

MARKUS PAULY

Department of Plant Cell Biology and Biotechnology
Heinrich-Heine University
Universitätsstr. 1, 40225 Düsseldorf, Germany
+49-211-8115680 (phone)
m.pauly@hhu.de (e-mail) <http://www.plant-cell.hhu.de/en.html> (web)

Education

- 1998 **Dr. rer. nat. (Ph.D. in Science)**
Summa cum Laude, *Technical University (RWTH) Aachen, Germany*
Dissertation: Development of analytical tools to study plant cell wall xyloglucan
- 1993 **Diplom (Masters in Biology)**
Summa cum Laude, *RWTH Aachen, Germany*
Thesis: Untersuchungen zur Struktur der Oligosaccharid-Untereinheiten von Xyloglukanen aus Pflanzenzellwänden (Studies on the oligosaccharide subunit structures of plant cell wall xyloglucan)

Positions

- Jan 2016 - present **Professor in Plant Cell Biology and Biotechnology**
Heinrich-Heine University Düsseldorf
Düsseldorf, Germany
- July 2015 – Jun 2017 **Full Professor in Plant and Microbial Biology/
Fred Dickinson Chair in Wood Science and Technology**
Energy Biosciences Institute, University of California, Berkeley
Berkeley, USA
- Jan. 2010 - Jun 2015 **Associate Professor in Plant and Microbial Biology/
Fred Dickinson Chair in Wood Science and Technology**
Energy Biosciences Institute, University of California, Berkeley
Berkeley, USA
- Nov. 2006 - Dec 2009 **Associate Professor in Biochemistry & Molecular Biology/ Genetics,**
DOE-Plant Research Laboratory, Michigan State University,
East Lansing, USA
- May 2001- Oct. 2006 **Independent Research Group Leader, Max-Planck Institute for Molecular
Plant Physiology (MPI-MP), Golm, Germany**
- Nov. 2000 - April 2001 **Marie Curie Fellow at Unilever, Colworth Research Station, Bedford, United
Kingdom**
- July 1998 - Oct. 2000 **Assistant Research Professor at the Royal Veterinary and Agricultural
University, Copenhagen, Denmark**

Publications (H-index: 52; Total citations: 8463)

* denotes invited article; # denotes non-peer reviewed article

120. Xia J, Zhao Y, Burks P, Pauly M, Brown PJ, 2017, A Sorghum NAC gene is associated with variation in vascular development, biomass properties, and yield potential, submitted to **PNAS**
119. Hsia M, O'Malley R, Cartwright A, Nieu R, Gordon S, Kelly S, Williams T, Woods D, Zhao Yunjun, Bragg J, Jordan M, Pauly M, Ecker J, Gu Y, Vogel J, 2017, Sequencing and functional validation of the JGI Brachypodium distachyon T-DNA collection, in press in **Plant Journal**
118. Møller S, Yi X, Velásquez SM, Gille S, Malik PL, Poulsen C, Olsen C, Rejzek M, Parsons H, Zhang Y, Wandall H, Clausen H, Field R, Pauly M, Estevez J, Harholt J, Ulvskov P, Petersen B, 2017, Identification and evolution of a plant cell wall specific glycoprotein glycosyl transferase, ExAD, in press in **Nature Scientific Reports**
117. Rosa M, Abraham J, Lewis MW, Fonseca JP, Tian W, Ramirez V, Luan S, Pauly M, Hake S, 2017 Narrow odd dwarf, the maize MID-COMPLEMENTING ACTIVITY ortholog, coordinates organ growth and tissue patterning, in press in **Plant Cell**
116. Gao Y, He C, Zhang D, Liu X, Xu Z, Yanbao T, Liu X-H, Zhang S, Pauly M, Zhou Y, Zhang B, 2016, OsTBL1 and OsTBL2 mediate xylan acetylation, which is essential for leaf blight resistance in rice, **Plant Physiology**, 173(1): 470-481
115. Salinas C, Handford M, Pauly M, Cardemil L, 2016, Structural modifications of fructans in *Aloe barbadensis*, **PLoS One**, 11(7):e0159819 DOI 10.1371/journal.pone.0159819
114. Rautengarten C, Ebert B, Liu L, Smith-Moritz AM, Pauly M, Orellana A, Scheller HV, Heazlewood JL, 2016, The Arabidopsis Gogli-localized GDP-fucose transporter is required for normal plant development, **Nature Communications**, 7:12119 DOI 10.1038/ncomms12119
113. Stonebloom S, Ebert B, Xiong G, Lao J, Pauly M, Heazlewood JL, Scheller HV, 2016, A DUF-246 family glycosyltransferase-like protein affects the biosynthesis of rhamnogalacturonan-I arabinogalactans, **BMC Plant Biology**, 16:90 DOI 10.1186/s12870-016-0780-x
112. Pauly M, Keegstra K, 2016, Biosynthesis of the plant cell wall matrix polysaccharide xyloglucan, **Annual Review of Plant Biology**, 67(1): 235-259
111. Bethke G, Thao A, Xiong G, Li B, Soltis NE, Hatsugai N, Hillmer RA, Katagiri F, Kliebenstein DJ, Pauly M, Glazebrook J, 2016, Pectin biosynthesis is critical for cell wall integrity and immunity in Arabidopsis, **Plant Cell**, 28: 537-556
110. Liu L, Hsia MM, Dama M, Vogel J, Pauly M, 2016, A xyloglucan backbone 6-O-acetyltransferase from *Brachypodium distachyon* modulates xyloglucan xylosylation, **Molecular Plant**, 9: 615-617
109. Liberatore KL, Xu C, MacAlister CA, Jiang K, Brooks C, Ogawa-Ohnishi M, Xiong G, Pauly M, Matsubayashi Y, Lippman ZB, 2015, A cascade of arabinosyltransferases controls stem cell homeostasis in tomato, **Nature Genetics**, 47: 784-792
108. Loque D, Scheller HV, Pauly M, 2015, Engineering of plant cell walls for enhanced biofuel production, **Current opinion in Plant Biology**, 25: 151-161
107. De Souza A, Pauly M, 2015, Comparative genomics of pectinacetyltransferases: insights on function and biology, **Plant Signal and Behavior**, 10:9 e1055434, DOI: 10.1080/15592324.2015.1055434
106. Yang F, Afzal W, Cheng K, Liu N, Pauly M, Bell AT, Liu Z, Prausnitz JM, 2015, Nitric-acid hydrolysis of miscanthus giganteus to fermentable sugars, **Biotechnology and Bioprocess Engineering**, 20 (2): 304-314
105. Liu L, Paulitz J, Pauly M, 2015, The presence of fucogalactoxyloglucan and its synthesis in rice indicates conserved functional importance in plants, **Plant Physiology** 168: 549-560
104. Draeger C, Fabrice TN, Mouille G, Kuhn B, Moller I, Abdou MT, Frey B, Pauly M, Bacic T, Ringli C, 2015, Arabidopsis LEUCINE-RICH REPEAT EXTENSIN (LRX) proteins modify cell wall composition and influence plant growth, **BMC Plant Biology** 15: 155-166

103. Xiong G, Dama M, Pauly M, 2015, Glucuronic acid moieties on xylan are functionally equivalent to *O*-acetyl-substituents, **Molecular Plant** 8: 1119-1121
102. Ebert B, Rautengarten C, Guo X, Xiong G, Herter T, Chan LJG, Adams PD, Petzold CJ, Pauly M, Willats WGT, Heazlewood JL, Scheller HV, 2014, Identification and characterization of a Golgi localized UDP-xylose transporter family from Arabidopsis, **Plant Cell**, 27 (4):1218-1227
101. Schultink A, Naylor D, Dama M, Pauly M, 2015, The role of the plant specific AXY9 gene in plant cell wall polysaccharide *O*-acetylation, **Plant Physiology**, 167 (4):1271-1283
100. Mansoori N, Schultink A, Schubert J, Pauly M, 2015, Expression of heterologous xyloglucan xylosyltransferases in Arabidopsis to investigate their role in determining xyloglucan xylosylation substitution patterns, **Planta**, 241:1145-1158
99. Ben-Toy D, Abraham Y, Stav S, Thompson K, Loraine A, Elbaum R, Souza A, Pauly M, Kieber JJ, Harpaz-Saad S, 2015, COBRA-LIKE 2, a member of the GPI-anchored COBRA-LIKE family, plays a role in cellulose deposition in Arabidopsis seed coat mucilage, **Plant Physiology**, 167 (3), 711-724
98. Taylor-Teeple M, Lin L, Trabucco GM, de Lucas M, Turco G, Doherty C, Toal TW, Gaudinier A, Young NF, Xiong G, Corwin J, Tsoukalas N, Pauly M, Kliebenstein DJ, Tagkopoulos I, Breton G, Ahnert S, Kay SA, Brady SM, Hazen SP, 2015, Environmental, developmental and genotype-dependent regulation of xylem cell specification and secondary cell wall biosynthesis in Arabidopsis thaliana, **Nature**, 517, 571-575
97. Schultink A, Liu L, Zhu L, Pauly M, 2014, Structural diversity and function of xyloglucan sidechain substituents, **Plants**, 3, 526-542
96. de Souza A, Hull PA, Gille S, Pauly M, 2014, Identification and characterization of the distinct plant pectin esterases PAE8 and PAE9 and its mutants, **Planta**, 240 (5) 1123-1138
95. Rautengarten C, Ebert B, Moreno I, Temple H, Herter T, Link B, Doñas D, Moreno A, Saéz-Aguayo S, Blanco MF, Mortimer J, Schultink A, Reiter WD, Dupree P, Pauly M, Heazlewood JL, Scheller HV, Orellana A, 2014, Identification of six Golgi localized bi-functional UDP-Rhamnose / UDP-Galactose transporters in Arabidopsis, **PNAS**, 111 (31) 11563-11568
94. Liu Z, Padmanabhan S, Cheng K, Xie H, Gokhale A, Na H, Pauly M, Bell AT, Prausnitz JM, 2014, Two-step delignification of Miscanthus to enhance enzymatic hydrolysis: Aqueous ammonia followed by sodium hydroxide and oxidants, **Energy and Fuels**, 28, 542-548
93. Knoch E, Dilokpimol A, Tryfona T, Poulsen CP, Xiong G, Harholt J, Peterson BL, Ulvskov P, Hadi MZ, Kotake T, Tsumuraya Y, Pauly M, Dupree P, Geshi N, 2013, A β -glucuronosyl-transferase from Arabidopsis thaliana involved in the biosynthesis of type II arabinogalactan has a role in cell elongation during seedling growth, **Plant Journal**, 76 (6), 1016-1029
92. Manabe Y, Verhertbruggen Y, Gille S, Harholt J, Chong SL, Pawar P, Mellerowicz E, Tenkanen M, Cheng K, Pauly M, Scheller HV, 2013, RWA proteins play vital and distinct roles in cell wall *O*-acetylation in Arabidopsis thaliana, **Plant Physiology**, 163, 1107-1117
91. Schultink A, Cheng K, Yung-Bom K, Cosgrove D, Pauly M, 2013, The identification of two arabinosyltransferases from tomato reveals functional redundancy of xyloglucan side-chain substituents, **Plant Physiology**, 163, 86-94
- *90. Pauly M, Gille S, Liu L, Mansoori N, de Souza A, Schultink A, Xiong G, 2013, Hemicellulose biosynthesis, **Planta**, 238 (4), 627-642
89. Koenig D, Jimenez-Gomez JM, Kimura S, Fulop D, Chitwood DH, Headland LR, Kumar R, Covington MF, Devisetty UK, Tat AV, Tohge T, Bolger A, Schneeberger K, Ossowski S, Lanz C, Xiong G, Taylor-Teeple M, Brady SM, Pauly M, Weigel D, Usadel B, Fernie AR, Peng J, Sinha NR, Maloof JN, 2013, Comparative transcriptomics in wild and domesticated tomato, **PNAS**, 110 (28) E2655-E2662
88. Xiong G, Cheng K, Pauly M, 2013, Reduction in xylan *O*-acetylation results in increased recalcitrance to saccharification as indicated by the Arabidopsis mutant *tbl29*, **Molecular Plant**, 6 (4) 1373-1375

87. Gille S, Sharma V, Baidoo EEK, Keasling JD, Scheller HV, Pauly M, 2013, Arabinosylation of an AGP-like polymer impacts root growth as exemplified by the Arabidopsis glycosyltransferase mutant *ray1*, **Molecular Plant**, 6 (4) 1369-1372
86. Cheng K, Sorek H, Zimmermann H, Wemmer DE, Pauly M, 2013, Solution-state 2D NMR spectroscopy of plant cell walls enabled by a DMSO-d₆[Emim]OAc solvent, **Analytical Chemistry**, 85 (6) 3213-3221
85. Liu Z, Padmanabhan S, Cheng K, Xie H, Schwyter P, Pauly M, Bell AT, Prausnitz JM, 2012, Aqueous-ammonia delignification of miscanthus and enzymatic hydrolysis to sugars, **Bioresource Technology**, 135 23-29
84. Handford M, Furlán CR, Marchant L, Segura M, Gómez D, Alvarez-Buylla E, Xiong G, Pauly M, Orellana A, 2012, Arabidopsis plants lacking AtUTr7, a Golgi-localized UDP-glucose/UDP-galactose transporter, exhibit alterations in lateral roots, **Molecular Plant**, 5 (6) 1263-1280
83. Park SH, Mei C, Pauly M, Ong RG, Dale BE, Sabzikar R, Ftooh H, Nguyen T, Sticklen M, 2012, Down regulation of maize cinnamoyl-CoA reductase via RNAi technology creates brown midrib and improves AFEX-pretreated conversion into fermentable sugars for biofuels, **Crop Science** 52 (6) 2687-2701
82. Chiniquy D, Sharma V, Schultink A, Baidoo EE, Rautengarten C, Cheng K, Carroll A, Ulvskov P, Harholt J, Keasling JD, Pauly M, Scheller HV, Ronald PC, 2012, XAXT1, a grass specific xylan:xylosyltransferase in the glycosyltransferase family 61, **Proceedings of the National Academy of the USA** 109 (42) 17117-17122
81. Jensen JK, Schultink A, Keegstra K, Wilkerson CG, Pauly M, 2012, RNA-Seq. of developing nasturtium seeds (*Tropaeolum majus*): Identification and characterization of an additional galactosyltransferase involved in xyloglucan biosynthesis, **Molecular Plant**, 5 (5) 984-992
80. Gille S, Pauly M, 2012, Mechanism of plant cell wall O-acetylation, **Frontiers in Plant Physiology** 3:12, doi: 10.3389/fpls.2012.00012
79. Gille S, Souza A, Xiong G, Benz M, Schultink A, Ida-Reca B, Pauly M, 2011, O-acetylation of xyloglucan requires AXY4/AXY4L, proteins with a TBL and DUF231 domain, **Plant Cell** 23 (11) 4041-4053
78. Chuck G, Tobias C, Kraemer F, Sun L, Li C, Arora R, Singh S, Dibble D, Vogel J, Simmons B, Pauly M, Hake S, 2011, Overexpression of the maize *congrass1* microRNA gene prevents flowering, improves digestability and increases starch content of biofuel crop plants, **Proceedings of the National Academy of the USA** 108 (42) 17550-17555
77. Gunl M, Neumetzler L, Kraemer F, Souza A, Schultink A, Pena M, York WS, Pauly M, 2011, AXY8 encodes an α -fucosidase, underpinning the importance of apoplastic metabolism on the fine structure of plant cell wall polysaccharides, **Plant Cell** 23 (11), 4025-4040
76. Troncoso-Ponce MA, Kilaru A, Cao X, Durrett T, Fan J, Jensen J, Pauly M, Wilkerson C, Ohlrogge J, 2011, Comparative deep transcriptional profiling of four developing oilseeds, **Plant Journal** 68, 1014-1027
75. Gille S, Kun C, Skinner ME, Liepman AH, Wilkerson C, Pauly M, 2011, Deep Sequencing of Voodoo Lily (*Amorphophallus konjac*): An approach to identify relevant genes involved in the synthesis of the hemicellulose glucomannan, **Planta**, 234, 515-526
74. Velasquez SM, Ricardi MM, Dorosz JG, Fernandez PV, Nadra AD, Pol-Fachin L, Egelund J, Gille S, Ciancia M, Verli H, Pauly M, Bacic A, Olsen CE, Ulvskov P, Peterson BL, Somerville C, Iusem ND, Estevez JM, 2011, O-glycosylated cell wall proteins are essential in polarized root hair growth, **Science**, 332, 1401-1403
73. Manabe Y, Nafisi M, Verhertbruggen Y, Orfila C, Gille S, Rautengarten C, Cherk C, Marcus SE, Somerville S, Pauly M, Knox JP, Sakuragi Y, Scheller HVS, 2011, Loss-of-function mutation of reduced wall acetylation 2 in Arabidopsis leads to reduced cell wall acetylation and increased resistance to Botrytis cinerea, **Plant Physiology**, 155 (3), 1068-1078

72. Gunl M, Pauly M, 2011, AXY3 encodes a α -xylosidase that impacts the abundance and accessibility of the hemicellulose xyloglucan in Arabidopsis plant cell walls, **Planta**, 233 (4), 707-719
- *71. Gunl M, Kraemer FJ, Pauly M, 2011, Oligosaccharide mass profiling (OLIMP) of cell wall polysaccharides by MALDI-TOF/MS, **Methods in Molecular Biology Vol 715: The Plant Cell Wall**, 43-54, Editor Popper Z, Humana Press
- *70. Perrson S, Sorensen I, Moller I, Willats W, Pauly M, 2011, Dissection of the Plant Cell Wall by High Throughput Methods, **Annual Plant Reviews Vol 41: Plant Polysaccharides: Biosynthesis and Bioengineering**, 43-64, Editor Ulvskov P, Wiley-Blackwell
69. Suen G, Scott JJ, Aylward FO, Adams SM, Tringe SG, Pinto-Tomas AA, Foster CE, Pauly M, Weimer PJ, Barry KW, Goodwin LA, Bouffard P, Li L, Osterberger J, Harkins TT, Slater SC, Donohue TJ, Currie CR, 2010, An insect herbivore microbiome with high plant biomass degrading capacity, **PLoS Genetics**, 6 (9), 433-443
68. Pauly M, 2010, A blue-print of the protoplast's dwelling, **Plant Physiology**, Classic collection, 154, 1
67. Kaida R, Serada S, Norioko N, Norioka S, Neumetzler L, Pauly M, Sampedro J, Zarra I, Hayashi T, Kaneko TS, 2010, Potential role for purple acid phosphatase in the dephosphorylation of wall proteins in tobacco cells, **Plant Physiology**, 153 (2), 603-610
66. Lopes FJF, Pauly M, Lau EY, Diola V, Passos JL, Loureiro ME, Brommonschenkel SH, 2010, The EgMUR3 xyloglucan galactosyltransferase from Eucalyptus grandis complements the *mur3* cell wall phenotype in Arabidopsis thaliana, **Tree Genetics and Genomes**, 6, 745-756
65. Gunl M, Gille S, Pauly M, 2010, OLigo Mass Profiling (OLIMP) of extracellular polysaccharides, in production in **Journal of visualized Experiments Journal of visualized Experiments**, <http://www.jove.com/index/details.stp?id=2046>, doi: 10.3791/2046
- *64. Pauly M, Keegstra K, 2010, Plant cell walls as precursors for biofuels, **Current Opinion in Plant Biology**, 13 (3), 305-312
63. Santoro N, Cantu SL, Tornqvist CEI, Falbel TG, Bolivar JL, Patterson SE, Pauly M, Walton JD, 2010, A high throughput platform for screening milligram quantities of plant biomass for lignocellulosic digestability, **BioEnergy Research**, 3 (1), 93-102
62. Foster CE, Martin T, Pauly M, 2010, Comprehensive compositional analysis of Plant Cell Walls (lignocellulosic biomass); Part II: carbohydrates, **Journal of visualized Experiments**, 37, <http://www.jove.com/index/details.stp?id=1837>, doi: 10.3791/1837
61. Foster CE, Martin T, Pauly M, 2010, Comprehensive compositional analysis of Plant Cell Walls (lignocellulosic biomass); Part I: lignin, **Journal of visualized Experiments**, 37; <http://www.jove.com/index/details.stp?id=1745>, doi: 10.3791/1745
60. Gille S, Haensel U, Ziemann M, Pauly M, 2009, Identification of plant cell wall mutants by means of a forward chemical genetic approach using hydrolases, **Proc. Nat. Academy Sciences U.S.A.** 106 (34), 14699-14704
59. Li M, Xiong G, Li R, Tan D, Zhang B, Cui J, Pauly M, Cheng Z, Zhou Y, 2009, Rice Cellulose Synthase-Like D4 Is Essential for Normal Cell Wall Biosynthesis and Plant Growth, **Plant Journal** 60, 1055-1069
58. Obel N, Erben V, Schwarz T, Kuehnel S, Fodor A, Pauly M, 2009, Microanalysis of plant cell wall polysaccharides, **Molecular Plant** 2 (5), 922-932
57. Abasolo W, Eder M, Yamauchi K, Obel N, Reinecke A, Neumetzler L, Dunlop JWC, Mouille G, Pauly M, Hoefte H, Burgert I, 2009, Pectins may hinder the unfolding of xyloglucan chains during cell elongation – implications of the mechanical performance of Arabidopsis hypocotyls with pectin alterations, **Molecular Plant** 2 (5), 990-999
- *#56. Pauly M, Keegstra K, 2008, Tear down this wall, **Current Opinion in Plant Biology** 11 (3), 233-235

55. Cavalier DM, Lerouxel O, Neumetzler L, Yamauchi K, Reinecke A, Freshour G, Zabolina O, Hahn MG, Burgert I, Pauly M, Raikhel N, Keegstra K, 2008, Disruption of two *Arabidopsis thaliana* xylosyltransferase genes results in plants deficient in xyloglucan, a major primary cell wall component, **Plant Cell** 20:1519-1537
54. Jensen J, Sorensen S, Harholt J, Geshi N, Sakuragi Y, Moller I, Zandleven J, Bernal AJ, Jensen NB, Sorensen C, Pauly M, Beldman G, Willats WGT, Scheller HV, 2008, Identification of a xylogalacturonan xylosyltransferase involved in pectin biosynthesis in *Arabidopsis*, **Plant Cell** 20: 1289-1302
53. Wen F, Rhodesia MC, Nguyen T, Zeng, W, Keegstra K, Immerzeel P, Pauly M, Hawes MC, 2008, Inducible expression of *Pisum sativum* xyloglucan fucosyltransferase in the pea root cap meristem, and effects of antisense mRNA expression on root cap cell wall structural integrity, **Plant Cell Reports** 27:1125-1135
52. Pauly M, Keegstra K, 2008, Cell wall carbohydrates and their modification as raw materials for biofuels, **Plant Journal** 54, 559-568
51. Leboeuf E, Immerzeel P, Gibon, Y, Steup M, Pauly M, 2008, High throughput functional assessment of polysaccharide-active enzymes using MALDI-TOF mass spectrometry as exemplified on plant cell wall polysaccharides, **Analytical biochemistry**, 373 (1):9-17
50. Bernal AJ, Jensen JK, Harholt J, Sorensen S, Moller I, Blaukopf C, Johansen B, de Lotto R, Pauly M, Scheller HV, Willats WGT, 2007, Disruption of AtCSLD5 results in reduced growth, reduced xylan and homogalacturonan synthase activity and altered xylan occurrence in *Arabidopsis*, **Plant Journal**, 52, 791-802
49. Rösti J, Barton CJ, Albrecht S, Dupree P, Pauly M, Findlay K, Roberts K, Seifert GJ, 2007, UDP-glucose 4 epimerase isoforms UGE2 and UGE4 cooperate in providing UDP-galactose for cell wall biosynthesis and growth of *Arabidopsis thaliana*, **Plant Cell** 19:1565-1579
48. Egelund J, Obel N, Ulvskov P, Geshi N, Pauly M, Bacic A, Peterson BL, 2007, Molecular characterization of two *Arabidopsis thaliana* glycosyltransferase mutants, rra1 and rra2, which have a reduced residual arabinose content in a polymer tightly associated with the cellulosic wall residue, **Plant Molecular Biology** 64(4): 439-451
47. Krupkova E, Immerzeel P, Pauly M, Schmülling T, 2007, The tumorous shoot development2 gene of *Arabidopsis* encoding a putative methyltransferase is required for cell adhesion and coordinated plant development, **Plant Journal** 50: 735-750
46. Kannangara R, Branigan C, Liu Y, Penfield T, Rao V, Mouille G, Höfte H, Pauly M, Riechmann JL, Broun P, 2007, Transcription factor WIN1/SHN1 regulates cutin biosynthesis in *Arabidopsis thaliana*, **Plant Cell** 19: 1278-1294
45. Lionetti V, Railola A, Camardella L, Giovane A, Obel N, Pauly M, Favaron F, Cervone F, Bellincampi D, 2007, Overexpression of pectin methylesterase inhibitors in *Arabidopsis* restricts fungal infection by *Botrytis cinerea*, **Plant Physiology** 143:1871-1880
- *44. Obel N, Neumetzler L, Pauly M, 2007, Hemicelluloses and cell expansion, in **The expanding cell**, Springer publishing, Verbelen C, Vissenberg K eds. p 57-88
43. Carrari F, Baxter C, Usadel B, Urbanczyk-Wochniak E, Zanon MI, Nunes-Nesi A, Nikiforova V, Centero D, Ratzka A, Pauly M, Sweetlove LJ, Fernie AR, 2006, **Plant Physiology** 142 (4):1380-1396
42. Bosca S, Barton CJ, Taylor NG, Ryden P, Neumetzler L, Pauly M, Roberts K, Seifert GJ, 2006, Interactions between MUR10/CesA7-dependent secondary cellulose biosynthesis and primary cell wall structure. **Plant Physiology** 142:1353-1363.
41. Immerzeel P, Pauly M, 2006, Profiling methods for the analysis of cell wall polysaccharides, **New Zealand Journal of Forestry research**, 36 (1):145-156
40. Mouille G, Witucka-Wall H, Bryant MP, Loudet O, Rihouey C, Lerouxel O, Lerouge P, Hoefte H, Pauly M, 2006, QTL analysis of primary cell wall composition in *Arabidopsis thaliana*, **Plant Physiology**, 141 (7):1035-1044

39. Diet A, Link B, Seifert GJ, Schellenberg B, Wagner U, Pauly M, Reiter WD, Ringli C, 2006, The Arabidopsis root hair cell wall formation mutant *lrx1* is suppressed by mutations in the RHM1 gene encoding a UDP-L-rhamnose synthase, **Plant Cell**, 18, 1630-1641
38. Harholt J, Jensen JK, Sorensen SO, Orfila C, Pauly M, Scheller HV, 2006, Arabinan deficient 1 is a putative arabinosyltransferase involved in biosynthesis of pectin arabinan in Arabidopsis, **Plant Physiology**, 140 (1): 49-58
37. Abdulrazzak N, Pollet B, Ehlting J, Larsen K, Asnaghi C, Ronseau S, Proux C, Erhardt M, Seltzer V, Renau JP, Ullmann P, Pauly M, Lapiere C, Werck-Reichhart D, 2006, A coumaroyl-ester-3-hydroxylase insertion mutant reveals the existence of non redundant meta-hydroxylation pathways and essential roles for phenolic precursors in cell expansin and plant growth, **Plant Physiology**, 140 (1), 30-48
- *36. Obel N, Erben V, Pauly M, 2006, Functional wall glycomics through oligosaccharide mass profiling, in **The Science and Lore of the Plant Cell Wall: Biosynthesis, Structure and Function**, Hayashi, T., ed., Brownwater press, 258-266
35. Fettke J, Poeste S, Eckermann N, Thissen A, Pauly M, Geigenberger P, Steup M, 2005, Analysis of cytosolic heteroglycans from leaves of transgenic potato (*Solanum tuberosum* L) plants that under- or overexpress the *pho2* phosphorylase isozyme, **Plant and Cell Physiology**, 46 (12), 1987-2004
34. Gibeaut DM, Pauly M, Bacic A, Fincher GB, 2005, Changes in the cell wall polysaccharides in developing barley coleoptiles, **Planta**, 221 (5):720-738
33. Kanter U, Usadel B, Guerinaeu F, Li Y, Pauly M, Tenhaken R, 2005, The inositol oxygenase gene family of Arabidopsis is involved in the biosynthesis of nucleotide sugar precursors for cell wall matrix polysaccharides, **Planta**, 221 (2), 243-254
32. Usadel B, Kuschinsky AM, Steinhauser D, Pauly M, 2005, Transcriptional co-response analysis as a tool to identify new components of the wall biosynthetic machinery, **Plant Biosystems**, 139(1), 69-73
31. Vissenberg K, Fry SC, Pauly M, Höfte H, Verbelen H, 2005, XTH acts at the microfibril-matrix interphase during cell elongation, **Journal of Experimental Botany**, 56 (412): 673-683
30. Scheible WR, Pauly M, 2004, Glycosyltransferases and cell wall biosynthesis: novel players and insights, **Current Opinion in Plant Biology**, 7: 285-295
29. Fettke J, Eckermann N, Poeste S, Pauly M, Steup M, 2004, The glycan substrate of the cytosolic (*pho2*) phosphorylase isozyme from *Pisum sativum* L.: Identification, linkage analysis, and subcellular localization, **Plant Journal**, 39 (6), 933-946
28. Usadel B, Schlüter U, Mølhøj M, Gipmans M, Verma R, Kossmann J, Reiter WD, Pauly M, 2004, Identification and characterization of a UDP-D-glucuronate 4-epimerase in Arabidopsis, **FEBS-letters**, 569 (1-3), 327-331
27. Usadel B, Kuschinsky AM, Rosso M, Eckermann N, Pauly M, 2004, RHM2 is involved in mucilage pectin synthesis and is required for the development of the seed coat in Arabidopsis thaliana, **Plant Physiology**, 134, 286-285
- *#26. Eckermann N, Fettke J, Pauly M, Bazant E, Steup M, 2003, Starch-metabolism related isozymes in higher plants, in **Proceedings of the 12th International Congress on Genes, Gene Families and Isozymes**, Monduzzi Editore, Bologna, Italy, 241-246
- *25. Bolvig PU, Pauly M, Orfila C, Scheller HV, Schnorr K, 2003, Sequence analysis and characterization of a novel pectin acetyl esterase from *Bacillus subtilis*, in **Advances in Pectin and Pectinase Research**, Voragen, A.J.G., Schols, H., Visser, R., eds., 315-330
- *#24. Pauly M, 2003, Im Dschungel der Zucker (Review), **Genomexpress**, 1, 3-7
23. Doco T, Williams P, Pauly M, O'Neill MA, Pellerin P, 2003, Polysaccharides from grape berry cell walls. Part II: Structural characterization of the xyloglucan polysaccharides, **Carbohydrate Polymers**, 53, 253-261

22. Marry M, Cavalier DM, Schnurr JK, Netland J, Yang Z, Pezeshk V, York WS, Pauly M, White AR, 2003, Structural characterization of chemically and enzymatically derived standard oligosaccharides isolated from partially purified tamarind xyloglucan, **Carbohydrate Polymers**, 51, 347-356
21. Choo TZ, Lerouxel O, Seveno M, Usadel B, Faye L, Lerouge P, Pauly M, 2002, Rapid structural phenotyping of plant cell wall mutants by enzymatic oligosaccharide fingerprinting, **Plant Physiology**, 130, 1754-1763
- *#20. York WS, Pauly M, Qin Q, Jia Z, Doong RL, Simon JP, Albersheim P, Darvill AG, 2002, The xyloglucan-cellulose network of plant cell walls: A prototype for the chemoenzymatic preparation of novel polysaccharide composites, **Carbohydrate Bioengineering: Interdisciplinary Approaches**, Teeri, T.T., Svensen, B., Gilbert, H.J., Feizi, T., eds., 143-150
19. Lytovchenko A, Sweetlove L, Pauly M, Fernie AR, 2002, The influence of cytosolic phosphoglucomutase on photosynthetic carbohydrate metabolism, **Planta**, 215, 1013-1021
18. Skjøt M, Pauly M, Bush MS, Borkhardt B, McCann M, Ulvskov P, 2002, Direct interference with rhamnogalacturonan I biosynthesis in Golgi vesicles, **Plant Physiology**, 129 (1), 95-102
17. Geshi N, Pauly M, Ulvskov P, 2002, Solubilization of a galactosyltransferase that synthesizes 1,4- β -galactan sidechains in pectic rhamnogalacturonan I, **Physiologia Plantarum**, 114, 540-548
16. Pauly M, Eberhard S, Albersheim P, Darvill AG, York WS, 2001, Effects of the *mur1* mutation on xyloglucans produced by suspension-cultured *Arabidopsis thaliana* cells, **Planta**, 214, 67-74
15. Skjøt M, Kaupinnen S, Kofod LV, Fuglsang C, Pauly M, Dalbøge H, Andersen LN, 2001, Functional cloning of an endo-arabinanase from *Aspergillus aculeatus* and its heterologous expression in *A. oryzae* and tobacco, **Molecular Genetics and Genomics**, 265, 913-921
14. Pauly M, Qiang Q, Greene H, Albersheim P, Darvill AG, York WS, 2001, Changes in the structure of xyloglucan during cell elongation, **Planta**, 212 (5/6), 842-850
13. Strickland FM, Darvill A, Eberhard S, Pauly M, Albersheim P, 2001, Preservation of the delayed type hypersensitivity response to alloantigen by xyloglucans or oligogalacturonide does not correlate with the capacity to reject UV-induced skin tumors in mice, **Journal of Investigative Dermatology**, 116 (1), 62-68
12. Sørensen SO, Pauly M, Bush MS, Skjøt M, McCann MC, Borkhardt B, Ulvskov P, 2000, Pectin engineering: Modification of potato pectin by *in vivo* expression of an Endo-1,4-galactanase, **Proc. Nat. Academy Sciences U.S.A.**, 97 (13), 7639-7644
11. Pauly M, Porchia A, Olsen CE, Nunan KJ, Scheller HV, 2000, Enzymatic synthesis and purification of uridine diphospho- β -L-arabinopyranose, a substrate for the biosynthesis of plant polysaccharides, **Analytical Biochemistry**, 278, 69-73
10. Pauly M and Scheller HV, 2000, *O*-acetylation of plant cell wall polysaccharides: Identification and partial characterization of a rhamnogalacturonan *O*-acetyl transferase from potato suspension cultured cells, **Planta**, 210, 659-667
9. Pauly M, Albersheim P, Darvill AG, York WS, 1999, Molecular domains of the cellulose/xyloglucan network in the cell walls of higher plants, **Plant Journal**, 20 (6), 629-639
8. Strickland FM, Darvill AG, Albersheim P, Eberhard S, Pauly M, Pelley RP, 1999, Inhibition of UV-induced immune suppression, and interleukin-10 production by plant oligosaccharides and polysaccharides, **Photochemistry and Photobiology**, 69 (2), 141-147
7. Pauly M, Anderson LN, Kauppinen S, Kofod LV, York WS, Albersheim P and Darvill AG, 1999, A xyloglucan specific endo- β -1,4-glucanase from *Aspergillus aculeatus*: expression cloning in yeast, purification and characterization of the recombinant enzyme. **Glycobiology** 9 (1), 93-100
- *#6. Pauly M and York WS, 1998, Separation of complex carbohydrates using reversed-phase chromatography with evaporative light scattering detection (ELSD), **American Biotechnology Laboratory** 16 (12), 14-17

5. Hantus S, Pauly M, Darvill AG, Albersheim P, York WS, 1997, Structural characterization of novel L-galactose-containing oligosaccharide subunits of xyloglucans, **Carbohydrate Research** 304, 11-20
4. Zablackis E, York WS, Pauly M, Hantus S, Reiter WD, Chapple CCS, Albersheim P, Darvill A, 1996, Substitution of L-Fucose by L-Galactose in Cell Walls of *Arabidopsis mur1*, **Science** 272, 1808-1810
3. Pauly M, York WS, Guillen R, Albersheim P, Darvill AG, 1996, Improved protocol for the formation of N-(*p*-nitrobenzyloxy)aminoalditol derivatives of oligosaccharides, **Carbohydrate Research** 282, 1-12
2. Guillen R, York WS, Pauly M, An J, Impallomeni G, Albersheim P, Darvill AG, 1995, Metabolism of xyloglucan generates xylose deficient oligosaccharide subunits of this polysaccharide in etiolated peas, **Carbohydrate Research** 277, 291-311
1. Alpert AJ, Shukla M, Shukla AK, Zieske LR, Yuen SW, Ferguson MAJ, Mehlert A, Pauly M, Orlando R, 1994, Hydrophilic-interaction chromatography of complex carbohydrates, **Journal of Chromatography A**, 676, 191-202

Patents

3. Pauly M, Gille S, Schultink A, 2013, Decreased O-acetylation content of Plant Biomass, US-Patent application No: 14/053,505
2. Pauly M, Hake S, Kraemer F, 2014, Maize variety and method of production, US-Patent: US 8,735,690 B2
1. Strickland FM, Pelley RP, Albersheim P, Darvill AG, Pauly M, Eberhard S, 1998, Inhibition of UV-induced immune suppression, and interleukin-10 production by cytoprotective tamarind oligosaccharides, US patent: 6,251,878 B1

Competitive Grants (direct costs for Pauly M only)

Previous grants

German Ministry of Research and Education

BMBF	GABI-0312277D	05/01-12/04	257,312 €
BMBF	GABI-0312835B	07/02-06/05	211,685 €
BMBF (Chilenian Collaboration)	CH 02/01	08/03-12/05	15,000 €
EU-Marie Curie Fellowship	HPMF-CT-2002-01773	11/02-11/04	147,050 €
MPG	MOPF 104205	01/03-12/05	63,600 €
MPG	MOPF 1048023	12/04-11/06	125,000 €
BBSRC-Underwood fellowship		04/05-12/05	48,775 €
EU-EPOBIO	SSPE-CT-2005-022681	11/05-09/07	83,735 €
EU-RTN Wallnet	MRTN-CT-2004-512265	07/05-10/08	156,938 €

US-DOE	Research and training	01/06-12/08	285,000 \$
US-DOE	Bioenergy Center Grant (Great Lakes Bioenergy Research Center)	10/07-11/09	1,669,917 \$
US-DOE	Research and training	01/09-12/09	100,000 \$
PI	Michigan Economic Development Program (MAES)	12/08-06/10	104,484 \$
PI	Bayer Cropscience	05/07-04/10	19,742 \$
PI	BP-Energy Biosciences Grant	01/10-12/12	799,000 \$
PI	DOE/USDA Plant Feedstock Grant	08/10-07/13	517,578 \$

PI BP-Energy Biosciences Grant 01/13-12/15
OO0G01: “Understanding plant cell wall structure and metabolism on a nanostructural level”
Total: 1,743,984 \$ Direct 1,101,979 \$

Current grants

Co-PI USDA/DOE Plant feedstock grant 10/14-09/17

213148: “Coordinated genetic improvement of bioenergy sorghum for compositional and agronomic traits”

Total: 1,339,762 \$ Pauly only: 629,189 \$ Direct 440,433

PI BMBF 031B0193A 11/16-10/19
“Cornwall: Identifizierung und Charakterisierung neuer Maisvarianten”
576.894,96 €

Co-PI BioSC 04/17-03/20
“AP3: Advanced pulping for perennial plants”
Pauly: 269.589,00 €

PI Bayer Grants4Targets 2017-01-007 07/17-06/18
“Plant cell wall polymer synthesis in yeast as a model to screen for novel herbicides”
30.000 €

Service to the Scientific Community

- Co-editor of “The Plant Cell” (7/06-present; 5-year impact factor: 10.22; Journals with the most impact in science: 31st out of 8000)
- Editorial Board “Planta” (6/12-present; 5-year impact factor: 3.42)
- Review editor “Frontiers in Plant Sciences” (2/10-present)
- Associate Editor of “Brazilian Journal for Plant Physiology” (5/07 – 2/13)

- Energy Biosciences Institute - Program Manager (01/10 – 12/15)
- Member of ACALnet, Aachen-California network of Academic Exchange (9/13- 12/15)
- Advisory board member Center for lignocellulosic structure and function (CLSF), PI: Daniel Cosgrove, Penn State (6/14- present)
- Advisory board member EU-project “Renewall; Understanding walls for optimizing biomass”; PI: Prof Simon McQueen Mason, University of York, UK, (05/08-04/12)
- Great Lakes Bioenergy Center – MSU-leader for research thrust 1: improving biomass (10/08-6/09)
- Chair-elect, VII Cell Wall Research conference, June 18-22, 2018
- Co-Chair-elect, Gordon Research Conference “Plant Cell Walls”, 2015
- Invited discussion leader DOE-Glycoscience workshop on Plant Cell Walls, University of Georgia, April 8-9, 2014
- Member of the Scientific Committee, 4th Pan-American Congress on Plants and Bioenergy, Guelph, Canada, June 4-7, 2014
- Invited session chair, 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, April 30 - May 3, 2012
- Member of the Scientific Committee, 12th International Cell Wall meeting, Porto, Portugal, July 25-30, 2010
- Invited discussion leader, Gordon Research Conference “Plant Cell Walls”, Smithfield, RI, August 2-7, 2009
- Organizer “Cell Wall Biosynthesis 3”, Asilomar, California, USA June 8-11, 2008 (134 international attendees)
- Member of the Scientific Committee, 11th International Cell Wall meeting, Copenhagen, Denmark, August 12-17, 2007
- Co-Organizer “2nd EPOBIO workshop: Products from plants – from crops and forests to zero-waste biorefineries”, Athens, Greece, May 15-17, 2007
- Member of the Scientific Committee, 1st international fungal/ plant cell wall meeting, Biarritz, France, March 10-14, 2007
- Co-Organizer “1st EPOBIO workshop: Products from Plants – the biorefinery future” Wageningen, The Netherlands, May 22-24, 2006
- Invited participant to “Dahlem Konferenzen” on “Glycomics”, Berlin, Germany, Nov 18-21, 2012
- Invited speaker to the National Academy of Sciences, Washington DC, to contribute to “Transforming Glycoscience: roadmap for the future”, Jan 12-13, 2012
- Panelist for DOE grant panel “Biosystems design to enable next-generation biofuels”, Spring 2012
- Reviewer for DOE Office of Science Graduate fellowship program (SCGF), Spring 2010
- Panelist for the US Department of Energy (DOE) Energy Frontier Research Centers competitive grants, Spring 2009
- Panelist for the US Department of Energy (DOE) bioscience competitive grants, Fall 2002
- Invited editor (with Ken Keegstra) on the physiology issue of “Current Opinion in Plant Biology” published summer 2008
- Reviewer for ad hoc grants:
 - 2013/2014: NSF, Vienna Science and Technology Fund: Life Science, FiDiPro: Finland Distinguished Professor Programme; Deutsche Forschungsgemeinschaft (DFG)
 - 2012/2013: NSF (3x), BBSRC, DOE-BES, Research Foundation Flanders
 - 2011/2012: NSERC (Biological systems and function), France Berkeley Fund
 - 2010/2011: Rhode Island Research Alliance, National Science Foundation (NSF), Department of Energy (DOE; 2x), Berkeley-France Fund

2009/2010: National Science Foundation (NSF), French National Research (ANR) Plant Genomics, German DFG

prior: US National Science Foundation (NSF), German Research Council (DFG), British research council (BBSRC), the Science and Engineering Research Canada (NSERC), and the US-Israelian agricultural fund (BARD)

- Peer Reviewer for Journal articles:

2013/2014: Proceedings of the National Academy of Sciences (USA)(3x), Plant Cell (5x), Molecular Plant, Planta (4x), FEBS-letters, Glycobiology (2x), JoVE, Journal of Experimental Botany, Plant Physiology, Frontiers in Plant Science, Plant Journal

2012/2013: Proceedings of the National Academy of Sciences (USA)(2x), BMC Plant Biology (2x), Plant Cell (2x), Planta (4x), Book chapter of “The Cell” Cooper and Hausman - 6e, American journal of botany, Biotechnology for biofuels (2x), Molecular Plant, Frontiers in Plant Physiology, Journal of Experimental Botany

2011/2012: Science, Nature Biotechnology, Proceedings of the National Academy of Sciences (USA), Planta (3x), PLoS Pathogens, Plant Journal, Biofuels for Biotechnology (2x), Plant Molecular Biology (2x), Journal of visualized experiments, Frontiers in Plant Physiology, New Phytologist

2010/2011: Proceedings of the National Academy of Sciences (USA), Plant Cell (2x), Biotechnology for Biofuels, Planta, Plant Journal (4x), Environmental Science and Technology, Phytochemistry (2x), Biotechnology for Biofuels, Plos Genetics, Journal of the American chemical society, Plant Physiology (2x), Nature Biotechnology, Analytical and Biological Chemistry

2009/2010: Proceedings of the National Academy of Sciences (USA), Plant Cell (2x), PLoS Genetics, Trends in Plant Science, Plant Journal, Plant Physiology (2x), Phytochemistry, New Phytologist, Environmental Science and Technology, Planta, Molecular Genetics and Genomics

prior: Science, Proceedings of the National Academy of Sciences (USA), Current Biology, Plant Cell, Glycobiology, Plant Physiology, Plant Journal, New Phytologist, Planta, FEBS-letters, Plant Cell and Environment, Journal of Plant Physiology, Plant Cell Physiology, Molecular Plant Pathology, Biophysica and Biologica Acta: Proteins and Proteomics, BMC Plant Biology

- Reviewer for promotion/tenure committees:

2013/2014: Iowa State University

2010/2011: University of British Columbia, Canada (Phd-thesis)

2009/2010: Eastern Michigan University, EWR Steacie Fellowship Nomination

- Representative-elect of the independent group leaders of the Max-Planck Society (2002-2005)

Collaborations (last 4 years)

USA

Julin Maloof – UC Davis

Tomato cell wall mutants

Henrik Scheller – Joint Bioenergy Institute, Emeryville, CA

Wall analysis of Glycosyltransferase family 47 mutants

John Vogel – USDA Albany

Brachypodium cell wall mutants

Willie York – CCRC, University of Georgia

Fine structure of xyloglucan oligosaccharides

Sarah Hake – USDA Albany

Maize cell wall mutants

Ken Keegstra – Plant Research Laboratory

Xyloglucan analysis of xylosyltransferase mutants

Curtis Wilkerson –Department of Biochemistry
Deep sequencing of nasturtium seed development
Sibhan Brady – University of California, Davis
Tomato cell walls
Georgia Drakakaki – University of California, Davis
Xyloglucan mutants
John Ohlrogge – Michigan State Univeristy
Deep sequencing of Nasturtium

International

Naomi Geshi – Copenhagen University
Glycoprotein glycosyltransferases
Jose Estevez - Universidad de Buenos Aires, Argentina
Plant O-glycosylation mutants
Ingo Burgert - MPI-kolloid chemistry
Mechanic properties of cell wall mutants
Ariel Orellana - University of Santiago, Chile
Cell wall analysis of mutants impaired in nucleotide transporters
Yihua Zhou – Chinese Academy of Sciences, Beijing
Wall analysis of rice mutants

Invited seminars

- ♦ Plant biotechnology for biofuels
Technical University of Aachen, Germany, July 4, 2014
- ♦ Biokraftstoffe aus Pflanzen
Technical University of Aachen, Germany, July 1, 2014
- ♦ Plant cell walls: Biosynthesis, structure, function, and resource for biofuels
Copenhagen University, Denmark, June 23, 2014
- ♦ Plant cell walls: Biosynthesis, structure, function, and resource for biofuels
Carnegie Institution, Stanford University, Feb 14, 2014
- ♦ Plant cell walls: Biosynthesis, structure, function, and resource for biofuels
Plant Genome Expression Center, USDA Albany, Nov 14, 2013
- ♦ Improving plant cell wall properties for biofuel applications
Shanghai Institutes for Biological Sciences, Shanghai, China, Oct 31, 2013
- ♦ Plant cell walls: Biosynthesis, structure, function, and resource for biofuels
Chinese Academy of Sciences, Institute of Genetics and Developmental Biology, Beijing, China,
Oct 28, 2013
- ♦ Plant biotechnology for biofuels
Princeton University, Oct 14, 2013
- ♦ Improving plant cell wall properties for biofuel applications
UNICAMP, Campinas, Brazil, Oct 8, 2013
- ♦ Improving plant cell wall properties for biofuel applications
CTBE, Campinas, Brazil, Oct 7, 2013
- ♦ Improving plant cell wall properties for biofuel applications
University of Sao Paulo, Sao Paulo, Oct 3, 2013
- ♦ Plant cell walls: Biosynthesis, structure, function, and resource for biofuels
Technical University Aachen, Germany, June 17, 2013
- ♦ Plant cell walls: Biosynthesis, structure, function, and resource for biofuels
Max-Planck Institute for terrestrial microbiology, Marburg, Germany, June 14, 2013
- ♦ Plant cell walls: Biosynthesis, structure, function, and resource for biofuels
ETH Zurich, Switzerland, June 11, 2013
- ♦ Plant cell wall polysaccharides: Biosynthesis, structure, function and renewable resource, Heinrich
Heine University Düsseldorf, March 4, 2013
- ♦ Improving plant cell wall properties for biofuel applications, Adelaide, Feb 5, 2013
- ♦ Methods to elucidate the structure of plant cell walls for the production of biofuels
University of California, Davis, Oct 3, 2012
- ♦ Plant biotechnology for biofuels
University of Rome, Italy, July 16, 2012
- ♦ Plant biotechnology for biofuels
Max Planck Institute for molecular Plant Physiology, Golm, Germany, June 7, 2012
- ♦ Plant biotechnology for biofuels
FU Berlin, Germany, June 6, 2012
- ♦ Biofuel crop research
Novozymes, Bagsvaerd, Denmark, June 4, 2012
- ♦ Biofuel Crop research
Arcadia Bioscience, April 9, 2012
- ♦ Challenges and opportunities for Glycoscience in Energy
National Academy of Sciences, Washington DC, January 12, 2012
- ♦ Insights into the biosynthesis, structure, and function of plant cell wall polysaccharides through
Arabidopsis mutants

- University of Illinois, Urbana-Champaign, Sep 29, 2011
- The plant cell wall and lignin
 - Lignin workshop, JBEI, Berkeley, July 18, 2011
- Improving biofuel yields through feedstock optimization
 - Renewall consortium meeting, Dundee, UK, June 3, 2011
- Engineering of hemicelluloses, a major component of plant biomass
 - Imperial College London, UK, May 9, 2011
- A tale of two glycosylhydrolases
 - University of Edinburgh, UK, May 6, 2011
- Engineering of hemicelluloses, a major component of plant biomass
 - University of Manchester, UK, May 3, 2011
- Insights into the biosynthesis, structure and function of plant cell wall polysaccharides through Arabidopsis mutants
 - University of Georgia, Athens, Jan 20, 2011
- Insights into the biosynthesis, structure and function of plant cell walls through mutants
 - University of California, Davis, Nov 19, 2010
- The extracellular matrix of plants as a resource for biofuels?
 - CSHL Research School on Plant Molecular Biology, Cold Spring Harbor Laboratories, July 15, 2010
- Advances in the biosynthesis of plant cell wall polysaccharides through forward genetic approaches
 - Umea Plant Science Center, Umea, Sweden, June 17, 2010
- Plant cell wall polysaccharides: structure, biosynthesis and resource for biofuels
 - KTH Stockholm, Sweden, June 15, 2010
- Plant Polymer Networks: Structure, synthesis and applications of plant cell walls
 - Research Center Juelich, Germany, June 11, 2010
- Plant cell walls as a resource for biofuels: Advances through forward genetic and deep sequencing approaches
 - Technical University of Aachen Germany, January 11, 2010
- Plant cell walls as a resource for biofuels: Advances through forward genetic and deep sequencing approaches
 - Energy Bioscience Institute, Berkeley, September 22, 2009
- Plant cell walls as a resource for biofuels: Advances through deep sequencing approaches
 - Bayer Cropscience, Frankfurt, Germany, May 7, 2009
- Insights into the biosynthesis, structure, and function of plant cell wall polysaccharides through Arabidopsis mutants
 - Heinrich Heine University, Duesseldorf, Germany, May 4, 2009
- Plant cell walls as a resource for biofuels: Insights through wall mutants
 - Chinese Academy of Sciences, Beijing, China, April 22, 2009
- Insight about the biosynthesis, structure, and function of plant cell wall polysaccharides from plant mutants
 - University of Georgia, April 6, 2009
- Plant Biomass for Biofuel production: Insights through plant mutants
 - Andreas Bello University, Santiago, Chile, April 1, 2009
- Insight about the biosynthesis, structure, and function of plant cell wall polysaccharides from Arabidopsis mutants
 - University of Chile, Science department, Santiago, Chile, March 31, 2009
- Sustainable biofuel production from Plant Biomass: Insights through next generation sequencing
 - University of Chile, Agronomy department, Santiago, Chile, March 30, 2009
- Plant cell walls as a resource for biofuels: Insights through wall mutants
 - McGill University, Montreal, Canada, March 23, 2009

- Plant cell walls as a resource for biofuels: Insights through wall mutants
University of British Columbia, Vancouver, Canada, March 11, 2009
- Plant cell walls as a resource for biofuels: Insights through wall mutants
Purdue University, Lafayette, January 7, 2009
- Life beyond the plasmamembrane: Why do plant cell walls have to be so complex?
University of California Berkeley, November 3, 2008
- Plant cell walls as a resource for biofuels: Insights through wall mutants
MSU Genetic retreat, Battle Creek, August 23, 2008
- Plant cell walls: Structure, biosynthesis, and resource for biofuels
Technical University Aachen, Germany, October 31, 2007
- Cell walls as a source for biofuels: Novel strategies for identifying cell wall mutants
PRL-retreat, Battle Creek, USA, October 6, 2007
- Life beyond the plasma membrane: Why do plant cell walls have to be so complex?
Ohio State University, Athens, USA, September 14, 2007
- The sweet crunchy crust of plants: Why do cell walls have to be so complex
Penn State, Biology Dep., State College, November 7, 2006
- Plant cell walls as a resource for biofuels: valuable insights through wall mutants
Penn State, Biochemistry Dep., State College, November 6, 2006
- How to take advantage of nature's most abundant polymers
Biofuel symposium, MSU, East Lansing, USA, November 3, 2006
- Plant cell walls: From structures to products
Plant Biotech Center, Flakkebjerg, Denmark, September 19, 2006
- Life beyond the plasmamembrane: Why do plant cell walls have to be so complex?
USDA, Berkley, California, April 20, 2006
- The sweet crunchy crust of plant cells: Why does it have to be so complex
CNAP, University of York, UK, November 12, 2005
- How glycosylhydrolases can help us identify cell wall mutants
Novozymes, Bagsvaerd, Denmark, October 27, 2005
- Life on the outside: Structure and Biology of plant cell wall polysaccharides
University of Rome, Italy, July 8, 2005
- The sweet crunchy crust of plants: Why do plant cell walls have to be so complex?
INRA, Montpellier, France, June 17, 2005
- Structure and biology of plant cell wall polysaccharides
Bayer Cropsience, Gent, Belgium, June 3, 2005
- Functional assessment of cell wall polysaccharides in plant growth, development, and signaling
John Innes Centre, Norwich, UK, April 21, 2005
- Plant cell wall mutants: Finding functions for wall polysaccharides
University of Chile, Santiago, Chile, March 15th, 2005
- Live beyond the plasma membrane: Why do plant cell walls have to be so complex
Plant Research Laboratory, East Lansing, Michigan, USA, January 13th 2005
- Live beyond the plasma membrane: Why do plant cell walls have to be so complex
Portland State University, Portland, Oregon, USA, January 11th 2005
- Cell walls and plant growth and development: How mutants can help us
University of Zürich, Zürich, Switzerland, November 5th 2004
- The functions of plant cell wall polysaccharides in plant growth and development
Forschungszentrum Jülich, Jülich, Germany, November 2nd 2004
- The roles of cell wall polysaccharides in plant growth, development, and signalling
John Innes Center, Norwich, UK, October 8th 2004
- Structural and functional properties of plant cell wall polysaccharides
Food Research Institute, Norwich, UK, October 7th 2004

- Life on the outside: Why do plant cell walls have to be so complex?
Institute for Genetics, Martin-Luther University, Halle, Germany, June 9th 2004
- Hydrolases as tools to unravel the function of plant cell wall polysaccharides
Novozymes, Copenhagen, Denmark, May 28th 2004
- Why are plant cell walls so complex? How wall mutants can help us!
Royal Agricultural University, Copenhagen, Denmark, May 27th 2004
- Strategien zur Funktionsbestimmung von pflanzlichen Zellwandpolysacchariden (Strategies to gain insights into the functions of plant cell wall polysaccharides)
University of Münster, Münster, May 18th 2004
- Genetic engineering of plant cell wall polysaccharides as a tool to elucidate their function
Complex Carbohydrate Research Center, Athens, GA, USA April 23rd 2004
- Genetic and structural approaches to elucidate the functions of plant cell walls
Michigan State University, East Lansing, MI, USA April 20th 2004
- Plant cell walls: A biochemist's perspective
Max-Planck Institute of colloids and interfaces, Golm, March 2nd, 2004
- Functions of plant cell wall polysaccharides: Insights through genetic engineering
University of Visçosa, Brasil, January 19th, 2004
- Genomic approaches to unravel the function of plant cell wall polysaccharides
University of Chile, Santiago, Chile, January 9th, 2004
- Plant cell wall polysaccharides: From structure to function
Botanical Institute, Sao Paulo, Brasil, December 15th, 2003
- Biosynthesis, structure and function of plant cell wall polysaccharides
Polish Academy of Sciences, Warsaw, Poland, October 6th, 2003
- Life on the outside, why do plant cell walls have to be so complex?
Max Planck Institute for Chemical Ecology, Jena, Germany, January 10th 2003
- Strategies to unravel the function of plant cell wall polysaccharides
Complex Carbohydrate Research Center, Athens, GA, USA, November 4th 2002
- Strategies to elucidate the function of complex polysaccharides
INRA, Versailles, France, August 23rd 2002
- Plant cell walls and hydrolytic enzymes: Perspectives
Novozymes, Copenhagen, Denmark, June 7th 2002
- Plant cell walls: biosynthesis, structure, and function
Max Planck Institute for plant breeding, Cologne, Germany, January 25th 2002
- Modification of plant cell walls
Fraunhofer Institute for Applied Biopolymers, Golm, Germany, June 12th 2001
- Strategies to reveal the biological functions of pectic polysaccharides
Complex Carbohydrate Research Center, Athens, GA, USA, August 30th 2000
- Elucidating the functions of pectins in the plant
Universita' "La Sapienza", Rome, Italy, July 3rd, 2000
- Biosynthesis and function of *O*-acetylated plant cell wall polysaccharides
Copenhagen University, Copenhagen, Denmark, March 26th 2000
- Structural analysis of cell walls from plant mutants
Max Planck-Institute for Molecular Plant Physiology, Golm, Germany, March 6th 2000
- *In vitro* *O*-acetylation of pectin
Complex Carbohydrate Research Center, Athens, GA, USA, January 12th 1999
- Structural analysis of plant cell wall xyloglucan
TAPS, Copenhagen University, Copenhagen, Denmark, October 8th 1998
- Methods to investigate plant cell wall xyloglucan
Royal Veterinary and Agricultural University, Copenhagen, Denmark, March 5th 1998
- Endoglucanases as analytical tools for structural elucidation of xyloglucans

Presentations at Scientific Meetings

- ♦ Xia J, Zhao Y, Thurbur C, Burks P, Pauly M, Brown P, A sorghum NAC gene affects vascular development and biomass properties. 18th Symposium “Genetics and Genomics of Crop improvement” 2016, Sep 28-30, St Louis, Missouri, USA
- ♦ Bethke G, Thao A, Xiong G, Katagiri F, Pauly M, Glazebrook J, The UDP-D-Glucuronate 4-Epimerases GAE1 and GAE6 are critical for pectin abundance and immunity in *Arabidopsis thaliana*. Gordon Conference “Plant Cell Walls” 2015, July 12-17, 2015, Bentley University, Massachusetts, USA
- ♦ Bethke G, Xiong G, Thao A, Katagiri F, Pauly M, Glazebrook J, UDP-D-Glucuronate 4-Epimerases are critical for pectin abundance and immunity in *Arabidopsis thaliana*. ASPB conference 2015, July 26-30, 2015, Minneapolis, Minnesota, USA
- ♦ Pauly M, Kuhn B, Lunde C, Hake S, Characterization of Cal-1, a high glucan maize mutant with enhanced properties for biofuel production, 4th Pan-American Congress on Plants and Bioenergy, University of Guelph, Canada, June 4-7, 2014 (**invited speaker**)
- ♦ Pauly M, Pectin and proteoglycan structure and function, 8th annual Glycoscience Symposium “Integrating models of plant cell wall structure, biosynthesis and assembly”, April 7, 2014 (**invited speaker**)
- ♦ Pauly M, Schultink A, Jensen J, NextGen sequencing for the identification of glycosyltransferases involved in plant cell wall polysaccharide biosynthesis, 40th annual meeting of the society for glycobiology, St. Petersburg, FL, Nov 17-20, 2013 (**invited speaker**)
- ♦ Pauly M, The utilization of glycosylhydrolases to assign function to plant cell wall polymers, Gordon conference on Cellulosomes, cellulases and other carbohydrate acting enzymes, Andover, Aug 4-9, 2013 (**invited speaker**)
- ♦ Xiong G, Cheng K, Pauly M, Players in hemicellulose O-acetylation: TBL-family, Gordon conference on cellulose and cellulosome, Andover, Aug 4-9, 2013
- ♦ Pauly M, Schultink A, Xiong G, Gille S, Liu L, Cheng K, Naylor D, The wall polysaccharide O-acetylation machinery, XIII. International cell wall meeting, Nantes, France, July 7-12, 2013 (**oral presentation**)
- ♦ Schultink A, Cheng K, Pauly M, Uncovering the pathway of plant cell wall polysaccharide acetylation, ASPB Plant Biology meeting, Providence, June 20-24, 2013
- ♦ Mansoori N, Schultink A, Pauly M, Understanding the genetic basis for the structural diversity of the hemicellulose xyloglucan, International Conference on Arabidopsis Research, Sydney, Australia, June 24-28, 2013
- ♦ Cheng K, Pauly M, Understanding pretreatment effects on lignocellulosic materials using high-resolution quantitative 2D NMR spectroscopy, 6th International workshop “Tailor made fuels from biomass”, Aachen, Germany, June 18-20, 2013 (**oral presentation**)
- ♦ Liu L, Schultink A, Gille S, Endelman B, Vogel J, Pauly M, Study on hemicellulose biosynthesis in Brachypodium, 1st International Brachypodium Conference, Modena, Italy, June 19-21, 2013 (**oral presentation by Liu L**)
- ♦ Lunde C, Kuhn B, Wu V, Hake S, Pauly M, Manipulation of *candyleaf1* affects biofuel quality of maize cell walls, 55th Annual Maize genetics conference, St. Charles, March 14-17, 2013
- ♦ Pauly M, Kraemer F, Kuhn B, Hake S, Lunde C, The creation of maize varieties with improved biofuel properties, Plant Feedstock Genomics for Bioenergy meeting, Washington DC, March 3-4, 2013 (**invited speaker**)
- ♦ Pauly M, Plant Biotechnology for Biofuels, Bioenergy workshop, Venice, Italy, Jan 27-30, 2013 (**invited speaker**)

- Pauly M, Identification of novel hemicellulose glycosyltransferases by Next Gen Seq, 16th San Diego Glycobiology Symposium, San Diego, Jan 11-12, 2013 **(invited speaker)**
- Pauly M, Improving plant cell wall properties for biofuels applications, 3rd international Symposium on Bioenergy and Biotechnology, Wuhan, China, Oct 14-17, 2012 **(invited speaker)**
- Cheng K, Pauly M, Understanding the molecular basis of plant cell wall structure using high-resolution 2D NMR spectroscopy, International conference on Biomass-based technology, Nanjing, China, Oct 22-24, 2012 **(oral presentation by Cheng K)**
- Pauly M, Challenges and opportunities for plant glycosciences in energy, ACS symposium on “Glycosciences at the crossroad of health, material, and energy”, Philadelphia, Aug 19-23, 2012 **(invited speaker)**
- Pauly M, Schultink A, Jensen J, Cheng K, Synthetic biology of plant cell wall polymers: xyloglucan, Gordon Research Conference on Plant Cell Walls, Waterville, August 12-16, 2012 **(invited speaker)**
- Benz M, Gille S, Pauly M, Investigation of the molecular mechanism of hemicellulose O-acetylation, Gordon Research Conference on Plant Cell Walls, Waterville, August 12-16, 2012
- Schultink A, Jensen J, Wilkerson C, Keegstra K, Pauly M, Identification of novel xyloglucan glycosyltransferases, Gordon Research Conference on Plant Cell Walls, Waterville, August 12-16, 2012
- Gille S, Souza A, Xiong G, Pauly M, Identification and characterization of a wall polysaccharide O-acetyltransferase, 23rd International Conference on Arabidopsis Research, Vienna, July 3-7, 2012 **(invited speaker)**
- Gille S, Sharma V, Scheller HV, Pauly M, From arabinose to Arabidopsis – arabinosylation of cell wall glycoproteins is essential for normal growth and development, 23rd International Conference on Arabidopsis Research, Vienna, July 3-7, 2012
- Sinclair S, Haydon MJ, Gille S, Pauly M, Kraemer U, DEZ, an allele of the gene TBR displays photomorphogenesis in the dark in the presence of high zinc, 23rd International Conference on Arabidopsis Research, Vienna, July 3-7, 2012
- Xiong G, Cheng K, Pauly M, Insights into cell wall polysaccharide acetylation: reverse genetics of trichome birefringence-like (TBL) genes in Arabidopsis, ASPB Plant Biology conference 2012, Austin, July 19-24, 2012
- Cheng K, Pauly M, Quantitative characterization of the structure of plant cell walls with time-zero extrapolated 2D HSQC NMR spectroscopy, 53rd Experimental Nuclear Magnetic Resonance Meeting, April 15-20, Miami
- Gille S, Souza A, Guangyan X, Pauly M, Polysaccharide O-acetylation and wall recalcitrance, 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, April 30 – May 3, 2012 **(invited speaker)**
- Kraemer F, Kun B, Hake S, Pauly M, Identification and characterization of Cal-1, a high glucan maize mutant, 34th Symposium on Biotechnology for Fuels and Chemicals, New Orleans, April 30 – May 3, 2012 **(invited speaker)**
- Pauly M, How Biotechnology enhances crop properties, 5th Berkeley Bio-economy conference, Berkeley, March 26-28, 2012 **(invited speaker)**
- Kuhn B, Kraemer T, Thomik T, Hake S, Pauly M, Characterization of maize candy-leaf mutants for improved biorefinery feedstock characteristics, USDA-DOE Plant Feedstock Genomics for Bioenergy Program meeting, San Diego, Jan 13, 2012
- Gille S, Reza B, Pauly M, Identification and characterization of a xyloglucan O-acetyltransferase, 4th Conference on Plant Cell Wall Biosynthesis, Aiwaka, Japan, Oct 1-5, 2011 **(oral presentation)**
- Schultink A, Pauly M, Heterologous production of the hemicellulose xyloglucan, 4th Conference on Plant Cell Wall Biosynthesis, Aiwaka, Japan, Oct 1-5, 2011 **(oral presentation by Schultink A)**
- Peterson BL, Harholt J, Koch ME, Velasquez MS, Zhang Y, Gille S, Jorgensen B, Pauly M, Estevez JM, Ulvskov P, Glycosyltransferase mutant involved in arabinosylation of extensins, 4th Conference on Plant Cell Wall Biosynthesis, Aiwaka, Japan, Oct 1-5, 2011

- Schultink A, Pauly M, Synthetic biology of cell wall polysaccharides, Synthetic Biology International Workshop, UC Berkeley, Aug 29-31, 2011 (**invited speaker**)
- Gille S, Roycewicz P, Malamy J, Pauly M, Mutants with altered O-glycosylation levels of the cell wall protein extension reveal a role in lateral root development, XVIII International Botanical Congress, Melbourne, Australia, July 23-30, 2011 (**oral presentation by Gille S**)
- Kraemer F, Hake S, Pauly M, Identification of cell wall mutants in maize: Towards improved biofuel feedstocks, USDA Albany, June 28, 2011 (**oral presentation by Kraemer F**)
- Schultink A, Jensen J, Pauly M, Synthetic biology of cell wall polysaccharides: heterologous production of the hemicellulose xyloglucan, Development and Evolution Symposium, UC Berkeley, May 18, 2011 (**oral presentation by Schultink A**)
- Kraemer F, Thomas T, Hake S, Pauly M, Characterization of novel cell wall mutants in maize, 2011 USDA-DOE Plant Feedstock Genomics for Bioenergy Program meeting, Crystal City, April 10-13, 2011
- Kraemer F, Hake S, Pauly M, Characterization of novel cell wall mutants in maize, 2011 Plant and Animal Genome Conference, San Diego, January 15-19, 2011 (**invited speaker**)
- Gonzalez SFN, Pauly M, Campos R, Sargent D, Orellana A, Tearing down the wall – shining a light on differences in fruit texture by studying the cell wall composition of fragaria species, 5th Rosaceae Genomics Meeting, Cape Town, South Africa, November 14-17, 2010
- Kraemer F, Hake S, Pauly M, Characterization of novel maize cell wall mutants, 2nd Pan American Congress on Plants and BioEnergy, Sao Pedro, Brazil, August 8-11, 2010 (**oral presentation**)
- Gunl M, Obel N, Neumetzler L, Kraemer F, Souza A, Pauly M, Insights into the biosynthesis and metabolism of xyloglucan using a forward genetic approach, 12th International Conference on Plant Cell Walls, Porto, Portugal, July 26-30, 2010 (**oral presentation**)
- Peterson BL, Harholt J, Joergensen B, Yang Z, Olsen CE, Ishii T, Estevez JM, Gille S, Pauly M, Ulvskov P, Characterization of glycosyltransferase mutants involved in the arabinosylation of extensins, 12th International Conference on Plant Cell Walls, Porto, Portugal, July 26-30, 2010 (**oral presentation by Peterson BL**)
- Gille S, Wilkerson C, Pauly M, Voodoo Lily – a deep sequencing approach to identify genes involved in glucomannan biosynthesis in *Amorphophallus konjac*, 12th International Conference on Plant Cell Walls, Porto, Portugal, July 26-30, 2010
- Gonzalez FNS, Pauly M, Orellana A, Pectic polysaccharides show differences in content in strawberries species with different texture, 12th International Conference on Plant Cell Walls, Porto, Portugal, July 26-30, 2010
- Pauly M, Strategies to unravel how plants divert carbon into cell wall polysaccharides, 2nd Banff conference on Plant Metabolism, June 24-28, 2010 (**invited speaker**)
- Pauly M, Genetic engineering of hemicelluloses, a major component of lignocellulosic biomass, 2010 International Workshop on Wood Biorefinery and Tree Biotechnology, Orskondsvik, Sweden, June 21-24, 2010 (**invited speaker**)
- Kraemer FJ, Hake S, Pauly M, Identifying new genes influencing the cell wall of grasses using a forward genetic approach, International Plant Biotechnology Congress 2010, St. Louis, USA, June 6-11, 2010
- Reca IB, Cavalier D, Kraemer F, Neumetzler L, Gunl M, Obel N, Pauly M, Understanding the mechanism of plant cell wall polymer O-acetylation, 9th International Plant Molecular Biology Congress (IPMB), St. Louis, MO, October 25-30, 2009
- Gunl M, Neumetzler L, de Souza AJ, Obel N, Pauly M, 9th International Plant Molecular Biology Congress (IPMB), St. Louis, MO, October 25-30, 2009
- Pauly M, Gunl M, Kraemer F, Neumetzler L, The substitution pattern of cross-linking glycans is determined by apoplastic glycosidases rather than by glycosyltransferases, Gordon Research Conference “Plant Cell Walls”, Smithfield, RI, August 2-7, 2009

- Nowicki M, Raedisch S, Poree F, Pauly M, Plant nucleotide-sugar metabolism: Evidence for substrate channeling in pectin biosynthesis, Gordon Research Conference “Plant Cell Walls”, Smithfield, RI, August 2-7, 2009 (**oral presentation by Nowicki M**)
- Gille S, Haensel U, Ziemann M, Royewicz P, Malamy J, Pauly M, XEG113- A GT77 family extensin arabinosyltransferase identified in a novel xyloglucan based liquid culture screen, Gordon Research Conference “Plant Cell Walls”, Smithfield, RI, August 2-7, 2009
- Zhou Y, Li M, Xiong G, Li R, Tan D, Zhang B, Cui J, Pauly M, Cheng Z, Rice cellulose synthase-like D4 is essential for normal cell wall biosynthesis and plant growth, Gordon Research Conference “Plant Cell Walls”, Smithfield, RI, August 2-7, 2009
- Petersen BL, Estevez JM, Jorgensen B, Gille S, Harholdt J, Zhang Y, Ishii T, Levery S, Pauly M, Ulvskov P, Towards functional characterization of CAZy family GT77 Glycosyltransferases Gordon Research Conference “Plant Cell Walls”, Smithfield, RI, August 2-7, 2009
- Nowicki M, Raedisch S, Poree F, Pauly M, Plant nucleotide-sugar metabolism: Evidence for substrate channeling in pectin biosynthesis, Gordon-Kenan Research Seminar “Plant Cell Walls”, Smithfield, RI, August 1-2, 2009 (**oral presentation by Nowicki M**)
- De Souza A, Haensel U, Hansen CH, Schnorr KM, Pauly M, Transgenic arabidopsis thaliana expressing a fungal endo-1,4- β -glucanase exhibits growth phenotypes, Gordon Research Conference on “Celulosomes, cellulases and other carbohydrate modifying enzymes”, Andover, NH, July 26-31, 2009
- Pauly M, Gunl M, Kraemer F, Neumetzler L, Obel N, The substitution pattern of cross-linking glycans is determined by apoplasmic glycosidases, ASPB-meeting, Honolulu, Hawaii, July 18-22, 2009 (**oral presentation**)
- Pauly M, Obel N, Gunl M, Neumetzler L, Kraemer F, Jensen J, Keeping microfibrils tight: elucidating the function of hemicelluloses by tapping into genomic resources, EU-Cost workshop on Systems biology for plant design, Wageningen, July 8-10, 2009 (**invited speaker**)
- Gille S, Haensel U, Ziemann M, Pauly M, Andres Bello University, Santiago, Chile, June 24, 2009 (**invited oral presentation by Gille S**)
- Keegstra K, Pauly M, Wilkerson C, Cavalier D, Cocuron JC, Jensen J, Thrower N, Wang Y, Discovery of genes that mediate and regulate hemicellulose biosynthesis. 31st Symposium on Biotechnology for Fuels and Chemicals, San Francisco, USA, May 3-9, 2009 (**oral presentation by Keegstra K**)
- Jensen J, Cocuron JC, Wang Y, Thrower N, Danhof L, Foster C, Wilkerson CG, Keegstra K, Pauly M, Transcriptional regulation of plant cell wall polysaccharide biosynthesis, 4th annual DOE JGI user meeting, Genomics of Energy and Environment, Walnut Creek, California, March 25-27, 2009
- Pauly M, Santoro N, Walton J, GLBRC: High throughput analysis of plant materials as a resource for biofuels, ABRF (Application and Optimization of Existing and Emerging Biotechnologies) conference, Memphis, USA, February 7-10, 2009 (**invited speaker**)
- Kraemer F, Gunl M, Neumetzler L, de Souza A, Yamauchi K, Burgert I, Obel N, Pauly M, Identification and characterization of a novel Arabidopsis hemicellulose mutant, Pan American Congress on Plants and Bioenergy, Merida, Mexico, June 22-25, 2008
- Pauly M, Raedisch S, Nowicki M, Poree F, Identification of putative channel protein complexes involved in plant-nucleotide-sugar metabolism, 3. Cell wall biosynthesis meeting, Asilomar, California, USA, June 8-11, 2008 (**oral presentation**)
- Gille S, Haensel U, Ziemann M, Pauly M, xeg113- an Arabidopsis mutant with altered xyloglucan structure affected in a GT family 77 gene, 3. Cell wall biosynthesis meeting, Asilomar, California, USA, June 8-11, 2008 (**oral presentation by Gille S**)
- Egelund J, Jensen NB, Pauly M, Willats W, The reduced residual arabinose gene family encodes a putative arabinosyltransferases located in the Golgi apparatus, 3. Cell wall biosynthesis meeting, Asilomar, California, USA, June 8-11, 2008 (**oral presentation by Egelund J**)

- Gunl M, Neumetzler L, Kraemer F, Obel N, Pena M, York WS, Yamauchi K, Burgert I, Pauly M, Impact of a fucosidase on xyloglucan structure and function in Arabidopsis, 3. Cell wall biosynthesis meeting, Asilomar, California, USA, June 8-11, 2008
- Pauly M, Plant cell walls as a resource for the production of biofuels, ASPB Midwestern sectional meeting, Iowa State University, Ames, Iowa, March 29-30, 2008 (**invited speaker**)
- Pauly M, Insights into the function of plant cell wall polysaccharides through wall mutants, Bioenergy and Biotechnology Symposium, Huazhong Agricultural University, Wuhan, China, March 15-17, 2008 (**invited speaker**)
- Pauly M, Walton J, Keegstra K, 2008, GLBRC: High throughput analysis of plant materials as a resource for biofuels, Pittcon conference, New Orleans, USA, March 2-6, 2008 (**invited speaker**)
- Lopes F, Fagundes J, Yamasaki E, Bromonshenkel SH, Poree F, Pauly M, Loureiro ME, The Eucalyptus grandis EgMUR3 gene is a xyloglucan galactosyltransferase closely related to the mur3 gene from Arabidopsis thaliana, Redbio 2007, VI Encuentro Latinoamericano y del Caribe de Biotecnologia Agropecuaria, Val Paraiso, Chile, October 22-28, 2007
- Pauly M, Gille S, Haensel U, Ziemann M, E50 Cell Wall Macromolecules and reaction wood (CEMARE), Potsdam, Germany, September 26-29, 2007 (**invited speaker**)
- Neumetzler L, Kraemer F, Obel N, Yamauchi K, Burgert I, Pauly M, Analysis of mutants with altered xyloglucan (axy) structures using oligosaccharide mass profiling (OLIMP), E50 Cell Wall Macromolecules and reaction wood (CEMARE), Potsdam, Germany, September 26-29, 2007 (**invited speaker Neumetzler L**)
- Lopez F, Fagundes J, Poree F, Loureiro ME, Pauly M, The Arabidopsis thaliana UER1 gene related to rhamnose metabolism is essential for normal pollen grain viability, XI Brazilian Plant Physiology Congress, Gramado, Brasil, September 9-14, 2007
- Pauly M, Gille S, Haensel U, Ziemann M, Identification and characterization of novel A. thaliana xyloglucan mutants using a xyloglucanase screen, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007, (**oral presentation**)
- Nikolovski N, Pauly M, Novel Arabidopsis pectin mutants identified by a pectinase screen, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007, (**oral presentation by Nikolovski N**)
- Cavalier D, Lerouxel O, Neumetzler L, Abasalo W, Burgert I, Pauly M, Raikhel N, Wilkerson C, Arabidopsis XT1 and XT2 encode xylosyltransferases involved in xyloglucan biosynthesis, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007, (**oral presentation by Cavalier D**)
- Petersen B, Faber K, Damager I, Egelund J, Pauly M, Geshi N, Obel N, Bacic A, Ulvskov P, The glycosyltransferases of family GT77, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007, (**oral presentation by Petersen B**)
- Neumetzler L, Kraemer F, Obel N, Yamauchi K, Burgert I, Pauly M, Identification of Arabidopsis mutants with altered xyloglucan structures, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007
- Nowicki M, Raedisch S, Poree F, Miller RE, Pauly M, Plant nucleotide sugar metabolism: evidence for protein-protein interactions, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007
- Alonso-Simon A, Neumetzler L, Garcia-Angulo P, Encina AE, Pauly M, Fernandez JMA, Acebes JL, Hayashi T, Modifications in the structure of xyloglucan of bean (Phaseolus vulgaris L) Cell cultures habituated/dehabituated to dichlobenil, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007
- Egelund J, Pauly M, Willats W, The RRA gene family in Arabidopsis thaliana, XIth international cell wall meeting, Copenhagen, Denmark, August 12-17, 2007

- Neumetzler L, Kraemer F, Yamauchi K, Burgert I, Obel N, Pauly M, Identification and characterization of novel Arabidopsis hemicellulose mutants, ASPB meeting, Chicago, USA, July 7-11, 2007
- Moeller R, Pauly M, Optimizing plant cell walls: the lignocellulose platform, 2nd EPOBIO workshop: Products from plants – from crops and forests to zero-waste biorefineries, Athens, Greece, May 15-17, 2007 (**oral presentation by Moeller R**)
- Pauly M, Neumetzler L, Kraemer F, Obel N, Gille S, Haensel U, Ziemann M, Identification and characterization of plant cell wall mutants using a hydrolase screen, 1st international fungal/ plant cell wall meeting, Biarritz, France March 10-14, 2007 (**invited speaker**)
- Immerzeel P, Leboeuf E, Pauly M, Determination of glycosyltransferase specificities using a carbochip approach, 1st international fungal/ plant cell wall meeting, Biarritz, France March 10-14, 2007,
- Gille S, Haensel U, Ziemann M, Pauly M, Characterization of novel A. thaliana xyloglucan mutants identified by a hydrolase screen, 1st international fungal/ plant cell wall meeting, Biarritz, France March 10-14, 2007
- Moeller R, Pauly M, Genetic engineering of plant cell walls: Improving industrial feedstocks, 2nd joint New Zealand-German symposium on plant cell walls, Hamburg, Germany, October 4-6, 2006
- Pauly M, Various strategies leading to the identification of novel cell wall mutants, “Plant Extracellular matrix: Biosynthesis and function” Lausanne, Switzerland, October 12-13, 2006 (**invited speaker**)
- Nikolovski N, Leboeuf E, Pauly M, Pectinases in liquid culture – a novel screening strategy to identify pectin mutants, Gordon research conference on Plant Cell Walls, University of New England, USA, July 30 – Aug 4, 2006
- Ratzka A, Usadel B, Pauly M, Characterization of UDP-D-glucuronate 4-epimerase in *Solanum lycopersicum*, Solanaceous conference, Madison, WI, USA, July 23-27, 2006
- Pauly M, The role of xyloglucan in growth and development: Insights through Arabidopsis mutants, Gordon research conference on Plant Cell Walls, University of New England, USA, July 30 – Aug 4, 2006 (**invited speaker**)
- Lionetti V, Raiola A, Camardella L, Giovane A, Obel N, Pauly M, Favaron F, Bellincampi D, Pectin methylesterification: It’s role in plant development and defense against pathogens, 3rd EPSO Conference, Visegrad, Hungary, May 28 – June 1, 2006
- Hänsel U, Hansen CH, Schnorr KM, Pauly M, Unraveling plant cell wall networks using hydrolases, 5th Science days, Faculty of Applied Science, Senftenberg, Germany, September 24, 2005 (**oral presentation by Haensel U**)
- Hänsel U, Hansen CH, Schnorr KM, Pauly M, Expression of a fungal cellulose and a xyloglucan-specific endoglucanase in plants, Gordon conference on cellulases and cellulosomes, Andover, New Hampshire, USA, August 7-12, 2005
- Pauly M, Obel N, Neumetzler L, Immerzeel P, Burgert I, Insights into the biosynthesis, structure, and function of xyloglucan through Arabidopsis mutants, 2nd meeting on Biosynthesis of plant cell walls, Asilomar, California, USA, August 4-7, 2005 (**oral presentation**)
- Poree F, Bauke A, Beyer C, Usadel B, Pauly M, Functional analysis of the nucleotide sugar conversion pathway involved in pectin biosynthesis, 2nd meeting on Biosynthesis of plant cell walls, Asilomar, California, USA, August 4-7, 2005 (**oral presentation by Poree F**)
- Immerzeel P, Pauly M, Methods to rapidly assess the chemical structure of wall composites and their applications, 1st joint New Zealand-German symposium on plant cell walls, Rotorua, New Zealand, June 22-24, 2005 (**oral presentation by Immerzeel P**)
- Obel N, Neumetzler L, Immerzeel P, Burgert I, Abasolo W, Pauly M, Genetic engineering of novel xyloglucan, 6th Carbohydrate Bioengineering Meeting, Barcelona, Spain, April 3-6, 2005
- Ziemann M, Hänsel U, Pauly M, Glycosylhydrolases as a tool to identify novel cell wall mutants, 6th Carbohydrate Bioengineering Meeting, Barcelona, Spain, April 3-6, 2005

- Neumetzler L, Schwarz T, Obel N, Burgert I, Pauly M, Oligosaccharide mass profiling (OLIMP): a rapid and sensitive structural analysis of polysaccharide materials, 229th ACS National meeting, San Diego, USA, March 13-17, 2005
- Kuschinsky A, Rahman S, Hansen CH, Schnorr KM, Pauly M, Identifikation apoplastischer Proteine mit Hilfe des Transposon Assisted Signal Trapping „TAST“, 18.Conference on Plant Molecular Biology, Dabringhausen, Germany, March 7-10, 2005
- Pauly M, Hänsel U, Tech S, Witucka-Wall H, Hansen HH, Glycosylhydrolases as tools to identify or generate novel cell wall mutants, (**oral presentation**), 10th Cell Wall Meeting, Sorrento, Italy, August 29 – September 3, 2004
- Usadel B, Guerineau F, Beyer C, Pauly M, Novel pectin mutants through genetic engineering of pectin synthesis, (**oral presentation by Usadel B**) 10th Cell Wall Meeting, Sorrento, Italy, August 29 – September 3, 2004
- Raikhel N, van de Ven WTG, Zobotina O, Obel N, Pauly M, Characterization of mutants of two Arabidopsis genes related to xyloglucan xylosyltransferase families (**oral presentation by Raikhel N**), 10th Cell Wall Meeting, Sorrento, Italy, August 29 – September 3, 2004
- Obel N, Schwarz T, Erben V, Pauly M, Oligosaccharide profiling: a new tool for analysis of wall polysaccharide structure on a cellular level useful for the identification of novel wall mutants, 10th Cell Wall Meeting, Sorrento, Italy, August 29 – September 3, 2004
- Pauly M, Obel N, Schwarz T, Erben V, Rapid oligosaccharide profiling by mass spectrometry as a tool to identify novel cell wall mutants (**oral presentation**), Plant Polysaccharide Workshop, University of York, York, UK, July 21-23 2004
- Hänsel U, Hansen CH, Schnorr KM, Pauly M, Expression of endo-1,4- β -glucanases with different substrate specificities in Arabidopsis thaliana, Plant Polysaccharide Workshop, University of York, York, UK, July 21-23 2004
- Kuschinsky A, Hansen CH, Schnorr KM, Pauly M, Identification of apoplastic plant proteins by transposon assisted signal trapping (TAST), 15th International Conference on Arabidopsis Research, Berlin, Germany, July 11-14, 2004
- Usadel B, Guerineau F, Pauly M, Functional analysis of the nucleotide sugar conversion pathway in Arabidopsis, 15th International Conference on Arabidopsis Research, Berlin, Germany, July 11-14, 2004
- Hansen H, Hänsel U, Schnorr KM, Pauly M, Functional analysis of cell wall components by expressing a xyloglucanase in Arabidopsis thaliana, 15th International Conference on Arabidopsis Research, Berlin, Germany, July 11-14, 2004
- Krupkova E, Pauly M, Schmülling T, Altered meristem patterning and hormone signalling in the cellulose deficient tsd1 (tumorous shoot development1) mutant, an allele of the KORRIGAN1 endo-1,4- β -glucanase, 15th International Conference on Arabidopsis Research, Berlin, Germany, July 11-14, 2004
- Usadel B, Kuschinsky AM, Beyer C, Pauly M, Biological functions of plant cell wall polysaccharides: Systematic analysis of the nucleotide sugar conversion pathways, 17.Conference on Plant Molecular Biology, Dabringhausen, Germany, March 9-12, 2004
- Pauly M, Cell walls: Interaction between components, identification and functional analysis of cell wall proteins and polysaccharides (**oral presentation**), 4th GABI status seminar, Bonn, Germany, February 10-11, 2004
- Obel, N., Burgert, I., Pauly, M., Identification and characterization of novel cell wall mutants, 4th GABI status seminar, Bonn, Germany, February 10-11, 2004
- Pauly, M., Obel, N., Erben, V., Microanalysis of plant cell wall polysaccharides using mass spectrometry (**invited speaker**) Gordon Research Conference: Plant Cell Walls, Kimball Union Academy, Meriden, New Hampshire, USA, August 10-15, 2003

- Usadel, B., Kuschinsky, A.M., Obel, N., Pauly, M., Changing the nucleotide interconversion pathway, Gordon Research Conference: Plant Cell Walls, Kimball Union Academy, Meriden, New Hampshire, USA, August 10-15, 2003
- Bauke, A., Roessner-Tunali, U., Fernie, A., Zamir, D., Pauly, M., Quantitative trait loci (QTL) mapping of gene clusters responsible for cell wall polysaccharide synthesis and its regulation in tomato fruit, Gordon Research Conference: Plant Cell Walls, Kimball Union Academy, Meriden, New Hampshire, USA, August 10-15, 2003
- Bauke, A., Roessner-Tunali, U., Fernie, A., Zamir, D., Pauly, M., Cell wall analysis of recombinant inbred lines of tomato, 7th International Congress of Plant Molecular Biology, Barcelona, Spain, June 23-28, 2003
- Kuschinsky, A.M., Usadel, B., Scheible, W.R., Pauly, M., Changing the structure of plant cell walls through genetic interference in the nucleotide sugar conversion pathway, 7th International Congress of Plant Molecular Biology, Barcelona, Spain, June 23-28, 2003
- Hansen, C., Hänsel, U., Witucka-Wall, H., Schnorr, K., Pauly, M., Functional analysis of cell wall components by expressing endo-1,4- β -glucanases with different substrate specificities in *Arabidopsis thaliana*, 7th International Congress of Plant Molecular Biology, Barcelona, Spain, June 23-28, 2003
- Obel, N., Erben, V., Gibon, Y., Pauly, M., Detecting variation in xyloglucan structure using MALDI-TOF, Gordon Research Conference: Chemistry of Polysaccharides, Il Ciocco, Barga, Italy, May 4-9, 2003
- Hänsel, U., Hansen, C.H., Witucka-Wall, H., Schnorr, K., Pauly, M., Expression of endo-1,4- β -glucanases with different substrate specificities in *Arabidopsis thaliana*, 5th Carbohydrate Bioengineering Meeting, University of Groningen, Netherlands, April 6-9, 2003-10-22
- Witucka-Wall, H., Usadel, B., Erben, V., Obel, N., Pauly, M., Oligosaccharide profiling of plant cell wall polysaccharides via MALDI-TOF MS as a tool for chromosomal mapping of cell wall related genes, 5th Carbohydrate Bioengineering Meeting, University of Groningen, Netherlands, April 6-9, 2003-10-22
- Pauly, M., Oligosaccharide profiling via MALDI-TOF MS (**invited speaker**) 2nd International Conference on Plant Metabolomics, Potsdam, Germany, April 25-28, 2003
- Pauly, M., Natural variation in cell wall polysaccharides (**oral presentation**), 3rd GABI status seminar, Bonn, Germany, February 11-12, 2003
- Obel, N., Usadel, B., Gibon, Y., Pauly, M., Identification and characterization of novel cell wall mutants, 3rd GABI status seminar, Bonn, Germany, February 11-12, 2003
- Usadel, B., Kuschinsky, A.M., Pauly, M., Changing the structure of plant cell walls through modulation of the nucleotide conversion pathway, 22nd Symposium: Frontiers of Plant Cell Biology: Signals and Pathways, System-Based Approaches, UCLA Riverside, Riverside, California, USA, January 15-18, 2003
- Pauly, M., Rapid structural analysis of plant cell wall mutants (**oral presentation**), II. PlantMetaNet meeting, Wittenberg, July 16-17, 2002
- Choo, T.S., Usadel, B., Pauly, M., Plant cell wall oligosaccharide profiling using MALDI-TOF mass spectrometry, XXI International Carbohydrate Symposium, Cairns, Queensland, Australia, July 7-12, 2002
- Choo, T.S., Lerouxel, O., Usadel, B., Lerouge, P., Pauly, M., Profiling of plant cell wall oligosaccharides by enzymatic fingerprinting, Plant Polysaccharide Workshop, Palm Cove, Queensland, Australia, July 4-6, 2002
- Usadel, B., Kuschinsky, A.M., Pauly, M., Plant polysaccharide biosynthesis: Further insights into the pectic component rhamnogalacturonan, XIII International conference on *Arabidopsis* research, Seville, Spain, June 28- July 2, 2002
- Hansen, C.H., Zobel, E., Pauly, M., Proteomic analysis of plant cell wall biosynthesis. Plant Proteomes: Structure, changes, interactions and functions, Iowa State University, Iowa, USA, June 20-23, 2002

- Pauly, M., Choo, T.S., Usadel, B., Phenotyping wall structure by oligosaccharide profiling using MALDI-TOF MS (**oral presentation**). Plant Cell Wall Biosynthesis Meeting, UCLA Lake Arrowhead, California, USA, May 12-15, 2002
- Pauly, M., Choo, T.S., Usadel, B., The identification of genes involved in cell wall biosynthesis using oligosaccharide profiling by MALDI-TOF MS (**oral presentation**). 2nd GABI status seminar, Bonn, Germany, February 19-20, 2002
- Pauly, M., Elucidating the function of plant cell wall components by modification of their synthesis (**oral presentation**). Chinese-German bilateral symposium on “Plant Molecular Biology”, Shanghai, China, September 23-24, 2001
- Skjøt, M., Pauly, M., Bush, M.S., Borkhardt, B., McCann, M.C., Ulvskov, P., Modification of plant cell wall pectin by Golgi targeted expression of an *endo*-arabinanase. 9th International Cell Wall Meeting, Toulouse, France, September 2-7, 2001
- Bolvig, P.U., Pauly, M., Scheller, H.V., Schnorr, K., Sequence analysis and characterization of a novel pectin acetyl esterase. Pectin and Pectinases 2001, Rotterdam, The Netherlands, May 6-10, 2001
- Pauly, M., Eberhard, S., O’Neill, M.A., Albersheim, P., Darvill, A., York, W.S., Oligosaccharide profiling of plant cell wall xyloglucan: Method development and applications (**oral presentation**). Plant protein club workshop on Added Value Products from Plants 2: Cell Wall Components, University of York, York, United Kingdom, March 21-23, 2001
- Pauly, M., The extracellular matrix of plants: complex structures for complex functions (**oral presentation**). Symposium Modern Trends in Plant Science, Max Planck-Institute for Molecular Plant Physiology, Golm, Germany, December 11, 2000
- Pauly, M., Sørensen, S., Ulvskov, P., Structural characterization of RGI derived from transgenic potato expressing an *endo*-1,4- β -D-galactanase. Gordon Research Conference: Plant Cell Walls, Kimball Union Academy, Meriden, New Hampshire, USA, August 20-24, 2000
- Geshi, N., Pauly, M., Ulvskov, P., Solubilization of rhamnogalacturonan galactosyltransferase. Gordon Research Conference: Plant Cell Walls, Kimball Union Academy, Meriden, New Hampshire, USA, August 20-24, 2000
- Nunan, K.J., Pauly, M., Porchia, A., Scheller, H.V., Arabinan biosynthesis in pectins, Plant Polysaccharides 2000, IAC Wageningen, The Netherlands, August 23-26, 2000
- Ulvskov, P., Borkhardt, B., Bush, M., Vincken, J., Visser, R., Voragen, F., Doeswijk Voragen, C., Jørgensen, B., McCann, M., Oomen, R., Pauly, M., Schols, H., Skjøt, M., Sørensen, S., Remodelling pectin structure in potato, American Society of Plant Physiologists, San Diego, California, July 15-19, 2000
- Pauly, M., Bergmann, C., Albersheim, P., Darvill, A., Scheller, H.V., Possible functions of *O*-acetyl substituents on homogalacturonan: Inhibition of degradation by *endo*-polygalacturonases and pectinmethylesterases, Dynamics of the plant extracellular matrix, Instituto Juan March de estudios e investigaciones, Madrid, November 11-13, 1999
- Porchia, A.C., Obel, N., Pauly, M., Scheller, H.V., Characterization of xylan xylosyltransferase and arabinosyltransferase from wheat, Dynamics of the plant extracellular matrix, Instituto Juan March de estudios e investigaciones, Madrid, November 11-13, 1999
- Pauly, M., Scheller, H.V., *O*-acetylation of pectin in potato cells (**oral presentation**), Plant Proteins and the mechanical properties of cell walls, Alicante, Spain, April 10-12, 1999
- Pauly, M., Albersheim, P., Darvill, A., York, W.S., The fine structure of cell wall xyloglucan is tissue specific, 8th International Cell Wall Meeting, Norwich, United Kingdom, September 1-5, 1998
- Strickland, F.M., Darvill, A., Albersheim, P., Eberhard, S., Pauly, M., Pelley, R.P., Inhibition of UV-induced immune suppression and IL-10 production by plant polysaccharides, 26th Annual meeting of the American Society for Photobiology, Snowbird, Utah, July 11-15, 1998
- Cavalier, D.M., Netland, J.D., Pezeshk, V., Schnurr, J.A., White, A.R., York, W.S., Pauly, M., Structural determination of various oligosaccharide fragments generated from Tamarind xyloglucan oligosaccharides, American Society of Plant Physiologist meeting, Madison, Wisconsin, June 1998

- ♦ Pauly, M., Darvill, A., Albersheim, P., York, W.S., Characterization and quantitation of enzyme released oligosaccharide subunits of macromolecules, 3rd international Symposium sponsored by the Association of Biomolecular Resource Facilities, San Diego, California, March 21-24, 1998
- ♦ Pauly, M., Darvill, A., Albersheim, P., York, W.S., Characterization of complex carbohydrates isolated by reversed-phase chromatography with evaporative light scattering detection (ELSD), 2nd Symposium on the Analysis of Well Characterized Biotechnology Pharmaceuticals, San Francisco, California, January 4-7, 1998
- ♦ Strickland, F.M., Darvill, A., Albersheim, P., Eberhard, S., Pauly, M., Sun, Y., Pelley, R.P., Inhibition of UV-induced immune suppression and IL-10 production by poly/oligosaccharides, 25th Annual meeting of the American Society for Photobiology, St. Louis, Missouri, July 5-10, 1997
- ♦ Darvill, A.G., Azadi, P., O'Neill, M.A., Gelineo, I., York, W.S., Zablackis, E., Pauly, M., Hahn, M.G., Freshour, G., Williams, M., Albersheim, P., Structure and Biochemistry of cell wall matrix polysaccharides, Keystone Symposium on "The Extracellular Matrix of Plants: Molecular, Cellular and Developmental Biology", Tamaron, Colorado, March 15-21, 1996
- ♦ Pauly, M., York, W.S., Albersheim, P., Darvill, A.G., Xyloglucan oligosaccharide profile of pea epicotyls, 7th Cell Wall Meeting, Santiago de Compostela, Spain, September 26-29, 1995
- ♦ Zablackis, E., York, W.S., Pauly, M., Darvill, A.G., Albersheim, P., Substitution of L-Galactose for L-Fucose in cell wall polysaccharide of an *Arabidopsis* mutant, 7th Cell Wall Meeting, Santiago de Compostela, Spain, September 26-29, 1995
- ♦ Pauly, M., York, W.S., Guillen, R., Reisener, H.J, Albersheim, P., Darvill, A.G., Microscale probes of xyloglucan metabolism - Application of an UV-absorbing derivative for xyloglucan subunit analysis, 22nd Annual Meeting of the Society for Complex Carbohydrates, San Juan, Puerto Rico, November 17-20, 1993

Academic Experience

Teaching experience

UC Berkeley, USA

- Sp 2014 MCB102: Introduction to Biochemistry (13 lectures, 408 students)
PMB 122: Bioenergy (10 lectures, 35 students)
ESPM192: Molecular approaches to environmental problem solving (1 lecture, approx. 20 students)
- F 2013 Bio1A: Molecules of Life, The Cell (13 lectures, 630 students)
C124: Bioenergy (2 lectures, approx. 40 students)
- Sp 2013 MCB102: Introduction to Biochemistry (13 lectures, 370 students)
PMB 122: Bioenergy (10 lectures, 40 students)
ESPM192: Molecular approaches to environmental problem solving (1 lecture, approx. 20 students)
- F 2012 Bio1A: Molecules of Life, The Cell (12 lectures, 719 students)
PLANT BI 10: Plants, Agriculture and Society (1 lecture, approx. 50 students)
C124: Bioenergy (2 lectures, approx. 40 students)
- Sp 2012 MCB102: Introduction to Biochemistry (13 lectures, 422 students)
PMB 122: Bioenergy (10 lecture, 38 students)
Ringvorlesung - Moderne Fragen zur Biotechnologie: Introduction to Biofuels (1 guest-lecture, University of Potsdam, Germany)
- F 2011 PLANT BI 10: Plants, Agriculture and Society (1 lecture, approx. 50 students)
- Sp 2011 MCB102: Introduction to Biochemistry (13 lectures, 353 students)
ESPM192: Molecular approaches to environmental problem solving (1 lecture, approx. 20 students)
- F 2010 PLANT BI 10: Plants, Agriculture and Society (1 lecture, approx. 50 students)

Michigan State University, USA

- Sp 2009 PLB 499: Current themes in Plant Biology (1 lecture, 3 credits, 7 students)
- F 2008 BMB 864: Plant biochemistry (15 lectures; 4 student seminars; 8 students; 3 credits)
- F 2008 BMB101: "Meet the Profs" (1 lecture, 145 students; 1 credit)
- Sp 2008 BMB 978: Biochemistry Colloquium series
PLB 802: Bioenergy and Biotechnology (1 lecture; 2 credits)
PLB 499: Current themes in Plant biology (1 lecture; 3 credits)
- F 2007 BMB 978: Biochemistry Colloquium series
- Sp 2007 PLB 856: Recent advances in genetics and molecular biology of higher plants (2 lectures, 3 credits)

University of Potsdam, Germany

- S 2006 Lab course "Analytical and functional Glycobiology" (2 weeks)
- W 2004 Lab course "Analytical and functional Glycobiology" (2 weeks)
- W 2004 Graduate lecture series – "Analytical and functional Glycobiology" (15 double lectures)
- S 2003 Lab course "Analytical and functional Glycobiology" (2 weeks)
- W 2003 Lab course "Analytical and functional Glycobiology" (2 weeks)
- W 2003 Graduate lecture series – "Analytical and functional Glycobiology" (15 double lectures)
- S 2003 Lab course "Analytical and functional Glycobiology" (2 weeks)
- W 2002 Lab course "Analytical and functional Glycobiology" (2 weeks)
- W 2002 Graduate lecture series – "Analytical and functional Glycobiology" (15 double lectures)

University committees

UC Berkeley

2013/2014: PMB Graduate student admission committee

PMB seminar committee (chair)

PMB Plant FTE request committee

CNR: Excom (Spring 2014)

UCB: Reagent's and Chancellor's scholarship interviews

UCB: CUSHFA (Committee on undergraduate scholarships, honors and financial aid)

UCB: Committee on university-emeriti relations (Fall 2013)

2012/2013: PMB Graduate student admission committee (chair)

PMB: Training grant committee

UCB: Reagent's and Chancellor's scholarship interviews

2011/2012: PMB: Undergraduate curriculum committee

PMB Graduate student admission committee (chair)

UCB: Reagent's and Chancellor's scholarship interviews

2010/2011: PMB: graduate student admission committee

PMB: Seminar committee

PMB: Ad hoc faculty review committee

UCB: Reagent's and Chancellor's scholarship interviews

UCB: Reagent's and Chancellor's advance scholarship

2009/2010: ---

Michigan State University, USA

F 2009 Biochemistry: Faculty advisory committee

F 2009 MSU; Member of the MSU grievance committee

F 2009 PRL-Plant Biology; seminar committee: Identification and invitation of national and international guest speakers for the Plant Biology Seminar Series

S 2009 Genetics; graduate student admission committee: Recruiting graduate students for graduate school in genetics and plant sciences for the fall 2009 enrolment

S 2009 PRL; Personal affairs committee

S 2009 Biochemistry; web-committee

F 2008 IGRP-grant application review

F 2008 Biochemistry; faculty search committee: Plant biomass

F 2008 PRL; Personal affairs committee

F 2008 Biochemistry; web-committee

S 2008 PRL; graduate student admission committee: Recruiting graduate students for graduate school in genetics and plant sciences for the fall 2008 enrolment

S 2008 Genetics; graduate student admission committee: Recruiting graduate students for graduate school in genetics and plant sciences for the fall 2008 enrolment

S 2008 Biochemistry; seminar committee: Identification and invitation of national and international guest speakers for the Biochemistry Seminar Series

F 2007 PRL; retreat organizer

F 2007 Biochemistry; web-committee

F 2007 Plant Biology; faculty search committee: plant systems biology

F 2007 Biochemistry; seminar committee: Identification and invitation of national and international guest speakers for the Biochemistry Seminar Series

F 2007 PRL-Plant Biology; seminar committee: Identification and invitation of national and international guest speakers for the Plant Biology Seminar Series

S 2007 Genetics; graduate student admission committee: Recruiting graduate students for graduate school in genetics and plant sciences for the fall 2007 enrolment

Research Associates (Postdocs)

Current postdocs:

- Guanyang Xiong** (Substrate channeling in pectin biosynthesis)
- Nasim Mansoori** (Synthetic biology of xyloglucan)
- Lifeng Liu** (grass wall O-acetylation)
- Yunjun Zhao** (mannan O-acetylation)
- Murali Dama** (NMR of lignocellulosics)
- Vicente Ramirez Garcia** (Maize wall mutants – Marie Curie fellow)
- Lei Zhu** (GT47 glycosyltransferases)
- Gabriel Levesque-Tremblay** (in vitro xyloglucan biosynthesis)

Doctoral Advisees

Current students:

- Dan Naylor** (Mechanism of polysaccharide O-acetylation), UC Berkeley
- Amancio Souza** (Insights into the function of plant acetyltransferases), UC Berkeley
- Florian Kraemer** (Maize cell wall mutants), University of Potsdam

Previous students:

- 2013 **Alex Schultink**, Arabidopsis mutants with altered hemicellulose structures, UC Berkeley
- 2012 **Markus Günl**, Arabidopsis mutants with altered hemicellulose structures, University of Potsdam/ UC Berkeley
- 2010 **Sascha Gille**, Identification and characterization of new cell wall mutants by means of a novel forward chemical genetic approach using hydrolases, MPI-MP/ University of Potsdam, Germany/ MSU, USA
- 2009 **Nino Nikolovski**, Pectin: New insights from an old polymer through pectinase based genetic screens, MPI-MP/ University of Potsdam, Germany/ MSU, USA
- 2009 **Lutz Neumetzler**; Identification and characterization of *Arabidopsis* mutants associated with xyloglucan metabolism, MPI-MP/ Humboldt University Berlin, Germany
- 2008 **Ulrike Hänsel**; The role of hemicelluloses in plant growth and development, MPI-MP/ University of Potsdam, Germany
- 2007 **Antje Ratzka**; Pectin biosynthesis in *Solanum esculentum*, MPI-MP/ University of Potsdam, Germany
- 2006 **Anja Kuschinsky**; Identifizierung und Analyse der an der pflanzlichen Zellwand-Biosynthese beteiligten Gene in *Arabidopsis thaliana*. (Identification and analysis of *Arabidopsis thaliana* genes involved in cell wall biosynthesis), MPI-MP/ Technical University Berlin, Germany
- 2005 **Björn Usadel**; Untersuchungen zum Nucleotidzuckerstoffwechsel von Pflanzen (Analysis of the nucleotide sugar conversion pathway in plants), MPI-MP/ University of Potsdam, Germany

Master's Advisees

Current students:

Previous students:

- 2012 **Philip Ansumana Hull**; Characterization of a *Amorphophallus konjac* mannan acetyltransferase, University of Muenster/ UC Berkeley
- 2011 **Thomas Thomik**; Natural diversity of maize, University of Kassel/ UC Berkeley
- 2008 **Florian Kraemer**; Characterisation of axy8, an *Arabidopsis* xyloglucan mutant, MSU/ University of Potsdam
- 2007 **Michael Bocker**; Zellwandproteine von *Arabidopsis thaliana* –

- Charakterisierung von T-DNA-Insertionsmutanten und Entwicklung einer hefebasierenden Methode zur Sekretomanalyse (Apoplastic proteins of Arabidopsis – Characterisation of T-DNA insertionlines and development of a yeast based method for the analysis of the secretome), MPI-MP/ University of Potsdam
- 2007 **Stefan Kuehnel**; Insights into xyloglucan biosynthesis in the model organism Arabidopsis thaliana, MPI-MP/ University of Potsdam
- 2007 **Katrin Geisler**; Oligoxyloglucan reducing end-specific xyloglucanobiohydrolase from *Aspergillus nidulans*: a tool to study xyloglucan structure and function, MPI-MP/ University of Potsdam
- 2006 **Steffen Rädisch**; Protein-Protein-Interaktions-Studien zum pflanzlichen Nukleotidzucker-Stoffwechsel (Protein-Protein Interactions within the plant nucleotide sugar conversion pathway), MPI-MP/ University of Potsdam
- 2006 **Shamim Rahman**; Eine neue Methode zur Identifizierung von Sekretomen: Entwicklung eines eukaryotischen Transposon-unterstützten Signalsequenz-Identifizierungs Systems (TUSI) (A new method to identify the secretome: development of a eukaryotic transposon assisted signal trapping system), MPI-MP/ Free University Berlin
- 2005 **Susanne Tech**; Identifizierung und Charakterisierung von Pflanzenzellwandmutanten in Arabidopsis thaliana (Identification and characterization of plant cell wall mutants of Arabidopsis thaliana), MPI-MP/ University of Potsdam
- 2005 **Tatjana Schwarz**; Strukturdiversität von Xyloglukanen in Arabidopsis thaliana (Structural diversity of xyloglucan derived from Arabidopsis thaliana), MPI-MP/ University of Potsdam
- 2004 **Claudia Beyer**; Untersuchung von Pflanzen nach genetischem Eingriff in den Nukleotidzucker Konvertierungsstoffwechsel (Analysis of plants genetically altered in the nucleotide sugar conversion pathway), MPI-MP/University of Potsdam, Germany
- 2004 **Veronika Erben** Detection of variation in xyloglucan structure of Arabidopsis thaliana via matrix assisted laser desorption time-of-flight mass spectrometry (MALDI-TOF MS), MPI-MP/University of Munich, Germany
- 2003 **Ellen Zobel** Analyse regenerierter Zellwände in *Arabidopsis thaliana* (Analysis of regenerated cell walls in *Arabidopsis thaliana*), MPI-MP/University of Potsdam, Germany
- 2003 **Ulrike Hänsel** Expression of an endo-1,4- β -glucanase from *Aspergillus aculeatus* in *Arabidopsis thaliana*, MPI-MP/College Lausitz, Germany
- 2002 **Anja Kuschinsky** Functional analysis of RHM2, a gene possibly involved in the synthesis of UDP-L-rhamnose in *Arabidopsis thaliana*, MPI-MP/Technical University Berlin, Germany

Bachelor's Advisees

Current students:

Previous students:

2012 **Moritz Koch**, Cloning and expression of licheninases, FH Juelich/ UC Berkeley

Student advisory committee member

Current students:

Brad Dotson, Somerville Lab, UC Berkeley, Molecular analysis of cellulose mutants

PhD Qualifying exam S2010

Bright Chaibang, Somerville Lab, UC Berkeley, Analysis of Arabidopsis laccase mutants

PhD Qualifying exam S2010

Natasha Worden, Drakakaki Lab, UC Davis, Syp61 proteome

Vincent Wu, Glass Lab, UC Berkeley, Role of glutamate cyclase in enzyme activation, PhD Qualifying exam S2014

Previous students:

- 2013 Jonathan Griffith, University of British Columbia, Vancouver – PhD thesis reviewer
2013 Patrick Browne, Komeli Lab, UC Berkeley – PhD Qual exam
2013 Emilie Adelle Rennie, Scheller Lab, UC Berkeley, Xylan Biosynthesis PhD Qualifying exam S2011, PhD thesis committee
2012 Aleksandar Vasilevski; University of Potsdam – PhD-thesis evaluation
Nicole Angelina Abreu; PMB, UC Berkeley – PhD Qual exam
Elizabeth Znameroski, Cate lab, UC Berkeley – Thesis exam
2011 Thomas Burke (MCB; UC Berkeley) – PhD Qual exam
2010 Jonathan Kent Davis, Keegstra lab, MSU; Membrane topology and protein interactions of hemicellulose biosynthetic enzymes (comprehensive exam; thesis defense)
2009 Juliana Lessa Sacoman, Hollingsworth lab, MSU; glucose metabolism in liver (comprehensive exam)
Caleb Knepper, Day lab, MSU; Analysis of ndr1 protein interactions (comprehensive exam)
Zheng Wang, Benning lab, MSU (comprehensive exam)
Shishir Chundawa, Dale lab, MSU; AFEX treatment of corn stover (Phd-defense)
Wan Song, Della Penna lab, MSU; vte2 mutants (PhD-defense)
Hui Yang, Hegg lab (Chair; comprehensive exam)
Adam Cornish, Hegg lab (Chair; comprehensive exam)
2008 Chin-Mei Lee, Thomashaw lab (Chair; comprehensive exam)
Shannon Bell, Ohlrogge lab, MSU; cutin biosynthesis
Francis Julio Fagundes Lopes, University of Vicosa, Brazil; MUR3 in Eucalyptus
2007 Harry van Erp, Walton lab, MSU; β -glucan synthesis (Phd-defense)
Eric Moellering, Benning lab (Chair; comprehensive exam)
2006 Claudia Rodriguez Studart, Fernie lab MPI ; Succinyl CoAligase in tomato metabolism
2004 Eveline Bergmueller, Doermann lab, MPI; tocopherol methyltransferase
2003 Amelie Kelly, Doermann lab, MPI; DGDG mutant analysis
2000 Michael Skjøt, KVL; Expression of arabinanase in potato tubers
1999 Susanne Sørensen, KVL; Expression of galactanase in potato tubers

Rotation students

- F 2012 Vincent Wu, Characterization of Cal-1 mutant
Benjamin Endelman, Brachypodium cell wall mutants
S 2012 Dan Naylor, mapping of axy6
F 2010 Sam Mullin, Natural variation of maize biomass digestability
Tom Haas, Expression of GT18, a putative glycosyltransferase
S 2010 Alex Schulting, deep sequencing of hemicellulose mutants
Jessica Rodruigez, expression of a xylosidase
S 2009 Jonathan Roussey, expression of Gal-transferases
F 2008 Nik McPherson, functional characterisation of Gal-transferases
S 2008 Amancio Souza, Cellular localisation of AXY8
F 2007 Adam J Cornish, characterisation of OREX mutants
S 2007 Rachel E Miller, analysis of pectin mutants

Undergraduate students

UC Berkeley, USA

SS2014

Sui Chang (MCB), Brett Michael Garabedian (GPB)

Sp2014

Sui Chang (MCB) – URAP student, Noah Jarrett Gardner (GPB)

F2013

Nathaneal Park (Microbiology)

SS2013

Nathaneal Park (Microbiology), Henry Altschuler (High school student, Missouri)

Jonathan Paulitz, University of Heidelberg

Julia Schubert, DAAD-RISE student fellow, University of Potsdam

Sp2013

Nathaneal Park (Microbiology), Emilie Maddison (Microbiology) SPUR-student, Poster presentation “Subcellular localisation of acetyl-esterases from Arabidopsis”

Philip Walch, University of Heidelberg

F2012

Andy Bondesson (Molecular and cell biology), Nathaneal Park (Microbiology), Snigdha Podaar (Genetics and Plant Biology)

SS2012

Andy Bondesson (Molecular and cell biology), Nathaneal Park (Microbiology), Snigdha Podaar (Genetics and Plant Biology)

Annika Grimmer, DAAD-RISE student fellow, University of Heidelberg

Sp2012

Eddie Lam (Microbial Biology), Yicheng Tang (molecular Toxicology, SPUR student, Poster presentation: Identification of genes responsible for lignocellulosic O-acetylation)

F2011

Yicheng Tang (molecular Toxicology), Leo Chick (Public Health; Reagent’s and Chancellor’s Scholar), Eddie Lam (Microbial Biology)

Doerte Kasten, DAAD-RISE student fellow, University of Jena

SS2011

Leo Chick (Public Health; Reagent’s and Chancellor’s Scholar), Eddie Lam (Microbial Biology),

Miranda Lyons-Cohen (University of Oregon)

Sp2011

Michelle Huynh (Molecular and cell biology), Eddie Lam (Microbial biology), Garry Gao (Environmental Sciences)

F2010

Eddie Lam (Microbial Biology), Garry Gao (Environmental Sciences), Michelle Huynh (Molecular and cell biology)

Johanna Klees, DAAD-RISE student fellow, TU Munich

George Liang, BSP-CNR student - Poster presentation: Mapping of the point mutation in the Arabidopsis xeg67 mutant using molecular DNA markers

Sp2010

Arja Ray, Exchange student: EBI, UC Berkeley - IIT Kharagpur, India - Poster presentation: Cloning of a putative extensin glycosyltransferase gene in Arabidopsis

Michelle Huynh (Molecular and cell biology), Eddie Lam (Microbial Biology; SPUR student)

Garry Gao, Environmental Sciences; SPUR student - Poster presentation: The genetics of tough plant cell walls: a forward genetic screen to identify plant factors important for biomass recalcitrance to degradation; **1st price poster award**)

Michigan State University, USA

Thomas Thomik DAAD-RISE student fellowship (mapping of xeg67)
 Lewis Messner (analysis of axy8 Arabidopsis mutant)
 Greg Fedewa (pectin mutant screen; **MSU 2008 BMB undergraduate award**)
 Kyle Korolowicz (pectin biosynthesis components; **MSU 2008 MMG DuVall award**)

Former lab members (subsequent position and affiliation)

Alex Schultink Postdoc, Stascawicz lab, UC Berkeley
 Kun Cheng Research leader, Georgia Pacific, Atlanta
 Sascha Gille Lab Manager, Bayer Cropscience, Frankfurt
 Thomas Thomik PhD-student, University of Frankfurt
 Ben Kuhn Postdoc, University of Zurich
 Florian Kraemer Specialist: UC Davis
 Markus Gunl Postdoc: Research Center Juelich
 Cliff Foster Lab manager, Great Lakes Bioenergy Research Center
 Tina Martin Technician, Great Lakes Bioenergy Research Center
 Barbara Reca Postdoc, Keegstra lab, MSU
 Jacob Jensen Postdoc, Wilkerson lab, MSU
 Nino Nikolovski Postdoc, Dupree lab, Cambridge, UK
 Lutz Neumetzler Postdoc, Persson Lab, MPI-MP
 Fabien Poree Scientist, Bayer Cropscience, Frankfurt
 Ulrike Hänsel Scientist, Bayer Cropscience, Frankfurt
 Ralf Moeller Desk researcher, UNIDO, Berlin
 Nicolai Obel EU Patent office, Munich
 Carsten Hansen Research Scientist, Novozymes, Denmark
 Kim Larsen Assistant Research Professor, Chemistry department, Agricultural University, Denmark
 Steffen Rädisch Analyst, Parexcel, Berlin
 Michael Bocker PhD-student, Cancer Research Institute, Heidelberg
 Stefan Kuehnel PhD-student, Wageningen University, The Netherlands
 Katrin Geisler PhD-student, Agricultural University, Denmark
 Shamim Rahman PhD-student, Charitee, Berlin
 Claudia Beyer Research Scientist, University of Victoria, Melbourne, Australia
 Veronika Erben PhD-student, LMU Munich
 Ellen Zobel Biology high school teacher, Potsdam
 Anja Kuschinsky Technical representative, Roche Diagnostics, Basel, Switzerland
 Hanna Witucka-Wall; Postdoc, University of Potsdam
 Jimmy Choo Postdoc, John Innes Center, United Kingdom
 Björn Usadel Professor, Botany department, Technical University of Aachen, Germany

Outreach and Engagement

S2013 Connected California, Modern scientific research methodology for high school students (<http://connectedcalifornia.org/video/?video+ecco>)
 S2012 Guide - Oakland highschool visit “Career exploration visit”
 Seminar at the MCB cDNA club, UC Berkeley “Biofuels”
 F2011 Seminar at the Anthropology undergraduate Association, UC Berkeley, “Plant Biomass for Biofuels”
 S2010 Adam Olzewski, Senior Las Lomas High School
 Student project: Analysis of local plant biomass for biofuel conversion.

2001 Representative of the MPI-MP at the “Tag der Wissenschaften” (Day of Sciences) at the “Arkaden” (shopping mall) at Potsdamer Platz, Berlin, to inform the public about advantages and risks of genetically modified plants

Awards and Honors

2014 Theodore von Karman Fellow, Technical University of Aachen
2012 Presidential Chair Fellow, UC Berkeley
2005 Underwood Fellowship, BBSRC, UK
1999 Borchert Plate of the RWTH Aachen
1993 Springorum Award of the RWTH Aachen

Languages

German, English, Danish, French

June 30th, 2017