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**Nancy Ryan Gray, Ph.D.**

Director

## 2003 GORDON RESEARCH CONFERENCE

on 2003 Plant Cell Walls Gordon Conference

### FINAL PROGRESS REPORT

DOE

DE-FG02-03ER15433

The Gordon Research Conference (GRC) on 2003 Plant Cell Walls Gordon Conference was held at Kimball Union, Meriden, NH from August 10-15, 2003. The Conference was well-attended with 137 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field. There was a conscious effort to stimulate lively discussion about the key issues in the field today. Time for formal presentations was limited in the interest of group discussions. In order that more scientists could communicate their most recent results, poster presentation time was scheduled. Attached is a copy of the formal schedule and speaker program and the poster program. In addition to these formal interactions, "free time" was scheduled to allow informal discussions. Such discussions are fostering new collaborations and joint efforts in the field.

I want to personally thank you for your support of this Conference. As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings. If you wish any further details, please feel free to contact me. Thank you.

Dr. Daniel J. Cosgrove  
2003 Conference Chair

# Plant Cell Walls

## Program

August 10-15, 2003  
Kimball Union Academy  
Meriden, NH

Chair: [Daniel J Cosgrove](#)  
Vice Chair: [Nicholas C Carpita](#)

This conference will address recent progress in many aspects of cell wall biology. Molecular, genetic, and genomic approaches are yielding major advances in our understanding of the composition, synthesis, and architecture of plant cell walls and their dynamics during growth, and are identifying the genes that encode the machinery needed to make their biogenesis possible. This meeting will bring together international scientists from academia, industry and government labs to share the latest breakthroughs and perspectives on polysaccharide biosynthesis, wood formation, wall modification, expansion and interaction with other organisms, and genomic & evolutionary analyses of wall-related genes, as well as to discuss recent 'nanotechnological' advances that take wall analysis to the level of a single cell.

### SUNDAY

2:00 pm - 9:00 pm	Arrival and Check-in
6:00 pm	Dinner
7:30 pm - 9:30 pm	<b>Cell Walls in Development</b>
	Discussion Leader: <b>Maura C. Cannon</b> , University of Massachusetts
7:30	<b>Mary Tierney</b> , University of Vermont "Proline-rich structural cell wall proteins are essential for root hair and guard cell function in Arabidopsis"
8:10	<b>Elizabeth Lord</b> , University of California, Riverside "Wall molecules involved in adhesion and guidance in lily pollination"
8:50	<b>Alan Showalter</b> , Miami University of Ohio "Structure, Expression and Function of the Tomato LeAGP-1 Arabinogalactan-Protein with its Distinctive Lys-rich Subdomain: GPI Anchoring and LeAGP-1 Overexpression Studies"
9:15	General Discussion followed by Reception

### MONDAY

7:30 am - 8:30 am	Breakfast
8:45 am	Photo
9:00 am - 12:30 pm	<b>Wall Loosening Mechanisms</b>
	Discussion Leader: <b>Taka Hayashi</b> , University of Kyoto
9:00	<b>Peter Schopfer</b> , University of Freiburg "Peroxidase-generated hydroxyl radicals effect cell wall loosening and extension growth"
9:40	<b>Jan Derksen</b> , Catholic University of Nijmegen "Plant lipid transfer proteins with wall extension activity"
10:20	Coffee Break
10:50	<b>Daniel J. Cosgrove</b> , Penn State University "Crystal structure and functional analysis of expansins"
11:30	<b>Akane Okamoto-Nakazato</b> , Showa Pharmaceutical University "Yieldin, a wall bound protein regulating the acid-induced change in the yield threshold"
12:10	General Discussion
12:30 pm	Lunch
1:30 pm - 6:00 pm	Free Time
6:00 pm	Dinner
7:30 pm - 9:30 pm	<b>Cell Biology of Cell Walls</b>

- Discussion Leader: **Keith Roberts**, John Innes Centre
- 7:30 **Maureen McCann**, Purdue University  
"Cell wall-related gene discovery in the Zinnia system"
- 8:10 **Peter Ulskov**, Danish Institute of Agricultural Sciences  
"Biophysical consequences of altering rhamnogalacturonan side-chain structure"
- 8:50 **Neil Taylor**, University of York  
"Regulation of Secondary Cell Wall Cellulose Synthesis"
- 9:15 General discussion

## TUESDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Cell Wall Genomics, Proteomics and Evolution**  
Discussion Leader: **Chris Somerville**, Carnegie Institution / Stanford Univ.
- 9:00 **Geoffrey B. Fincher**, University of Adelaide  
"Genomic approaches to wall biosynthesis in barley"
- 9:40 **Pedro M. Coutinho**, AFMB-CNRS, Marseille(s)  
"Carbohydrate-active enzymes: Arabidopsis vs. Rice"
- 10:20 Coffee Break
- 10:50 **Kenneth Keegstra**, MSU-DOE Plant Research, Laboratory  
"The genes and enzymes required for xyloglucan biosynthesis"
- 11:30 **Wolf-Dieter Reiter**, University of Connecticut  
"Genetic analysis of the GT47 glycosyltransferase gene family of Arabidopsis"
- 12:10 **Joss Rose**, Cornell University  
"Proteomic analysis of the tomato cell wall"
- 12:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session #1 (4-5pm for even # posters, 5-6pm for odd # posters)
- 6:00 pm Dinner
- 7:30 pm - 9:30 pm **Wood Formation and Lignification**  
Discussion Leader: **Simon Turner**, University of Manchester
- 7:30 **Claire Halpin**, University of Dundee  
"Multi-gene manipulation of lignin biosynthesis"
- 8:10 **Eric Beers**, Virginia Tech University  
"Gene expression profiles from xylem, phloem and non-vascular tissues of Arabidopsis"
- 8:50 **Ewa Mellerowitz**, SLU  
"Pectin methyl esterase regulates cell expansion and intrusive growth during wood development in poplar"
- 9:15 General Discussion

## WEDNESDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Technical Advances in Cell Wall Analysis and Use**  
Discussion Leader: **William York**, CCRC and University of Georgia
- 9:00 **Markus Pauly**, Max-Planck Institute for Molecular Plant Physiology  
"Microanalysis of cell walls using mass spectrometry"
- 9:40 **Herman Höfte**, Laboratoire de Biologie Cellulaire, INRA, Versailles  
"Pushing the limits of FT-IR microspectroscopy for the analysis of variation in Arabidopsis cell walls"
- 10:20 Coffee Break
- 11:00 **Michael Hahn**, CCRC and University of Georgia  
"Monoclonal antibodies as essential tools for the study of plant cell wall structure, biosynthesis and remodeling"
- 11:25 **John Ralph**, USDA/ARS  
"Solubilization of Finely-Divided Cell Walls - a Platform for Improved Characterization and Analysis"

- 11:50 **Lawrence Melton**, University of Auckland  
"New Plant Cell Wall Models: A different way of looking at xyloglucans and cellulose microfibrils"
- 12:15 General Discussion
- 12:30 pm Lunch
- 2:00 pm - 3:00 pm Business Meeting
- 3:00 pm - 6:00 pm Free Time
- 6:00 pm Dinner
- 7:30 pm - 9:30 pm **Pathogenesis, symbiosis, and other biotic interactions**  
Discussion Leader: **Joss Rose**, Cornell University
- 7:30 **Nick Brewin**, John Innes Centre  
"Cell wall remodeling during *Rhizobium* invasion of legume roots"
- 8:10 **Eric Davis**, North Carolina State University  
"Worms and Walls: A Dynamic Relationship"
- 8:40 **John Bishop**, Washington State University  
"Battle for the cell wall: Molecular evolution of glycanhydrolases and their inhibitors"
- 9:10 **Ling Qin**, University of Wageningen  
"A functional beta-expansin in a plant parasitic nematode"

## THURSDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Polysaccharide Biosynthesis I**  
Discussion Leader: **Debra Mohnen**, CCRC, University of Georgia
- 9:00 **Ariel Orellana**, University of Chile  
"Nucleotide sugar transporters: Analysis of their role in the biosynthesis of non-cellulosic polysaccharides"
- 9:40 **Nick Carpita**, Purdue University  
"The mixed-linkage  $\beta$ -glucan synthase"
- 10:20 Coffee Break
- 10:50 **Vincent Bulone**, CNRS-Grenoble  
"Unraveling the mechanisms of cellulose and callose synthesis in plants and in the Oomycete *Saprolegnia monoica*: recent developments"
- 11:30 **Shinobu Satoh**, University of Tsukuba  
"Molecular analysis of pectin biosynthesis and functions with T-DNA tagging in haploid tobacco"
- 12:10 General Discussion
- 12:30 pm Lunch
- 1:30 pm - 6:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session #2 (4-5pm for even # posters, 5-6pm for odd # posters)
- 6:00 pm Dinner
- 7:30 pm - 9:30 pm **Polysaccharide Biosynthesis II**  
Discussion Leader: **Bruce Stone**, Latrobe University
- 7:30 **Kanwarpal Dhugga**, Pioneer Hi-Bred  
" $\beta$ -mannan synthase from guar seed is a member of the cellulose synthase super gene family"
- 7:55 **Georg Seifert**, John Innes Centre  
"Developmental control of UDP-galactose flux into cell wall matrix polymers"
- 8:20 **Jason Sterling**, University of Georgia  
"A putative galacturonosyltransferase gene family in Arabidopsis"
- 8:45 **Naomi Geshi**, Danish Institute of Agricultural Sciences  
"Characterization of 1,4- $\beta$ -galactosyltransferases in Arabidopsis"
- 9:10 **Peter Albersheim**, CCRC/University of Georgia  
"Studies of pectin structure"
- 9:25 General Discussion

**FRIDAY**

7:30 am - 8:30 am Breakfast

9:00 am Depart

**PLANT CELL WALLS****Participant List****Kimball Union Academy  
Aug 10-15, 2003**

<b>Name</b>	<b>Organization</b>	<b>Participation</b>	<b>Status</b>
<b>PETER ALBERSHEIM</b>	COMPLEX CARBOHYDRATE RESEARCH CENTER	Poster Presenter	Registered
<b>TONY ARIOLI</b>	BAYER CROPS SCIENCE	Attendee	Registered
<b>INGA C BACH</b>	DANISH INSTITUTE OF AGRICULTURAL SCIENCES	Poster Presenter	Registered
<b>XIAOMING BAO</b>	PIONEER HIBRED INTERNATIONAL INC	Attendee	Registered
<b>TOBIAS BASKIN</b>	UNIVERSITY OF MASSACHUSETTS	Poster Presenter	Registered
<b>ERIC BEERS</b>	VIRGINIA POLYTECHNIC INSTITUTE	Speaker	Registered
<b>JOHN BISHOP</b>	WASHINGTON STATE UNIVERSITY	Speaker	Registered
<b>GORDON H. BOKELMAN</b>	PHILIP MORRIS U.S.A.	Attendee	Registered
<b>MAURICE BOSCH</b>	UNIVERSITY OF MASSACHUSETTS	Poster Presenter	Registered
<b>N J BREWIN</b>	JOHN INNES CENTRE	Speaker	Registered
<b>LYNETTE R BROWNFIELD</b>	PLANT CELL BIOLOGY RESEARCH CENTRE	Poster Presenter	Registered
<b>MARCOS S BUCKERIDGE</b>	INSTITUTO DE BOTANICA	Poster Presenter	Registered
<b>VINCENT BULONE</b>	UNIVERSITY CLAUDE BERNARD - LYON I	Speaker	Registered
<b>MAURA C CANNON</b>	UNIVERSITY OF MASSACHUSETTS	Discussion Leader	Registered
<b>NICHOLAS C CARPITA</b>	PURDUE UNIVERSITY	Vice Chair	Registered
<b>DONGSU CHOI</b>	MICHIGAN STATE UNIVERSITY	Poster Presenter	Registered
<b>CAROLINA C CIFUENTES</b>	WAGENINGEN UNIVERSITY	Poster Presenter	Registered
<b>AMY M CLORE</b>	NEW COLLEGE OF FLORIDA	Attendee	Registered
<b>JIM COOPER</b>	UNIVERSITY OF CALIFORNIA	Attendee	Registered
<b>DANIEL J COSGROVE</b>	PENNSYLVANIA STATE UNIVERSITY	Chair	Registered
<b>PEDRO M COUTINHO</b>	UNIVERSITE AIX-MARSEILLE, CNRS - AFMB	Speaker	Registered
<b>ERIC L DAVIS</b>	NORTH CAROLINA STATE UNIVERSITY	Speaker	Registered
<b>ELENA M DEL CAMPILLO</b>	UNIVERSITY OF MARYLAND AT COLLEGE PARK	Poster Presenter	Registered
<b>TAKU DEMURA</b>	RIKEN, PLANT SCIENCE CENTER	Poster Presenter	Registered
<b>MARTA M.D. DERBA</b>	INSTITUTE OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY	Poster Presenter	Registered
<b>J W DERKSEN</b>	CATHOLIC UNIVERSITY OF NIJMEGEN	Speaker	Registered
<b>KANWARPAL S DHUGGA</b>	PIONEER HI-BRED INTL., INC, A DUPONT COMPANY	Speaker	Registered
<b>SORAYA L DJERBI</b>	ROYAL INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
<b>PAUL DUPREE</b>	UNIVERSITY OF CAMBRIDGE	Poster Presenter	Registered
<b>ANNEMIE C EMONS</b>	WAGENINGEN UNIVERSITY	Attendee	Registered
<b>MICHELLE R FACETTE</b>	CARNEGIE INSTITUTION	Poster Presenter	Registered
<b>GEOFFREY B FINCHER</b>	UNIVERSITY OF ADELAIDE	Speaker	Registered
<b>JUDITH FLIEGMANN</b>	LUDWIG MAXIMILIANS UNIVERSITY	Poster Presenter	Registered
<b>IVANA GELINEO-ALBERSHEIM</b>	COMPLEX CARBOHYDRATE RESEARCH CENTER	Poster Presenter	Registered
<b>NAOMI GESHI</b>	DANISH INSTITUTE OF AGRICULTURAL SCIENCES	Speaker	Registered
<b>DEBORAH GOFFNER</b>	UMR CNRS/UPS N°5546	Poster Presenter	Registered
<b>FLORENCE GOUBET</b>	UNIVERSITY OF CAMBRIDGE	Poster Presenter	Registered

<b>ANDREA A GOUVEIA</b>	JOHN INNES CENTER	Poster Presenter	Registered
<b>JOHN H GRABBER</b>	US DAIRY FORAGE RESEARCH CENTER	Poster Presenter	Registered
<b>MICHAEL G HAHN</b>	UNIVERSITY OF GEORGIA	Speaker	Registered
<b>CANDACE H HAIGLER</b>	NORTH CAROLINA STATE UNIVERSITY	Poster Presenter	Registered
<b>CLAIRE HALPIN</b>	UNIVERSITY OF DUNDEE AT SCRI	Speaker	Registered
<b>THORSTEN K HAMANN</b>	DEPT. OF PLANT BIOLOGY, CARNEGIE INSTITUTION	Poster Presenter	Registered
<b>JESPER HARHOLT</b>	PLANT BIOCHEMISTRY LABORATORY	Poster Presenter	Registered
<b>GEORGE W HAUGHN</b>	UNIVERSITY OF BRITISH COLUMBIA	Poster Presenter	Registered
<b>TAKAHISA HAYASHI</b>	KYOTO UNIVERSITY	Speaker	Registered
<b>HERMAN R HOFTE</b>	INRA	Speaker	Registered
<b>KERRY L HOSMER</b>	UNIVERSITY OF GEORGIA	Poster Presenter	Registered
<b>TADASHI ISHII</b>	FORESTRY AND FOREST PRODUCTS RESEARCH INSTITUTE	Poster Presenter	Registered
<b>PHIL A JACKSON</b>	ITQB (II)	Poster Presenter	Registered
<b>KATJA S JOHANSEN</b>	NOVOZYMES A/S	Poster Presenter	Registered
<b>CHANDRA P JOSHI</b>	MICHIGAN TECHNOLOGICAL UNIVERSITY	Poster Presenter	Registered
<b>RUMI KAIDA</b>	JAPAN WOMEN'S UNIVERSITY	Poster Presenter	Registered
<b>TAKAKO S KANEKO</b>	JAPAN WOMEN'S UNIVERSITY	Poster Presenter	Registered
<b>KENNETH KEEGSTRA</b>	MICHIGAN STATE UNIVERSITY	Speaker	Registered
<b>MARCIA KIELISZEWSKI</b>	OHIO UNIVERSITY	Poster Presenter	Registered
<b>JOONYUP KIM</b>	UNIVERSITY OF WISCONSIN	Poster Presenter	Registered
<b>HEE JIN KIM</b>	UNIVERSITY OF NEW ORLEANS	Poster Presenter	Registered
<b>ANITA S KLEIN</b>	UNIVERSITY OF NEW HAMPSHIRE	Poster Presenter	Registered
<b>ROBERT J KODRZYCKI</b>	ARBORGEN	Poster Presenter	Registered
<b>ERIC TH KOH</b>	HORTRESEARCH	Poster Presenter	Registered
<b>BRUCE KOHORN</b>	BOWDOIN COLLEGE	Poster Presenter	Registered
<b>JOHN M LABAVITCH</b>	UNIVERSITY OF CALIFORNIA	Poster Presenter	Registered
<b>BENT LARSEN PETERSEN</b>	DANISH INSTITUTE OF AGRICULTURAL SCIENCES	Poster Presenter	Registered
<b>SANG JIK LEE</b>	CORNELL UNIVERSITY	Poster Presenter	Registered
<b>YI LEE</b>	MSU-DOE PLANT RESEARCH LABORATORY, MICHIGAN STATE	Poster Presenter	Registered
<b>LAIGENG LI</b>	NORTH CAROLINA STATE UNIVERSITY	Poster Presenter	Registered
<b>ANJA LISZKAY</b>	UNIVERSITY OF FREIBURG	Poster Presenter	Registered
<b>LU LIU</b>	VERDIA, INC	Attendee	Registered
<b>ELIZABETH LORD</b>	UNIVERSITY OF CALIFORNIA- RIVERSIDE	Speaker	Registered
<b>ROBERT MALINOWSKI</b>	DEPT. OF PLANT GENETICS WARSAW AGRICULTURAL UNIV.	Poster Presenter	Registered
<b>ANDREW MAZZ MARRY</b>	NORTH DAKOTA STATE UNIVERSITY	Poster Presenter	Registered
<b>EMMA R MASTER</b>	ROYAL INSTITUTE OF TECHNOLOGY	Speaker	Registered
<b>KEN MATSUOKA</b>	PLANT SCIENCE CENTER, RIKEN	Poster Presenter	Registered
<b>MAUREEN MCCANN</b>	PURDUE UNIVERSITY	Speaker	Registered
<b>EWA MELLEROWICZ</b>	SLU	Speaker	Registered
<b>LAURENCE D MELTON</b>	UNIVERSITY OF AUCKLAND	Speaker	Registered
<b>JENNIFER MILNE</b>	CARNEGIE INSTITUTION OF WASHINGTON	Poster Presenter	Registered
<b>RALF MOELLER</b>	FOREST RESEARCH	Poster Presenter	Registered
<b>BARBARA A MOFFATT</b>	UNIVERSITY OF WATERLOO	Poster Presenter	Registered
<b>DEBRA MOHNEN</b>	UNIVERSITY OF GEORGIA	Discussion Leader	Registered
<b>MICHAEL MOLHOJ</b>	UNIVERSITY OF CONNECTICUT	Poster Presenter	Registered
<b>RAMESH B NAIR</b>	PIONEER HI-BRED INTERNATIONAL, INC.	Poster Presenter	Registered
<b>CHRISTIANE NAWRATH</b>	UNIVERSITY OF FRIBOURG	Poster Presenter	Registered
<b>JOHN ME NICHOLS</b>	JOHN INNES CENTRE	Poster Presenter	Registered
<b>JEROEN H. NIEUWLAND</b>	UNIVERSITY OF NIJMEGEN	Poster Presenter	Registered
<b>LORENA NORAMBUENA</b>	UNIVERSITY OF CHILE	Poster Presenter	Registered
<b>ERIN M O'DONOGHUE</b>	CROP & FOOD RESEARCH	Poster Presenter	Registered
<b>AKANE OKAMOTO-NAKAZATO</b>	SHOWA PHARMACEUTICAL UNIVERSITY	Speaker	Registered
<b>ARIEL ORELLANA</b>	UNIVERSITY OF CHILE	Speaker	Registered

<b>ERIN A OSBORNE</b>	CARNEGIE INSTITUTE OF WASHINGTON	Attendee	Registered
<b>ALEX R PAREDEZ</b>	STANFORD UNIVERSITY	Poster Presenter	Registered
<b>MARKUS PAULY</b>	MAX-PLANCK INSTITUTE FOR MOLECULAR PLANT PHYSIOLOG	Speaker	Registered
<b>RAFAEL F PONT LEZICA</b>	UNIVERSITE PAUL SABATIER	Poster Presenter	Registered
<b>LING QIN</b>	LAB OF NEMATOLOGY	Speaker	Registered
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<b>JASON W REED</b>	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	Poster Presenter	Registered
<b>WOLF-DIETER REITER</b>	UNIVERSITY OF CONNECTICUT	Speaker	Registered
<b>ALISON W ROBERTS</b>	UNIVERSITY OF RHODE ISLAND	Poster Presenter	Registered
<b>ERIC M ROBERTS</b>	ROGER WILLIAM UNIVERSITY	Poster Presenter	Registered
<b>KEITH ROBERTS</b>	JOHN INNES CENTRE	Discussion Leader	Registered
<b>JOCELYN K ROSE</b>	CORNELL UNIVERSITY	Speaker	Registered
<b>JOHANNES RÖSTI</b>	JOHN INNES CENTRE	Poster Presenter	Registered
<b>SHINOBU SATOH</b>	UNIVERSITY OF TSUKUBA	Speaker	Registered
<b>HENRIK V SCHELLER</b>	ROYAL AGRICULTURAL UNIVERSITY	Poster Presenter	Registered
<b>PETER SCHOPFER</b>	SUNGENE GMBH & CO KGAA	Speaker	Registered
<b>JOSE M SEGUI-SIMARRO</b>	UNIVERSITY OF COLORADO	Poster Presenter	Registered
<b>GEORG SEIFERT</b>	JOHN INNES CENTRE	Speaker	Registered
<b>ALEX RAJANGAM SELVANAYAGAM</b>	ROYAL INSTITUTE OF TECHNOLOGY	Poster Presenter	Registered
<b>ALLAN SHOWALTER</b>	OHIO UNIVERSITY	Speaker	Registered
<b>MICHAEL SKJOT</b>	DANISH INST. OF AGRICULTURAL SCIENCES	Poster Presenter	Registered
<b>DAVID L SMITH</b>	USDA/ARS/PQSL	Poster Presenter	Registered
<b>DAVID A SOMERS</b>	UNIVERSITY OF MINNESOTA	Poster Presenter	Registered
<b>CHRIS SOMERVILLE</b>	CARNEGIE INSTITUTION	Discussion Leader	Registered
<b>SUSANNE O. SORENSEN</b>	ROYAL AGRICULTURAL UNIVERSITY	Poster Presenter	Registered
<b>HENRIK STALBRAND</b>	LUND UNIVERSITY	Poster Presenter	Registered
<b>JASON D STERLING</b>	THE UNIVERSITY OF GEORGIA	Poster Presenter	Registered
<b>BRUCE STONE</b>	LA TROBE UNIVERSITY	Discussion Leader	Registered
<b>B SUNDBERG</b>	UMEA PLANT SCIENCE CENTRE	Poster Presenter	Registered
<b>MARK J TALBOT</b>	UNIVERSITY OF NEWCASTLE	Poster Presenter	Registered
<b>NEIL G. TAYLOR</b>	UNIVERSITY OF YORK	Speaker	Registered
<b>MARY L TIERNEY</b>	UNIVERSITY OF VERMONT	Speaker	Registered
<b>BARBARA TRIPLET</b>	USDA-ARS	Poster Presenter	Registered
<b>RICKIE B TURLEY</b>	USDA-ARS	Poster Presenter	Registered
<b>SIMON R TURNER</b>	UNIVERSITY OF MANCHESTER	Discussion Leader	Registered
<b>PETER ULVSKOV</b>	DANISH INSTITUTE OF AGRICULTURAL SCIENCES	Speaker	Registered
<b>BREEANNA RAE URBANOWICZ</b>	CORNELL UNIVERSITY	Poster Presenter	Registered
<b>BJORN USADEL</b>	MAX-PLANCK INSTITUTE OF MOLECULAR PLANT PHYSIOLOGY	Poster Presenter	Registered
<b>HENRICUS E.G. VAN ERP</b>	MSU DOE PRL	Poster Presenter	Registered
<b>KEVIN C VAUGHN</b>	UASDA-ARS-SWSRU	Poster Presenter	Registered
<b>HONG LI WANG</b>	UNIVERSITY OF ARKANSAS-LR	Poster Presenter	Registered
<b>ALAN R WHITE</b>	NORTH DAKOTA STATE UNIVERSITY	Poster Presenter	Registered
<b>KRZYSZTOF KW WIECZOREK</b>	INSTITUT OF PLANT PROTECTION	Poster Presenter	Registered
<b>WILLIAM S YORK</b>	UNIVERSITY OF GEORGIA	Discussion Leader	Registered
<b>HEATHER L YOUNGS</b>	CARNEGIE INSTITUTION OF WASHINGTON - PLANT BIOLOGY	Poster Presenter	Registered
<b>OLGA A ZABOTINA</b>	UCR	Poster Presenter	Registered
<b>XU ZHANG</b>	UNIVERSITY OF VERMONT	Poster Presenter	Registered

