

CURRICULUM VITAE – Klaas van Wijk – November 2010

Klaas van Wijk

Associate Professor

Department of Plant Biology, Emerson Hall, 332. Cornell University, Ithaca, NY14853, USA.

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RESEARCH INTERESTS. Chloroplast biogenesis, differentiation and homeostasis in C3 and C4 plant species (Arabidopsis, maize, rice). The chloroplast protease network. Large scale proteomics and systems biology of molecular events in plants.

EDUCATION

1998	M.Sc.	Agricultural University Wageningen, The Netherlands
1992	PhD	University of Groningen, The Netherlands
1992-1995	Postdoc	Dept. of Biochemistry, Stockholm University, Sweden
1996-1997	Postdoc	Dept. of Plant Biology, Carnegie Institute, Stanford, USA

APPOINTMENTS

2007-current	Director of Graduate Studies (DGS) in Plant Biology
2005-current	Associate Professor, Plant Biology Dept., Cornell University, Ithaca, NY
2001-2005	Assistant Professor, Plant Biology Dept., Cornell University, Ithaca, NY
1997-2000	Assistant Professor, Biochemistry Dept., Stockholm University, Stockholm, Sweden
1995-1997	Postdoc. Fellow, with N. Hoffman, Carnegie Institute of Washington, Stanford, USA
1992-1995	Postdoc. Fellow with Drs Andersson/Styring, Biochem. Dept., Stockholm Univ., Sweden
1988-1992	Graduate Student in Plant Biology, University of Groningen, The Netherlands
1986	Research Assistant, Inst. of Crop Research Semi-Arid Tropics (ICRISAT), Niger, Africa

HONORS AND AWARDS

2009	Guest research summer fellowship WennerGren Foundation, Stockholm, Sweden
2004	Melvin Calvin award, The International Society for Photosynthesis Research
1994-1995	2 years NMR Postdoctoral Fellowship (Sweden)
1990	6 months DFG Fellowship (Germany)
1988-1992	4 years NWO Graduate Research Fellowship (The Netherlands)

MEMBERSHIP PROFESSIONAL ORGANIZATIONS

Member American Society for Plant Biology (ASPB)
Member American Society for Biochemistry and Molecular Biology (ASBMB)
Member American Association for Advancement of Science (AAAS)
Member American Society for Mass Spectrometry (ASMS)
Member International Society of Photosynthesis Research (ISPR)

OTHER PROFESSIONAL ACTIVITIES

- Editorial Board member Molecular & Cellular Proteomics (2007-current)
- Associate Editor BMC Plant Biology (2009-current)
- Editorial Board BMC Plant Biology (2006-2009)
- Co-chair Multinational Arabidopsis Steering Subcommittee on Proteomics (since 2008)
- Reviewer for International Journals: Nature Biotech, PNAS, EMBO. J., Plant Cell, Plant J., Proteomics, MCB, Genome Biology, J. Exp Botany, and many others (currently about 20-25 papers per year)
- Reviewer for grant proposals: NSF, USDA, BARD, Binational US-Israel Science Foundation (BSF), Israel Science Foundation (ISF), Dutch National Research Council (NWO), Austrian Science Fund (FWF); British Research Council (BBRC), Swiss National Science Foundation (SNF), GENOPLANT (France).

CURRICULUM VITAE – *Klaas van Wijk*

- Grant review panels: NSF Spring 2004, NSF Fall 2009, NSF Spring 2010
- Advisory functions: DOE advisory workshop on 'Systems Biology', 2003
- Organization of Scientific Meetings: Organizing committee "Plant Proteomes: Structure, Dynamics and Function". Iowa State Univ., 5th Nordic Congress on Photosynthesis, 28-30 Oct 2000 Denmark
- iPlant collaborative - Member Scientific Opportunities Team (SOT) (2009 – current)

CORNELL UNIVERSITY COMMITTEES AND RESPONSIBILITIES

Director of Graduate Studies (DGS) in Plant Biology (2007-current)
Cornell Greenhouse committee (2004-2006)
Search Committees: Plant Breeding (2003), The Boyce Thompson Institute (2004, 2006)
Emerson Growth Facility manager (2003-current)
Genomics task force (2001-2005); Proteomics User Group
Curriculum committee for GAANN graduate training grant program in Plant Biology

TEACHING

BIOPL 4620 Biochemistry (2001, 2002, 2003, 2004, 2005, 2006, 2008, 2009, 2010)
BIOPL 4832 Proteomics and Protein Mass Spectrometry in Biology (2002, 2003, 2004, 2005, 2007, 2009)
BIOPL 6410 Laboratory in Plant Molecular Biology (2006, 2007, 2008, 2009, 2010)
BIOPL 7420 Current Papers in Plant Biology (Fall 2003)
BIOPL 7430 Faculty Research in Plant Cell and Molecular Biology – coordinator (2005, 2006, 2007, 2008, 2009)

ADVISING STUDENTS, POSTDOCS AND RESEARCH ASSOCIATES

Ph.D. students: Lisa Giacomelli, Robert Nilsson, Andrea Rudella, Jimmy Ytterberg, Heidi Rutschow, Paul D.B. Olinares, Peter Lundquist, Xian Qu. **Total 8 students, of which 5 have completed.**

Postdoctoral fellows: Jitea Kim, Jie An, Yang Cai, Wojciech Majeran, Sushma Naithani, Jean-Benoit Peltier, Thomas Röhl, Vladimir Zabrouskov, Mi Ja Lee, Verenice Ramirez-Rodriguez, Boris Zybilov, Yukari Asakura, Anton Poliakov, Mingshu Huang, Nazmul Bhuiyan, Stephania Ghesauri. **Total postdoctoral: 16**

Undergraduate Students involved independent research. Erica Barnell ('10-current), Mason Appel ('09-current), Soo-hyun Oh ('09-'10), Erin Galarnaue ('09), Xian Qu ('09; honors thesis), Brian M. Connolly ('07-08; honors thesis), Ryan John Whitted ('07), Leyla Alexandra Davis ('06-'07), Kieren Patel ('03-'04; honors thesis), Clara Cheong ('03-'04; honors thesis), Nicholas Licciardello (PGRP summer intern '03), Rachel Marie Ruggirello ('02) **Total 12 undergraduate students, 4 with completed honors thesis.**

Minor Ph.D students: *Current:* Zhiyang Zha (Vatamaniuk lab), John Snyder (Noble Foundation), Deze Elzinga (Jander lab), *Students graduated:* Wade Patrick Heller (Hansson lab; 2010), Jeremy Coate (Doyle lab 2010), Michael Hayes (Hansson lab; Jan 2009); Yin Yi (Hua lab; Jan 2009); Tracy Rosebrock (Martin lab; Dec 2007), Jason Gillman (Hansson lab; Dec 2007).

INVITED SEMINARS AT INSTITUTES, CONFERENCES AND WORKSHOPS

- 2010 International Conference on Proteomics in Agriculture, Japan (Nov)
- 2010 C4 workshop, Shanghai, China (August)
- 2010 15th International Photosynthesis Meeting, Beijing, China (August)
- 2010 Gordon Conference on Mitochondria and Chloroplasts, Italy (July)
- 2010 Max-Planck Inst. Golm, Germany. Joint meeting with selected Cornell Faculty (June)
- 2010 Dept of Plant Biology, Cornell University. April 30
- 2010 Washington State University, Global Plant Sciences Initiative (GPSI) seminar series, Molecular Plant Sciences Graduate program. April 21
- 2009 Plant Proteomics Symposium, Florida

CURRICULUM VITAE – Klaas van Wijk

- 2009 Department of Plant Biology, University of Dusseldorf
- 2009 International Photobiology Meeting Dusseldorf
- 2008 International Arabidopsis Conference. Montreal, Canada. Co-organizer and speaker of workshop on plant proteomics. Also, panel member on workshop on laser capture microdissection in plants
- 2008 CRIBI Biotechnology Centre, University of Padova, Italy
- 2008 EMBN workshop on 'Membrane proteins and Proteomics', Groningen, The Netherlands
- 2007 3rd Symposium of Danish Proteomics Society (DAPSOC), Systems Biology and Proteomics, Odense, Denmark
- 2007 Conference on 'Plant Genomes', Cold Spring Harbor, NY
- 2007 Department of Biochemistry, University of Toronto, Canada
- 2007 Graduate Course 'Stress in Model systems', Department of Biochemistry, University of Toronto, Canada
- 2007 Mini-Symposium on 'Plant Proteomics', University of Missouri
- 2007 Max-Planck Institute for Molecular Plant Physiology, Golm, Germany
- 2007 Department of Molecular Botany, University of Ulm, Germany
- 2007 Department of Chemistry and Biochemistry, UCLA, CA
- 2007 Division of Cell Biology, University of Linsjoping, Sweden
- 2007 Department of Plant Biochemistry and Biophysics, Stockholm University
- 2007 Graduate course in Membrane Proteomics, Department of Plant Biochemistry and Biophysics, Stockholm University
- 2006 Annual Meeting of the American Society of Plant Biologist ASPB (Boston) August
- 2006 Mini-symposium: "Mechanisms Regulating Cellular Processes and Systems Biology". July 26 and 27. Oklahoma State University.
- 2006 East Coast Regional Photosynthesis meeting, Hollow Wood, April
- 2006 Biotechnology Institute Delaware
- 2005 Boyce Thompson Institute, Cornell University. November
- 2005 Department of Plant Biology, University of Pennsylvania, Philadelphia
- 2005 Summer workshop in Functional Genomics. Ohio state University, July 25-August 3
- 2005 World Congress in Botany, Vienna, Austria, July 2005 (Session Chairman and speaker)
- 2005 Department of Plant Biology and Microbial Biology, University of Berkeley. May 2005
- 2005 Department of Biology, Dept. of Biochemistry, Queens University, Ontario, Canada, April 2005
- 2004 The Plant Genomes: From Sequence to Phenome Meeting, Cold Spring Harbor, December 9-12,
- 2004 13th International Congress on Photosynthesis, Montreal, August 29-Sept 3
- 2004 NSF funded VBI-Noble Proteomics Workshop, August 4-6, Noble Foundation, Ardmore, OK
- 2004 Symposium DFG sponsored Collaborative Research Center, June 4, Bochum, Germany
- 2004 Masterclass of the European College, June 2,3 Bochum, Germany
- 2004 Plant Genome meeting, workshop on "Plant Proteomics". Jan., San Diego, CA, Jan
- 2004 Plant Genome meeting, workshop on "Organellar genetics". Jan., San Diego, CA, Jan
- 2004 Annual West Coast Photosynthesis meeting, Asilomar CA, Jan
- 2003 Functional genomics; Theory and hands-on data analysis. PhD Summerschool, Utrecht University, The Netherlands, 25-28 August, 2003
- 2003 Pan-American Meeting on Membrane Biology, Cuernavaca, Mexico, May 28-June 1
- 2003 Advisory workshop on "Systems Biology", US Dept of Energy (DOE), Riverside, CA Jan 2003
- 2003 Plant Research Laboratory (PRL), University of Michigan, Oct 27 2003 Dept of Biochemistry Molecular Biology, University of Massachusetts, Amherst, MA, April 10
- 2003 New York State Proteomics symposium, Syracuse, March 17,
- 2002 28th Annual Midwest Photosynthesis meeting. Oct. 27-29, at Turkey Run State Park, Marshall, IN.
- 2002 XIII International Conference on Arabidopsis, Sevilla, Spain. 30 June-3 July 2002
- 2002 Plant Genome meeting, workshop on "Organellar Genomics". Jan 2002, San Diego

CURRICULUM VITAE – **Klaas van Wijk**

- 2002 Plant Proteomes: Structure, Dynamics, and Function. Iowa State University
- 2002 Gordon Conference – Biochemical Aspects of Photosynthesis, Connecticut
- 2002 Samuel Robert Noble Foundation, Ardmore, Oklahoma Oct
- 2002 Department of Biochemistry and Molecular Biology, Cornell University, Ithaca, NY Sept
- 2002 Department of Plant Biology, Ohio State University, Columbus. Nov., Marshall, IN.
- 2002 New York State Agricultural Experiment Station (NYSAES), Geneva, NY. Nov
- 2002 Joint Symposium Cornell University and The National University of Seoul, Korea). Seoul National University, Korea. 3-5 June
- 2002 Syngenta, San Diego, CA
- 2001 Italian Society for Plant Physiology, Padova, Italy
- 2001 12th International Meeting on Photosynthesis, Canberra, Australia, Aug 2001

As Assistant Professor at Stockholm University (only seminars at conferences are listed)

- 2000 Danish Biochem. Soc Meeting on Bioinformatics and Mass spectrometry Oct 2000
- 2000 Proteomics meeting: 'From Genome to Proteome'. Sienna, Italy, Sept. 2000
- 2000 Gordon Conference on "Mitochondria and Chloroplasts", June 2000, Connecticut, USA
- 1999 European Research Conference on 'Protein targeting', Orbenai, France 1-6 Oct
- 1999 'Functional Genomics and Proteomics'. Annual meeting of the Swedish Society for Biochemistry and Molecular Biology (SFBM), Stockholm, Sweden
- 1998 IVth Nordic Congress on 'Photosynthesis', Turku, Finland
- 1998 NATO Advanced Research workshop on 'The Chloroplast: from Molecular Biology to Biotechnology', Crete, Greece
- 1998 Workshop on 'Structure and biogenesis of the thylakoid membranes', Villiers, Switzerland
- 1997 Workshop on 'Structure, function and biogenesis of the photosynthetic apparatus', Vilm, Germany

Refereed journal articles (reviews and chapters- marked with #)

- 74.** Majeran, W., Friso, G., Ponnala, L., Connolly, B., Huang, M., Reidel, E., Zhang, C., Asakura, Y., Nazmul H. Bhuiyan, N.H., Sun, Q., Turgeon, R., van Wijk, K.J. (2010) Structural and metabolic transitions of C4 leaf development and differentiation defined by microscopy and quantitative proteomics. *The Plant Cell – prepublication on line November 16.*
- 73.** Olinares, P.D.B, L. Ponnala L., van Wijk, K.J. (2010) Megadalton Complexes in the Chloroplast Stroma of *Arabidopsis thaliana* characterized by Size Exclusion Chromatography, Mass Spectrometry and Hierarchical Clustering. *Mol Cell Proteomics. prepublication online April 27*
- 72.** Friso, G, Majeran, W., Huang, M., Sun, Q., van Wijk., K.J. (2010) Reconstruction of metabolic pathways, protein expression and homeostasis machineries across maize bundle sheath and mesophyll chloroplasts; large scale quantitative proteomics using the first maize genome assembly. *Plant Physiology 152:1219-1250*
- 71.** Zybailov, B., Sun, Q., van Wijk, K.J. (2009) A Workflow for Large Scale Detection and Validation of Peptide Modifications by RPLC-LTQ-Orbitrap; application to the *Arabidopsis thaliana* leaf proteome and an on-line modified peptide library. *Analytical Chemistry 81(19):8015-24*
- 70.** Kim J., Rudella, A., Ramirez-Rodriguez, V., Zybailov, B., Olinares, PDB, van Wijk, K.J. (2009) Subunits of the plastid ClpPR protease complex have differential contributions to embryogenesis, plastid biogenesis, and plant development in *Arabidopsis*. *Plant Cell 21(6):1669-1692*
- 69.** Zybailov, B., Friso, G., Kim J., Rudella, A., Ramirez-Rodriguez, V., Asakura, Y, Sun, Q., , van Wijk, K.J. (2009) Large scale comparative proteomics of a chloroplast Clp protease mutant reveals folding stress, altered protein homeostasis and feedback regulation of metabolism. *Mol Cell Proteomics 8(8): 1789–1810*
- 68.** Kroeger, T.S., Watkins, K.P., Friso, G., van Wijk, K.J., and Barkan, A. (2009) A plant-specific RNA binding domain revealed through analysis of chloroplast group II intron splicing. *PNAS 106(11):4537-42*
- #67.** Majeran, W., and van Wijk, K.J. (2009) Cell-type specific differentiation of chloroplasts in C4 plants. *Trends in Plant*

Science 14(2):100-9

66. Sun, Q., Zybilov, B., Majeran, W., Friso, G., Olinares, P.D.B., van Wijk, K.J. (2009) PPDB, the Plant Proteomics Database at Cornell. *Nucleic Acids Res. (database issue)* 37: D969-74
65. Wagner, S., Klepsch, M.M., Schlegel, S., Appel, A., Draheim, R., Tarry, M., Högbom, M., van Wijk, K.J., Slotboom, D.J., Persson, J.O., de Gier, J.W. (2008) Tuning *Escherichia coli* for membrane protein overexpression. *Proc Natl Acad Sci U S A.* 105(38):14371-6
64. Prikryl, J., Watkins, K.P., Friso, G., van Wijk, K.J., Barkan, A. (2008) A member of the Whirly family is a multifunctional RNA- and DNA-binding protein that is essential for chloroplast biogenesis. *Nucleic Acids Res.* 16:5152-65.
63. Klepsch, M., Schlegel, S., Wickström, D., Friso, G., van Wijk, K.J., Persson, J.O., de Gier, J.W., Wagner, S. (2008) Immobilization of the first dimension in 2D blue native/SDS-PAGE allows the relative quantification of membrane proteomes. *Methods.* 2008 Jul 29.
62. Rutschow, H., Ytterberg, A.J., Friso, G., Nilsson, R., van Wijk, K.J. (2008) Quantitative proteomics of a chloroplast SRP54 sorting mutant and its genetic interactions with *CLPC1* in *Arabidopsis thaliana*. *Plant Physiol.* 148(1):156-75.
61. Majeran, W., Zybilov, B., Ytterberg, A.J., Dunsmore, J., Sun, Q., van Wijk, K.J. (2008) Consequences of C4 differentiation for chloroplast membrane proteomes in maize mesophyll and bundle sheath cells. *Mol Cell Proteomics.* 9:1609-38.
60. Zybilov, B., Rutschow, H., Friso, G., Rudella, A., Emanuelsson, O., Sun, Q., van Wijk, K.J. (2008) Sorting signals, N-terminal modifications and abundance of the chloroplast proteome. *PLoS ONE.* Apr 23;3(4)
59. Covshoff, S., Majeran, W., Liu, P., Kolkman, J.M., van Wijk, K.J., Brutnell, T.P. (2008) De-regulation of maize C4 photosynthetic development in a mesophyll cell defective mutant. *Plant Physiol.* 146(4):1469-81
58. Baars, L., Wagner, S., Wickström, D., Klepsch, M., Ytterberg, A.Y., van Wijk, K.J., de Gier, J.W. (2008) Effects of SecE depletion on the inner and outer membrane proteomes of *Escherichia coli*. *J. Bacteriology.* 190(10):3505-25.
57. Giacomelli, L., Masi, A., Ripoll, D.R., Lee, M.J., van Wijk, K.J. (2007) *Arabidopsis thaliana* deficient in two chloroplast ascorbate peroxidases shows accelerated light-induced necrosis when levels of cellular ascorbate are low. *Plant Molecular Biology* 65(5):627-44
56. Watkins, K.P., Kroeger, T.S., Cooke, A.M., Williams-Carrier, R.E., Friso, G., Belcher, S.E., van Wijk, K.J., Barkan, A. (2007). A Ribonuclease III Domain Protein Functions in Group II Intron Splicing in Maize Chloroplasts. *The Plant Cell* 19(8):2606-23.
55. Wagner, S., Baars, L., Ytterberg, A.J., Klussmeier, A., Wagner, C.S., Nord, O., Nygren, PA, van Wijk, K.J., de Gier, J.W. (2007) Consequences of membrane overexpression in *Escheria coli*. *Molecular Cellular Proteomics* 6(9): 1527-1550
- #54. Brehelin, C., Kessler, F., van Wijk, K.J. (2007) Plastoglobules: versatile lipoprotein particles in plastids. *Trends in Plant Science* 12(6):260-266.
53. Schoonheim, P.J., Veiga, H., da Costa Pereira, D., Friso, G., van Wijk, K.J. de Boer, A.H. (2007) A comprehensive analysis of the 14-3-3 interactome in barley leaves using a complementary proteomics and two-hybrid approach. *Plant Physiology* 143(2):670-83.
52. Nissinen, R.M., Ytterberg, A.Y., Bogdanove, A.J., van Wijk, K.J. and Beer, S.V. (2007) Analyses of the secretomes of *Erwinia amylovora* and selected *hrp* mutants reveal novel type III secreted proteins and an effect of HrpJ on extracellular harpin levels. *Molecular Plant Pathology* 8, 55-67
51. Rudella, A., Friso, G., Alonso, J.M., Ecker, J.R., van Wijk, K.J. (2006) Down-regulation of ClpR2 protease of *A. thaliana* leads to reduced accumulation of the ClpPRS complex and defects in chloroplast biogenesis. *The Plant Cell* 18(7), 1704-1721
50. Giacomelli, L., Rudella, A. and van Wijk, K.J. (2006). High light response of the thylakoid proteome in *Arabidopsis thaliana* wild type and the ascorbate deficient mutant *vtc2-2*; a comparative proteomics study. *Plant Physiology* 141(2), 685-701
- #49. van Wijk, K.J. Peltier, J.B., Giacomelli, L. (2007) Isolation of chloroplast proteins from *Arabidopsis thaliana* for

- proteome analysis. *Methods Molecular Biology* 355:43-8.
- #48. Adam, Z., Rudella, A., van Wijk, K.J. (2006) Recent advances in the study of Clp, FtsH and other proteases located in chloroplasts. *Current Opinion in Plant Biology* 9 (3), 234-40
- #47. van Wijk, K.J. (2006) Expression, Prediction and Function of the thylakoid proteome in higher plants and green algae, pp. 125-143. In "The Structure and Function of Plastids", edited by RR. Wise and JK Hooper. Volume 13 of Series on Advances in Photosynthesis and Respiration. Series editor Gonvidjee. Kluwer Academic Publishers.
46. Ytterberg A.J., Peltier, J.B., van Wijk, K.J. (2006) Protein profiling of plastoglobules in chloroplasts and chromoplasts; a surprising site for differential accumulation of metabolic enzymes. *Plant Physiology* 140, 984-997
45. Zabrouskov, V., Han, X., Welker, E., Zhai, H., Lin, C., van Wijk, K., Scheraga, H.A., McLafferty, F.W. (2006) Stepwise Deamidation of Ribonuclease A at Five Sites Determined by Top Down Mass Spectrometry. *Biochemistry* 45, 987-992
44. Baars, L. Ytterberg, A.Y., Drew, D., Wagner, S., Thilo, C., van Wijk, K.J. and de Gier, J.W. (2006) Defining the role of the E. coli chaperone SECB using comparative proteomics. *J. Biol. Chem* 218, 10024-10034
43. Peltier, J.B., Cai, Y., Sun, Q., Zabrouskov, V., Giacomelli, L., Rudella, A., Ytterberg, AJ, Rutschow, H., van Wijk, K.J. (2006) The oligomeric stromal proteome of A. thaliana chloroplasts. *Mol Cell Proteomic* 5.1, 114-133
42. Majeran, W., Cai, Y., Sun, Q., van Wijk, K.J. (2005) Functional differentiation of Bundle Sheath and Mesophyll maize chloroplasts determined by Comparative proteomics. *The Plant Cell* 17(11) 3111-40
41. Majeran, W., Friso, G., van Wijk, K.J., Vallon, O. (2005) The chloroplast ClpP complex in Chlamydomonas reinhardtii contains an unusual high molecular mass subunit with a large apical domain. *FEBS J.* 272(21),5558-5571.
40. Drew D, Slotboom DJ, Friso G, Reda T, Genevaux P, Rapp M, Meindl-Beinker NM, Lambert W, Lerch M, Daley DO, Van Wijk KJ, Hirst J, Kunji E, De Gier JW.A (2005) A scalable, GFP-based pipeline for membrane protein overexpression screening and purification. *Protein Sci.* 14(8), 2011-2017
- # 39. van Wijk, K.J. (2004) Chloroplast Proteomics. Chapter 14, pp 329-358. In Plant Functional Genomics, D Leister, Editor. The Haworth Press, Inc. Binghamton, NY.
- # 38. van Wijk, K.J. (2004) Plastid Proteomics. *Plant Physiology and Biochemistry* 42, 963-977
37. Labate, M.T. V., Ko, K., Ko, Z.W., Costa Pinto, L.S.R., Real, M.J.U.D., Romano, M., Barja, P.R., Ranell, A., Friso, G., van Wijk, K.J., and Labate, C.A. (2004) Constitutive expression of pea LHCb1.2 in tobacco affects plant development, morphology and photosynthetic capacity. *Plant Molecular Biology* 55, 701-714
36. Peltier, J-B, Ytterberg, A.J., Sun, Q. and van Wijk, K.J. *J. Biol. Chemistry* 279, 49367-49383 New functions of the thylakoid membrane proteome of *Arabidopsis thaliana* revealed by a simple, fast and versatile fractionation strategy (2004)
35. Suzuki, J. Y., Ytterberg, A.Y., Beardslee, T., Allison, L.A., van Wijk, K.J., and Maliga, P. (2004) Composition of the affinity purified plastid RNA polymerase core and *in vitro* reconstitution of the holoenzyme. *Plant Journal* 40(1), 164-172
34. Sun, Q., Olof Emanuelsson, O., van Wijk, K.J. (2004) Analysis of curated and predicted plastid subproteomes of *Arabidopsis thaliana*; Subcellular compartmentalization leads to distinctive proteome properties. *Plant Physiology* 135, 723-734
33. Friso*, G., Giacomelli*, L., Ytterberg*, A.J., Peltier*, J.B., Rudella, A. Sun, Q., van Wijk, K.J. (2004) In-depth analysis of the thylakoid membrane proteome of *Arabidopsis thaliana* chloroplasts; new proteins, new functions and a plastid proteome database. *Plant Cell* 16, 478-499 - * contributed equally
32. Peltier*, J.B, Ripoll*, D, Friso, G. Rudella, A., Ytterberg, J., Cai, Y., Giacomelli, L., Pillardy, J and van Wijk (2004). Clp protease complexes from photosynthetic and non-photosynthetic plastids and mitochondria of plants, their predicted 3-D structures and functional implications. *J. Biol. Chemistry* 279, 4768 - 4781 - * contributed equally
31. Zabrouskov, V., Giacomelli, L., van Wijk, K.J., and McLafferty, F.W. (2003) A new mass spectrometry approach for Plant proteomics: characterization of chloroplast proteins of *Arabidopsis thaliana* by top down mass spectrometry. *Molec. and Cell. Proteomics* 2.12, 1253-1260
30. Tregoning, J.S., Nixon, P., Kuroda, H., Svab, Z., Clare, S., Bowe, F., Fairweather, N., Ytterberg, J., van Wijk, K.J.,

- Dougan, G., Maliga, P. (2003) Expression of tetanus toxin fragment C in tobacco chloroplasts. *Nucleic acids Research* 31 (4) 1174-1179
29. Nilsson, R. and van Wijk, K.J. (2002) Transient interaction of cpSRP54 with elongating nascent chains of the chloroplast-encoded D1 protein; 'cpSRP54 caught in the act'. *FEBS letters* 524, 127-133
28. Jiang, F., Yi L., Moore, M., Rohl T., van Wijk, K.J., de Gier, J.W., Henry, R., and Dalbey, R. (2002). Chloroplast Oxa1p Homologue Albino3 Can Functionally Complement the Bacterial YidC Depletion Strain and Promote Membrane Insertion of Both Bacterial and Chloroplast Thylakoid Proteins. *J. Biol. Chemistry* 277, 19281-19288
27. Peltier J-B., Emanuelsson, Kaluma, D.E., Ytterberg, Y. Friso, G., Rudella, A., Roepstorff, von Heijne, G. and van Wijk, K.J. (2002) Central functions of the lumenal and peripheral thylakoid proteome of *Arabidopsis thaliana* determined by experimentation and genome-wide prediction *Plant Cell* 14, 211-236
26. Röhl, T. and van Wijk, K.J. (2001) *In vitro* Reconstitution of Insertion and Processing of Cytochrome *f* in a Homologous Chloroplast Translation System *J. Biol. Chemistry* 276, 35465-35472
25. Fröderberg, L., Röhl, T., van Wijk, K.J., de Gier, J.W. (2001) Chloroplast SecE can functionally complement the *E. coli* homologue. *FEBS Letters* 24919, 1-5
- # 24. van Wijk, K.J. (2001) Update on plant proteomics. Challenges and Prospects of Plant Proteomics *Plant Physiology* 126, 501-508
23. Peltier, J.B., Ytterberg, J., Lieberles, D., Roepstorff, P. and van Wijk, K.J. (2001) Identification of a 350 kDa chloroplast ClpP protease complex by BN-PAGE and Mass spectrometry. *J. Biol. Chemistry* 276: 16318-16327
- # 22. van Wijk, K.J. (2000) Proteomics of the chloroplast; Experimentation and prediction. *Trends in Plant Science* 5, 420-425
21. Zhang, L., Paakkarinen, V., van Wijk, K.J., Aro, E-M. (2000) Biogenesis of the chloroplast-encoded D1 protein: Regulation of mechanisms of D1 protein translation elongation, insertion and assembly *Plant Cell* 12, 1769-1781
20. Peltier, J.-B., Friso, G., Kalume, D.E., Roepstorff, P., Nilsson, F., Adamska, I., van Wijk, K.J. (2000) Proteomics of the chloroplast: Systematic identification and targeting analysis of thylakoid proteins. *Plant Cell* 12, 319-341
19. Zhang, L., Paakkarinen, V., van Wijk, K.J., Aro, E-M (1999). Co-translational assembly of the D1 protein into Photosystem II complexes. *J. Biol. Chem.* 274, 16062-16067
18. Houben, E., J.W. de Gier and van Wijk, K.J (1999). Insertion of leader peptidase into the thylakoid membrane during synthesis in a chloroplast translation system. *Plant Cell* 11, 1553-1564
17. Nilsson, R., Brunner, J., Hoffman, N. and van Wijk, K. J. (1999). Interactions of ribosome nascent chain complexes of the chloroplast-encoded D1 thylakoid membrane protein with cpSRP54. *EMBO J.* 18(3), 733-742
16. Pilgrim, M., van Wijk, K.J., Parry, D.H., Sy, D.A.C. and Hoffman, N. (1998) Expression of a dominant negative form of SRP54 inhibits chloroplast biogenesis in *Arabidopsis thaliana*. *Plant Journal* 13, 177-186
15. Kettunen, R., Salli, S., Rintamaki, E., van Wijk, K.J. and Aro, E-M. (1997) PsbA gene expression in pea leaves during high light stress and subsequent recovery. *Eur. J Biochemistry* 247, 441-448
14. van Wijk, K.J., M. Roobol-Boza, R. Kettunen, B. Andersson and Aro, E-M. (1997) Synthesis and assembly of the D1 protein into Photosystem II; Processing of the C-terminus and identification of initial assembly partners and complexes during Photosystem II repair. *Biochemistry* 36, 6178-6168
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ABSTRACTS/PROCEEDINGS OF PAPERS AND POSTERS PRESENTED BY MEMBERS OF THE VAN WIJK LAB AND COLLABORATORS (PRESENTER IS INDICATED IN BOLD)

37. **Boris Zybilov**, Qi Sun, Giulia Friso, Verence Ramirez-Rodriguez, Heidi Rutschow, Klaas van Wijk (2007) Large scale proteome and PTM analysis of *Arabidopsis* by LTQ-Orbitrap MS; comparison of cell lysate and the plastid organelle. *55th ASMS Conference on Mass Spectrometry*. Indianapolis, (poster)
36. **Paul Dominic Olinares**, Giulia Friso, Boris Zybilov, Andrea Rudella, Qi Sun, Klaas J. van Wijk (2007) Large scale label-free and cIAT-based comparative proteomics of an *Arabidopsis* Clp protease mutant; consequences for leaf development and protein homeostasis *55th ASMS Conference on Mass Spectrometry*. Indianapolis (poster)
35. **Heidi Rutschow**, Jimmy Ytterberg, Giulia Friso, Robert Nilsson, Klaas van Wijk (2006) Comparative proteomics of a chloroplast targeting mutant in *Arabidopsis thaliana*. *American Society for Plant Biology meeting. Boston, August* (poster)
34. **L. Giacomelli**, D. Ripoll, A. Masi, M.J. Lee, and K. van Wijk (2006) Accelerated light induced necrosis in an *Arabidopsis thaliana* triple mutant deficient in vitamin C, stromal and thylakoid-bound chloroplast ascorbate peroxidases *American Society for Plant Biology meeting. Boston, August* (oral presentation)
33. **Andrea Rudella**, Giulia Friso and Klaas J. van Wijk (2006) iTRAQ and cIAT based comparative proteomics of a *Arabidopsis* protease mutant; consequences for chloroplast protein homeostasis and Clp complex composition. *54th ASMS Conference on Mass Spectrometry*. Seattle (poster)
32. **A. Jimmy Ytterberg**, Heidi Rutschow, Klaas J. van Wijk (2006) iTRAQ based comparative proteomics of an *Arabidopsis* SRP54 mutant defective in chloroplast protein sorting. *54th ASMS Conference on Mass Spectrometry*. Seattle (poster)
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- 27. Giacomelli, L.,** Andrea Rudella, A., and van Wijk, K.J. (2005) The High Light Response of the Thylakoid Proteome of *Arabidopsis thaliana* Comparative Gel-Based Proteomics and Statistical Analyses of Wild Type and an Ascorbate Deficient Mutant. *American Society for Plant Biology meeting*. Seattle, July16-20 (poster)
- 26. Ytterberg, A.J.,** Rutschow, H., Klaas J. van Wijk (2005) Comparative proteomics of membrane proteins using in-solution digestion and isotope labeling; analysis of the *Arabidopsis thaliana* ffc mutant thylakoid membranes. *53th ASMS Conference on Mass Spectrometry* San Antonio, Tx, June 5-9 2005 (poster)
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