 (2 students) Weekend Workshop NSC901, Frontiers in Science (30 students)
FS04	Lecture and Lab “Introductory Plant Physiology” PLB301 (41 students) “Undergraduate Research” PLB498 (2 students) Seminar “Cell and Molecular Biology Research Forum” CMB 892 (17 students)
FS05	Lecture and Lab “Introductory Plant Physiology” PLB301 (43 students) “Undergraduate Research” PLB498 (3 students)
SS06	Seminar Course “Statistical Analysis of Microarray Data” STT890, co-taught with Dr. Marianne Huebner (MSU Department of Statistics and Probability).
FS06	Lecture and Lab “Introductory Plant Physiology” PLB301 (43 students) “Undergraduate Research” PLB498 (1 student)

Heinrich-Heine-Universität Düsseldorf (since April 2007)

SS07	Lecture and Lab BIO10 "Plant Physiology and Plant Biochemistry" (7 SWS, 160 students)
WS07/08	A-Module: "Molecular Physiology and Biochemistry of Plant Primary Carbon Metabolism" (6 SWS, 15 students) A-Module: "PC-based Analysis and Presentation of Biological Data" (6 SWS, 15 students) Seminar: "Genomics, Proteomics, Metabolomics … What is 'Omics and What Can You Do With It?" (2 SWS, 13 students)
SS08	Lecture and Lab BIO10 "Plant Physiology and Plant Biochemistry" (7 SWS, 235 students)
	A-Module: "Molecular Physiology and Biochemistry of Plant Primary Carbon Metabolism" (6 SWS, 12 students) A-Module: "PC-based Analysis and Presentation of Biological Data" (6 SWS, 13 students) Seminar: "Genomics, Proteomics, Metabolomics … What is 'Omics and What Can You Do With It?" (2 SWS, 6 students)
WS08/09	A-Module: "Molecular Physiology and Biochemistry of Plant Primary Carbon Metabolism" (6 SWS, 12 students) A-Module: "PC-based Analysis and Presentation of Biological Data" (6 SWS, 13 students) Seminar: "Genomics, Proteomics, Metabolomics … What is 'Omics and What Can You Do With It?" (2 SWS, 6 students)
SS09	Lecture and Lab BIO10 "Plant Physiology and Plant Biochemistry" (7 SWS, 235 students)
	A-Module: "Molecular Physiology and Biochemistry of Plant Primary Carbon Metabolism" (6 SWS, 12 students) A-Module: "PC-based Analysis and Presentation of Biological Data" (6 SWS, 13 students) Seminar: "Genomics, Proteomics, Metabolomics … What is 'Omics and What Can You Do With It?" (2 SWS, 6 students)
WS09/10	A-Module: "Molecular Physiology and Biochemistry of Plant Primary Carbon Metabolism" (6 SWS, 12 students) A-Module: "PC-based Analysis and Presentation of Biological Data" (6 SWS, 13 students) Seminar: "Genomics, Proteomics, Metabolomics … What is 'Omics and What Can You Do With It?" (2 SWS, 6 students)
	Lecture "Integrative Topics in Plant Biology" (2 SWS, 15 students)
SS10	Lecture and Lab BIO10 "Plant Physiology and Plant Biochemistry" (7 SWS, 235 students)
	A-Module: "Molecular Physiology and Biochemistry of Plant Primary Carbon Metabolism" (6 SWS, 12 students) A-Module: "PC-based Analysis and Presentation of Biological Data" (6 SWS, 13 students) Seminar: "Genomics, Proteomics, Metabolomics … What is 'Omics and What Can You Do With It?" (2 SWS, 6 students)
WS10/11	Lecture BIO 210 "Biochemistry" (4 SWS, 320 students)

A-Module: “Molecular Physiology and Biochemistry of Plant Primary Carbon Metabolism” (6 SWS, 12 students)
A-Module: “PC-based Analysis and Presentation of Biological Data” (6 SWS, 13 students)
Seminar: “Genomics, Proteomics, Metabolomics … What is ‘Omics and What Can You Do With It?” (2 SWS, 6 students)

Lecture “Integrative Topics in Plant Biology” (2 SWS, 15 students)

PEER REVIEWED PUBLICATIONS

1. Bräutigam A, Mullick T, Schliesky S, **Weber APM** (2011) Critical assessment of assembly strategies for non-model species mRNA-Seq data and application of next-generation sequencing to the comparison of C3 and C4 species. *J Exp Bot*, in press.
2. Bräutigam A, **Weber APM** (2011) Do transport process limit photosynthesis? *Plant Physiol* 155(1): 43-48
3. Kinoshita H, Nagasaki J, Yoshikawa N, Yamamoto A, Takito S, Kawasaki M, Sugiyama T, Miyake H, **Weber APM**, Taniguchi M (2011) The chloroplastic 2-oxoglutarate/malate transporter has dual function as the malate valve and in carbon/nitrogen metabolism. *Plant J* 65(1): 15-26.
4. Bräutigam A, Kajala K, Wullenweber J, Sommer M, Gagneul D, Weber KL, Carr KM, Gowik U, Maß J, Lercher MJ, Westhoff P, Hibberd JM, **Weber APM** (2011) An mRNA blueprint for C4 photosynthesis derived from comparative transcriptomics of closely related C3 and C4 species. *Plant Physiol* 155(1): 142-156
5. Minoda A, **Weber APM**, Tanaka K, Miyagishima SY (2010) Nucleus-independent control of the Rubisco operon by the plastid-encoded transcription factor Ycf30 in the red alga *Cyanidioschyzon merolae*. *Plant Physiol* 154(3): 1532-1540.
6. Weber **APM**, Osteryoung KW (2010) From endosymbiosis to synthetic photosynthetic life. *Plant Physiol* 154: 593-597.
7. Colleoni C, Linka M, Deschamps P, Handford MG, Dupree P, **Weber APM**, Ball SG (2010) Phylogenetic and biochemical evidence supports the recruitment of an ADP-glucose translocator for the export of photosynthate during plastid endosymbiosis. *Mol Biol Evol* 27(12): 2691-2701.
8. Thagaraj B, Ryan CM, Souda P, Krause K, Faull KF, **Weber APM**, Fromme P, Whitelegge JP (2010) Data-directed top-down Fourier-transform mass spectrometry of a large integral membrane protein complex, Photosystem II from *Galdieria sulphuraria*. *Proteomics* 10(20): 3644-3656.
9. Imamura S, Terashita M, Ohnuma M, Maruyama S, Minoda A, **Weber APM**, Inouye T, Sekine Y, Fujita Y, Omata T, Tanaka K (2010) Nitrate Assimilatory Genes and Their Transcriptional Regulation in a Unicellular Red Alga *Cyanidioschyzon merolae*: Genetic Evidence for Nitrite Reduction by a Sulfite Reductase-like Enzyme. *Plant Cell Physiol* 51(5): 707-717.

10. **Weber APM**, von Caemmerer S (2010) Plastid transport and metabolism of C3 and C4 plants - comparative analysis and possible biotechnological exploitation. *Curr Opin Plant Biol* 13: 257-265.

11. Lim L, Linka M, **Weber APM**, McFadden GI (2010) The carbon and energy sources of the non-photosynthetic plastid in the malaria parasite. *FEBS Lett* 584(3): 549-554.

12. Linka N, **Weber APM** (2010). Intracellular metabolite transporters in plants. *Mol Plant* 3(1): 21-53.

13. Reyes F, Leon G, Donoso M, Brandizzi F, **Weber APM**, Orellana A (2010) The nucleotide sugar transporters AtUTr1 and AtUTr3 are required for the incorporation of UDP-glucose into the endoplasmic reticulum and are essential for pollen development and needed for embryo sac progress in *Arabidopsis thaliana*. *Plant J* 61(3): 423-435.

14. Benz JP, Stengel A, Lintala M, Lee Y-H, **Weber APM**, Philippar K, Gugel IL, Kaieda S, Ikegami T, Mulo P, Soll J, Bolter B (2009) Tic62 and FNR form light-regulated complexes that are integrated into the chloroplast redox poise. *Plant Cell* 21(12): 3965-3983.

15. Bräutigam A, **Weber APM** (2009). Proteomic Analysis of the Proplastid Envelope Membrane Provides Novel Insights into Small Molecule and Protein Transport across Proplastid Membranes. *Mol Plant* 2(6): 1247-1261.

16. Reumann S, Quan S, Aung K, Yang P, Manandhar-Shrestha K, Holbrook D, Linka N, Switzenberg R, Wilkerson CG, **Weber APM**, Olsen LJ, Hu J (2009). In-depth proteome analysis of Arabidopsis leaf peroxisomes combined with in vivo subcellular targeting verification indicates novel metabolic and regulatory functions of peroxisomes. *Plant Physiol* 150(1):125-143.

17. Jamai A, Salomé PA, Schilling SH, **Weber APM**, McClung CR (2009) Arabidopsis Photorespiratory Serine Hydroxymethyltransferase (SHMT) Activity Requires The Mitochondrial Accumulation Of Ferredoxin-Dependent Glutamate Synthase (Fd-GOGAT). *Plant Cell* 21(2):125-143.

18. Vanselow C, Krause K, **Weber APM**, Fromme P (2009) Genetic Analysis of the Photosystem I Subunits from the red alga, *Galdieria sulphuraria*. *Biochim Biophys Acta* 1787(1):46-59.

19. McCoy JG, Bailey LJ, Ng YH, Bingman CA, Wrobel R, **Weber APM**, Fox B, Phillips GN Jr (2009) Discovery of Sarcosine Dimethylglycine Methyltransferase from *Galdieria*

sulphuraria. *Proteins* 74(2):368-77.

20. Linka N, Theodoulou FL, Haslam RP, Napier JA, Neuhaus HE, **Weber APM** (2008) Peroxisomal ATP import is essential for seedling development in *Arabidopsis thaliana*. Plant Cell 20(12): 3241-3257.

21. Linka M, Jamai A, **Weber APM** (2008) Functional characterization of the plastidic phosphate translocator gene family from the thermo-acidophilic red alga *Galdieria sulphuraria* reveals specific adaptations of primary carbon partitioning in green plants and red algae. Plant Physiol 148: 1487-1496.

22. Bräutigam A, Shrestha RP, Whitten D, Wilkerson CG, Carr KM, Froehlich JE, **Weber APM** (2008) Low-coverage massively parallel pyrosequencing of cDNAs enables proteomics in non-model species: Comparison of a species-specific database generated by pyrosequencing with databases from related species for proteome analysis of pea chloroplast envelopes. *J Biotechnol* **136**, 44-53.

23. Bräutigam A, Hoffmann-Benning S, **Weber APM** (2008) Comparative proteomics of chloroplasts envelopes from C3 and C4 plants reveals specific adaptations of the plastid envelope to C4 photosynthesis and candidate proteins required for maintaining C4 metabolite fluxes. *Plant Physiol* **148**, 568-579.

24. Lu Y, Savage LJ, Ajjawi I, Imre KM, Yoder DW, Benning C, Dellapenna D, Ohlrogge JB, Osteryoung KW, **Weber AP**, Wilkerson CG, Last RL (2008) New Connections Across Pathways and Cellular Processes: Industrialized Mutant Screening Reveals Novel Associations between Diverse Phenotypes in Arabidopsis. *Plant Physiol* **146**, 1482-1500.

25. Oesterhelt, C., Vogelbein, S., Shrestha, R.P., Stanke, M., **Weber, A.P.M.** (2008) The genome of the thermoacidophilic red microalga *Galdieria sulphuraria* encodes a small family of secreted class III peroxidases that might be involved in cell wall modification. *Planta*, **227**, 353-362.

26. Nozawa A., Nanamiya H., Miyata T., Linka, N., Endo Y., **Weber A.P.M.**, Tozawa Y. (2007). Improvement of cell-free translation and proteoliposome-reconstitution systems for functional analysis of plant transporters. *Plant Cell Physiol*., **48**, 1815-1820.

27. Bhattacharya, D., Archibald, J.M., **Weber, A.P.M.**, Reyes-Prieto, A. (2007) How do endosymbionts become organelles? Understanding early events in plastid evolution. *BioEssays*, **29**, 1239-1246.

28. Tyra, H.M., Linka, M., **Weber, A.P.M**., Bhattacharya, D. (2007). Host Origin of Plastid

Solute Transporters in the First Photosynthetic Eukaryotes. *Genome Biol*., **8**, R212.

29. Reyes-Prieto, A., **Weber, A.P.M**., Bhattacharya, D. (2007) The Origin and Establishment of the Plastid in Algae and Plants. *Annu Rev Genet*, **41**, 147-168.

30. Oesterhelt C., Klocke S., Holtgrefe S., Linke V., **Weber A.P.M.**, Scheibe R. (2007) Redox-regulation of chloroplast enzymes in *Galdieria sulphuraria* in view of eukaryotic evolution. *Plant Cell Physiol*., **48**, 1359-1373.

31. Damari-Weissler H., Ginzburg A., Gidoni D., Mett A., Krassovskaya I., **Weber A.P.M.,** Belausov E., Granot D. (2007) Spinach SoHXK1 is a mitochondria-associated hexokinase. *Planta*, **226**, 1053-1058.

32. **Weber A.P.M.**, Weber, K.L., Carr, K., Wilkerson, C., Ohlrogge, J.B. (2007) Sampling the Arabidopsis Transcriptome with Massively-Parallel Pyrosequencing. *Plant Physiol*., **144**, 32-42.

33. Swindell, W.R., Huebner, M., **Weber, A.P.M.** (2007) Transcriptional profiling of Arabidopsis heat shock proteins and transcription factors reveals extensive overlap between heat and non-heat stress response pathways. *BMC Genomics*, **8**, 125.

34. Swindell, W.R., Huebner, M., **Weber, A.P.M.** (2007) Plastid and adaptive gene expression patterns associated with temperature stress in *Arabidopsis thaliana*. *Heredity*, **99**, 143-150.

35. Lee, Y.W., Foster, J., Chen, J., Voll. L.M., **Weber, A.P.M.**, Tegeder, M. (2007) AAP1 transports uncharged amino acids into roots of Arabidopsis. *Plant J*., **50**, 305-319.

36. **Weber, A.P.M.** & Fischer, K. (2007) Making the connections - the crucial role of metabolite transporters at the interface between chloroplast and cytosol. *FEBS Lett*, **581**, 2215-2222.

37. **Weber A.P.M.**, Horst R.J., Barbier G.G. & Oesterhelt C. (2007) Metabolism and metabolomics of eukaryotes living under extreme conditions. *Int Rev Cytol*, **256**, 1-34.

38. Bräutigam, A., Gagneul, D. & **Weber, A.P.M.** (2007) High-throughput colorimetric method for the parallel assay of glyoxylic acid and ammonium in a single extract. *Anal Biochem*, **362**, 151-153.

39. Reumann S. & **Weber A.P.M.** (2006) Plant peroxisomes respire in the light: Some gaps of the photorespiratory C_2 cycle have become filled - others remain. *Biochim Biophys Acta*, **1763**, 1496-1510.

40. Bouvier F., Linka N., Isner J.C., Mutterer J., **Weber A.P.M.** & Camara B. (2006)

Arabidopsis SAMT1 Defines a Plastid Transporter Regulating Plastid Biogenesis and Plant Development *Plant Cell*, **18**, 3088-3105.

41. **Weber, A.P.M**., Linka, M., Bhattacharya, D. (2006). Single, ancient origin of a plastid metabolite translocator family in Plantae from an endomembrane-derived ancestor. *Eukaryot. Cell* **5:** 609-12.

42. Voll, L.M., Jamai, A., Renné, P., Voll, H., McClung, C.R., **Weber, A.P.M.** (2006). The photorespiratory *Arabidopsis thaliana* mutant *shm* is deficient in *SHM1*. *Plant Physiol*. **140:** 59-66.

43. Schneidereit, J., Häusler, R.E., Fiene, G., Kaiser, W.M., **Weber, A.P.M.** (2006). Antisense repression reveals a crucial role of the plastidic 2-oxoglutarate/malate translocator DiT1 at the interface between carbon and nitrogen metabolism. *Plant J*. **45***:* 206-224.

44. Linka, M. & **Weber, A.P.M.** (2005). Shuffling ammonia between mitochondria and plastids during photorespiration. *Trends Plant Sci*. **10:** 461-465.

45. **Weber, A.P.M.**, Schwacke, R., Flügge, U.I. (2005). Solute transporters of the plastid envelope membrane. *Annu. Rev. Plant Biol*., **56**: 133-164.

46. Barbier, G.G., Oesterhelt, C., Larson, M.D., Halgren, R.G., Wilkerson, C., Garavito, R.M., Benning, C., **Weber, A.P.M.** (2005). Comparative genomics of two closely related unicellular thermo-acidophilic red algae, *Galdieria sulphuraria* and *Cyanidioschyzon merolae*, reveals the molecular basis of the metabolic flexibility of *G. sulphuraria* and significant differences in carbohydrate metabolism of both algae. *Plant Physiol*. **137**: 460-474.

47. Voll, L.M., Allaire, E.E., Fiene, G.M., **Weber, A.P.M.** (2004). The *Arabidopsis thaliana phenylalanine insensitive growth* mutant exhibits a deregulated amino acid metabolism. *Plant Physiol*. **136**: 3058-3069.

48. **Weber, A.P.M.**, Oesterhelt, C., Gross, W., Bräutigam, A., Imboden, L.A., Krassovskaya, I., Linka, N., Truchina, J., Schneidereit, J., Voll, L.M., Zimmermann, M., Riekhof, W.R., Yu, B., Garavito, M.R., Benning, C. (2004). EST-analysis of the thermo-acidophilic red microalga *Galdieria sulphuraria* reveals potential for lipid A biosynthesis and unveils the pathway of carbon export from rhodoplasts. *Plant Mol. Biol*. **55**: 17-32.

49. **Weber, A.P.M.** (2004) Solute transporters as connecting elements between cytosol and plastid stroma. *Curr. Opin. Plant Biol*., **7:** 247-253.

50. **Weber, A.P.M.**, Schneidereit, J. & Voll, L.M. (2004). Using mutants to probe the *in vivo* function of plastid envelope membrane metabolite transporters. *J. Exp. Bot.* **55:** 1231-1244.

51. Sharkey, T.D., Laporte, M., Lu, Y., Weise, S.E. & **Weber, A.P.M.** (2004). Engineering Plants for Elevated CO_2: A Relationship between Sugar Sensing and Starch Degradation. *Plant Biol.,* **6 (3)**: 280-289.

52. Weise, S.E., **Weber, A.P.M.**, Sharkey, T.D. (2004). Maltose Is the Predominant Form of Carbon Exported From the Chloroplast at Night. *Planta*, **218 (3)**: 474-482.

53. Renné, P., Dreßen, U., Hebbeker, U., Hille, D., Flügge, U.I., Westhoff, P. & **Weber, A.P.M.** (2003). The *Arabidopsis* mutant *dct* is deficient in the plastidic dicarboxylate/malate translocator DiT2. *Plant J.* **35 (3)**: 316-331.

54. Voll, L., Häusler, R.E., Hecker, R., **Weber, A.**, Weissenböck, G., Fiene, G., Waffenschmidt, S. & Flügge, U.I. (2003). The phenotype of the *Arabidopsis cue1* mutant is not simply caused by a general restriction of the shikimate pathway. Rescue of the *cue1* phenotype by overexpression of a phosphoenolpyruvate/phosphate translocator or a plastidic pyruvate, orthophosphate dikinase and metabolic consequences. *Plant J.*, **36 (3)**: 301-317.

55. Fischer, K. & **Weber, A**. (2002). Transport of carbon into non-green plastids. *Trends in Plant Sci.*, **7 (8):** 345-351.

56. **Weber, A.** & Flügge, U.I. (2002). Interaction of cytosolic and plastidic nitrogen metabolism in plants. *J. Exp. Botany* **53 (370):** 865-874.

57. Umber, M., Voll, L., **Weber, A.,** Michler, P., & Otten, L. (2002). The rolB-Like Part of the *Agrobacterium rhizogenes* orf8 Gene Inhibits Sucrose Export in Tobacco. *Mol. Plant Microbe Interact.* **15 (9):** 956-962.

58. Yu, T.S., Kofler, H., Häusler, R.E., Kossmann, J., Lloyd, J., Zeeman, S., Smith, A.M., Ritte, G., Steup, M., Hille, D., Lue, W.L., Flügge, U.I., Chen, J. & **Weber, A.** (2001). The Arabidopsis *sex1* mutant is defective in the R1 protein, a general regulator of starch degradation in plants, and not in the chloroplast hexose transporter, *Plant Cell* **13 (8):** 1907-1918.

59. Häusler, R.E., Baur, B., Scharte, J., Teichmann, T., Eicks, M., Fischer, K.L., Flügge, U.I., Schubert, S., **Weber, A.** & Fischer, K. (2000). Phosphate translocators and their physiological function in the inducible crassulacean acid metabolism plant

Mesembryanthemum crystallinum. *Plant J*. **24 (3)**: 285-296.

60. Kofler, H., Häusler, R.E., Schulz, B., Gröner, F., Flügge, U.I. & **Weber, A.** (2000). Molecular characterisation of a new mutant allele of the plastidic phosphoglucomutase and complementation of the mutant with the wild-type cDNA. *Mol. Gen. Genet*. **263**: 978-986.

61. **Weber, A.**, Servaites, J., Geiger, D.R., Kofler, H., Hille, D., Gröner, F., Hebbeker, U. & Flügge, U.I. (2000). Identification, purification and molecular cloning of a putative plastidic glucose translocator. *Plant Cell* **12 (5)**: 787-801.

62. Streatfield, S. J., **Weber, A.**, Kinsman, E. A., Häusler, R. E., Li, J., Post-Beittenmiller, D., Kaiser, W. M., Pyke, K. A., Flügge, U. I. & Chory, J. (1999). The Phosphoenolpyruvate/Phosphate Translocator Is Required for Phenolic Metabolism, Palisade Cell Development, and Plastid-Dependent Nuclear Gene Expression *Plant Cell* **11**: 1609-1622.

63. Wiese, A., Gröner, F., Sonnewald, U., Deppner, H., Lerchl, J., Hebbeker, U., Flügge, U.I. & **Weber, A.** (1999). Spinach hexokinase I is located in the outer envelope membrane of plastids. *FEBS Lett*. **461**: 13-18.

64. Kammerer, B., Fischer, K., Hilpert, B., Schubert, S., Gutensohn, M., **Weber, A.** & Flügge, U.I. (1998). Molecular characterization of a carbon transporter in plastids from heterotrophic tissues: the glucose 6-phosphate/phosphate antiporter. *Plant Cell* **10**, 105-117

65. Fischer, K., Kammerer, B., Gutensohn, M., Arbinger, B., **Weber, A.**, Häusler, R.E. & Flügge, U.I. (1997). A new class of plastidic phosphate translocators: A putative link between primary and secondary metabolism by the phosphoenolpyruvate/ phosphate antiporter. *Plant Cell* **9**, 453-462.

66. Heiber, T., Steinkamp, T., Hinnah, S., Schwarz, M., Flügge, U.I., **Weber, A.** & Wagner, R. (1995) Ion channels in the chloroplast envelope membrane. *Biochemistry* **34**, 15906-15917.

67. **Weber, A.**, Menzlaff, E., Arbinger, B., Gutensohn, M., Eckerskorn, C. & Flügge, U.I. (1995). The 2-Oxoglutarate/Malate-Translocator of Chloroplast Envelope Membranes: Molecular Cloning of a Transporter Containing a 12-Helix Motif and Expression of the Functional Protein in Yeast Cells. *Biochemistry* **34**, 2621-2627.

68. Fischer, K., **Weber, A.**, Arbinger, B., Brink, S., Eckerskorn, C. & Flügge, U.I. (1994).

The 24 kDa outer envelope membrane protein from spinach chloroplasts: molecular cloning, *in vivo* expression and protein import pathway of a protein with unusual properties. *Plant Mol. Biol.*, **25**, 167-177.

69. Fischer, K., **Weber, A.**, Brink, S., Arbinger, B., Schünemann, D., Borchert, S., Heldt, H.W., Popp, B., Benz, R., Link, T.A., Eckerskorn, C. & Flügge, U.I. (1994). Porins from Plants. Molecular cloning and functional characterization of two new members of the porin family. *J. Biol. Chem.,* **269**, 25754-25760.

70. Flügge, U.I. & **Weber, A.** (1994). A rapid method for measuring organelle-specific substrate transport in homogenates from plant tissues. *Planta*, **194**, 181-185.

71. **Weber, A.**, Wallmeier, H. & Flügge, U.I. (1993). On the topology of the chloroplast triose phosphate/phosphate translocator. *Biol. Chem. Hoppe-Seyler* **374**, 155.

72. Flügge, U.I., **Weber, A.**, Fischer, K., Lottspeich, F., Eckerskorn, C., Waegemann, K. & Soll, J. (1991). The Major Chloroplast Envelope Polypeptide Is the Phosphate Translocator and Not the Protein Import Receptor. *Nature (London)*, **353**, 364-367.

BOOK CHAPTERS

73. Bräutigam A., **Weber A.P.M.** (2010) Transport processes - connecting the reactions of C4 photosynthesis. In: C4 Photosynthesis and Related CO2 Concentrating Mechanisms (A.S. Raghavendra and R.F. Sage, Eds.). Advances in Photosynthesis and Respiration, Vol. 32. Springer; in press.

74. **Weber A.P.M.,** Fischer K. (2009) The Role of Metabolite Transporters in Integrating Chloroplasts with the Metabolic Network of Plant Cells. In: The Chloroplast (A.S. Sandelius and H. Aronsson, Eds.), pp. 159-180. Plant Cell Monographs, Vol. 13. Springer-Verlag Berlin Heidelberg.

75. **Weber A.P.M**. (2009) Definition of Plant Metabolic Networks. In: Plant Metabolic Networks (J. Schwender, Ed.), pp. 9-38. Springer Dordrecht. (DOI: 10.1007/978-0-387-78745-9_2)

76. Oesterhelt, C. & **Weber, A.P.M.** (2007) *Galdieria sulphuraria* – A model for metabolic versatility at pH 2. In: *Proceedings of the 17th International Symposium on Plant Lipids* (C. Benning and J.B. Ohlrogge, Eds.), in press.

77. **Weber A.P.M**., Barbier G.G., Shrestha R.P., Horst R.J., Minoda A. & Oesterhelt C. (2007) A Genomics Approach to Understanding the Biology of Thermo-Acidophilic Red

Algae. In: *Algae in Extreme Environments* (J. Seckbach, Ed.), in press. Springer Berlin.

78. Tegeder, M. & **Weber, A.P.M.** (2006). Metabolite transporters in the control of plant primary metabolism. In: *Control of Primary Metabolism in Plants* (W.C. Plaxton and M.T. McManus, Eds.), pp. 85-120. Blackwell Scientific Publishing, Sheffield, UK.

79. **Weber, A.P.M.** (2006). Synthesis, Export and Partitioning of the End Products of Photosynthesis. In: *The Structure and Function of Plastids* (R.R. Wise and J.K. Hoober, Eds.), pp. 273-292. Advances in Photosynthesis and Respiration, Kluwer Academic Publishers, Netherlands.

80. Barbier, G. G., Zimmermann, M. & **Weber, A.P.M.** (2005). Genomics of the thermo-acidophilic red alga *Galdieria sulphuraria*, p. 67-78. In R. B. Hoover, G. V. Levin, A. Y. Rozanov, and G. R. Gladstone (ed.), Astrobiology and Planetary Missions, 1 ed, vol. 5906. SPIE, San Diego, CA, USA.

81. **Weber, A.P.M.** & Kaiser, W.M. (2005). Rapid modulation of nitrate reduction in leaves by redox coupling of plastidic and cytosolic metabolism. In: *Photosynthesis: Fundamental Aspects to Global Perspectives* (A. van der Est and D. Bruce, Eds.), ACG Publishing, Lawrence, KS.

82. Flügge, U.-I., **Weber, A.**, Fischer, K., Häusler, R. & Kammerer, B. (1996). Molecular characterization of plastid transporters. *C.R. Acad. Sci. Paris*, Life sciences **319**, 849-852

83. Flügge, U.I., **Weber, A.** & Fischer, K. (1995). Carbon transport across the chloroplast envelope. In: *Carbon Partitioning and Source-Sink Interactions in Plants* (M. Madore and W.J. Lucas, Eds.), An American Society of Plant Physiologists Series, Vol. **13**, S. 23-34.

84. Flügge, U.I., **Weber, A.** & Fischer, K. (1995). Transport processes in plant cells. In: *Research in Photosynthesis* (P. Mathis, ed.), Kluwer Academic Publishers, Netherlands.

85. Flügge, U.I., **Weber, A.**, Fischer, K., Loddenkötter, B. & Wallmeier, H. (1992). Structure and function of the chloroplast triose phosphate/phosphate translocator. In: *Research in Photosynthesis* (N. Murata, ed.), Vol. III, pp. 667-674, Kluwer Academic Publishers, Netherlands.

86. Wallmeier, H., **Weber, A.**, Gross, A., & Flügge, U.I. (1992). Insights into the Structure of the Chloroplast Phosphate Translocator Protein. In D.T. Clarkson & D.T. Cooke (Eds.), *Transport and Receptor Proteins of Plant Membranes,* pp. 77-89, New York, Plenum Publishing Corp.

PATENTS

1. Flügge, U.I., Servaites, J., Fischer, K., **Weber, A.** (1998). DNA-Sequence, Coding for a Glucose-Translocator, Plasmids, Bacteria, Yeasts and Plants Containing this Transporter (198 53 778.6-41).
2. Flügge, U.I., Dressen, U., Westhoff, P., **Weber, A.** (1998). DNA-Sequence, Coding for a Glutamate/Malate-Translocator, Plasmids, Bacteria, Yeasts and Plants Containing this Transporter (198 53 778.6-41).
3. Flügge, U.I., **Weber, A.**, Fischer, K., Kammerer, B. (1997). DNA-Sequence, Coding for a Glucose 6-phosphat-Phosphat-Translocator, Plasmids, Bacteria, Yeasts and Plants Containing this Transporter (197 32 926.8-41).
4. Flügge, U.I., Fischer, K., **Weber, A.** (1996). DNA-Sequence, Coding for a Phosphoenolpyruvate-Phosphat Translocator, Plasmids, Bacteria, Yeasts and Plants Containing this Transporter (196 00 357.1-41); International Patent O.Z. 0050/47608 (1997)
5. Flügge, U.I., Fischer, K., **Weber, A.** (1994). DNA-Sequence, Coding for a 2-Oxoglutarate/Malate-Translocator, Plasmids, Bacteria, Yeasts and Plants Containing this Transporter (P44 20 782.4); International Patent PCT/EP95/02319 (1995).

STUDENTS AND POSTDOCTORAL FELLOWS

Current Graduate Students

Kristin Bernhard (PhD)

Christian Bordych (PhD)

Frederique Breuers (PhD)

Daria Chrobok (MSc)

Thea Pick (PhD)

Katja Paas (PhD)

Christian Rosar (PhD)

Simon Schliesky (PhD)

Manuel Sommer (PhD)

Sarah Vigelius (PhD)

Jan Wiese (PhD)

Current Postdoctoral Associates

Andrea Bräutigam (Michigan State University, East Lansing, MI)

Marion Eisenhut (U. Rostock, Martin Hagemann), Strasburger Award of the German Botanical Society

Fabio Faccinelli (U. Bonn, Dorothea Bartels)

Vera Göhre (U. Geneva, J.D. Rochaix)

Nicole Linka (U. Kaiserslautern, Ekkehard Neuhaus), Feodor-Lynen-Fellow

Past Postdoctoral Associates

Ayumi Minoda, University of Tokyo

Roshan Shresta, Research Associate, University of California, San Diego, CA

Gretel Hunzicker, Postdoctoral Associate, University of Tübingen

A. Jamai, Postdoctoral Associate with Rob McClung, Dartmouth College, Hanover, NH

H. Kofler, MWG GmbH, Ebersberg, Germany

Lars M. Voll, Research Associate, Department of Biochemistry, University of Erlangen, Germany

Guillaume Barbier, Research Associate, Metabolic Explorer, Saint-Beauzire, France

Anika Wiese, Research Associate, Forschungszentrum Jülich, Germany

David Gagneul, Maitre de Conferences, University of Lille, France

Marc Linka, Bayer AG, Germany

Past Graduate Students (Research Assistants)

A. Bräutigam, (Diploma, PhD) University of Cologne, Cologne, Germany. Postdoctoral Fellow, Heinrich-Heine-Universität, Düsseldorf.

R. Horst, (Diploma), Postdoctoral Fellow, University of Washington, USA

H. Kofler, (Diploma/Dr. rer. nat.) Operon GmbH; graded *summa cum laude*

Marc Linka, (PhD), Bayer AG, Germany

K. Ottmaier, (Diploma) University of Cologne, Cologne, Germany. Lost contact.

P. Renné, (Diploma/Dr. rer. nat.) University of Cologne, Cologne, Germany. Operon GmbH, Cologne.

J. Schneidereit, (Diploma) University of Cologne, Cologne, Germany. PAREXCEL, Berlin Germany.

O. Schon, (Diploma) Currently postdoc, University of Cambridge, Cambridge, UK.

A. Wiese, (Dr. rer. nat.), Assistant Professor, Juelich Research Center; graded *summa cum laude*

SERVICE IN COMMITTEES

Chair, Website Committee, Department of Plant Biology, Michigan State University (2003 – present)

Member, Admissions Committee, Cell & Molecular Biology Graduate Program, Michigan State University (2003 – 2005)

Member, Metabolic Networks and Genomics Planning Group (2003-2004)

Member, Admission Committee, Plant Biology Graduate Program, Michigan State University

(2004 – 2006)

Chair, Admission Committee, Graduate Program in Genetics, Michigan State University (2005)

Member, Search Committee, Quantitative Plant Biologist; Department of Plant Biology, Michigan State University (2004/2005)

Member, Search Committee, Plant Biologist; DOE Plant Research Laboratory, Michigan State University (2004/2005)

Member, Search Committee, Faculty Positions in Bioinformatics and Proteomics, Michigan State University (2006/2007).

Member, Vorstand Wissenschaftliche Einrichtung Biologie, Heinrich-Heine-Universität, Düsseldorf (2007 - present)

Member, Search Committee, Faculty Positions in Plant Biology and Microbiology, Heinrich-Heine-Universität, Düsseldorf (2007 - 2008)

Chair, Admission Committee for Master Students, Heinrich-Heine-Universität, Düsseldorf (2007 - present)

Chair, "Perspektivkommission", Heinrich-Heine-Universität, Düsseldorf (2007 -)

Chair, Search Committee, Faculty Position in Cell Biology, Heinrich-Heine-Universität, Düsseldorf (2008-2009)

Member, Search Committee "Interaction of Plants with other Organisms", Heinrich-Heine-Universität, Düsseldorf (2009)

Member, Search Committee "Quantitative Biology", Heinrich-Heine-Universität, Düsseldorf (2009)

Chair, Search Committee "Plant Molecular Ecology and Physiology", Heinrich-Heine-Universität, Düsseldorf (2010 -)