

**SOUTHERN SECTION OF THE
AMERICAN SOCIETY OF PLANT
BIOLOGISTS**

2003 Meeting Program



March 15-17th, 2003
The Radisson Hotel
Denton, Texas

ACKNOWLEDGEMENTS

The Southern Section would like to acknowledge the following organizations for their generous contributions to our meeting:

Pioneer Hi-Bred International Incorporated (A Dupont Company), Des Moines, Iowa

**The Samuel Roberts Noble Foundation, Ardmore, Oklahoma
The Department of Biological Sciences, The University of North Texas,
Denton, Texas**

**The Botanical Research Institute of Texas (BRIT), Fort Worth, Texas
The Department of Biology, The University of Louisiana, Lafayette, Louisiana
The American Society of Plant Biologists**

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Chair : Dr. Tim Sherman

Vice Chair: Dr. Ruth Grene

Secretary/Treasurer: Dr. Caryl Chlan

Executive Committee: Dr. Cindy Putnam-Evans, Dr. Mel Oliver, and Dr. Jay Mellon

Summary of Events

Saturday March 15, 2003

1:30 p.m.	Leave from the Radisson for the tour of BRIT.
3:00 – 5:00 p.m.	Registration
5:00 – 7:00 p.m.	Executive Committee Meeting
7:00 – 9:30 p.m.	Mixer (Registration materials will be available) Poster Set Up

Sunday March 16, 2003

8:00 a.m. – 9:45 a.m.	Oral Presentations: Student Competition
9:45 a.m. - 10:05 a.m.	Refreshment Break
10:05 a.m. – 11:50 a.m.	Oral Presentations: Student Competition
11:50 a.m. – 1:00 p.m.	Lunch Break (On your own)
1:00 p.m. – 2:30 p.m.	Oral Presentations: 3 student presentations, 3 additional oral presentations
2:30 p.m. – 2:50 p.m.	Refreshment Break
2:50 p.m. – 4:05 p.m.	Oral Presentations
4:15 p.m. – 6:00 p.m.	Poster Session and Undergraduate Poster Competition – All authors are requested to be present from 4:15 until 5:15.
6:30 p.m.	Cash bar opens
7:00 p.m. – 9:30 p.m.	Banquet and Awards

Monday March 17, 2003

8:00 a.m – 9:50 a.m.	Drs. Baxevanis' and Sensen's presentations
9:50 a.m. – 10:10 a.m.	Refreshment Break
10:10 a.m. – 11:00 a.m.	Dr. Osborn's presentation
11:00 a.m. – 12:00 p.m.	Annual Business Meeting, Dr. Tim Sherman presiding
12:00 p.m.	Adjourn

MEETING SCHEDULE

SATURDAY MARCH 15TH

1:30 PM	Tour to the BRIT, Meet at the Radisson
3:00 PM	Registration Opens
5:00 PM	Executive Committee Meeting
7:00 PM	Mixer

MEETING SCHEDULE

SUNDAY MARCH 16TH

SESSION I: DR. MEL OLIVER SESSION CHAIR: GRADUATE STUDENT COMPETITION

- 8:00 AM **Biochemical role of the *Medicago enod8* gene product.**
Laurent Coque and Rebecca Dickstein.
Department of Biological Sciences, The University of North Texas, Denton, Texas.
- 8:15 AM **Analysis of brassinosteroid responsive promoters in *Arabidopsis*.**
C. P. Reddy, P. Fokar Mohamed and Randy D. Allen.
Department of Biological Sciences, Texas Tech University, Lubbock, Texas.
- 8:30 AM **Structure-function analysis of abscisic acid insensitive 5-family members.**
Srinivas Gampala and Chris Rock.
Department of Biological Sciences, Texas Tech University, Lubbock, Texas.
- 8:45 AM **Isolation, chemical and biological characterization of mulberry phytoestrogens.**
Ivette Guzman and Camelia G.-A. Maier.
Department of Biology. Texas Woman's University, Denton, Texas.
- 9:00 AM **Variability between and within homogeneous and heterogeneous ecotypes of *Arabidopsis thaliana*.**
Geethanjali Illangasinghe and Thomas Sasek.
Department of Biological Sciences, University of Louisiana at Monroe, Monroe, Louisiana.
- 9:15 AM **Transcriptional profiling of drought responses in sorghum.**
Kayla McCartor¹, Henry Nguyen², Lee Pratt³, and Paxton Payton^{1,4}.
Dept. of Plant and Soil Science¹, Texas Tech University, Lubbock, Texas, Dept. of Agronomy², University of Missouri, Columbia, Missouri, Dept. of Botany³, University of Georgia, Athens, Georgia, USDA-ARS Plant Stress and Germplasm Development Unit⁴, Lubbock, Texas.
- 9:30 AM **Identification of novel genes involved in oxidative stress response in *Arabidopsis*.**
Yin Shen, Jing Wang and Randy D. Allen.
Dept. of Biological Sciences, Texas Tech University, Lubbock, Texas.
- 9:45 REFRESHMENT BREAK

SESSION II: DR. BARBARA TRIPLETT SESSION CHAIR: GRADUATE STUDENT COMPETITION

- 10:05 AM **Identification of a novel intracellular beta carbonic anhydrase in *Chlamydomonas reinhardtii* which is distinct from the mitochondrial forms of the enzyme.**
Mautusi Mitra, Ruby A. Ynalvez, Scott M. Lato and James V. Moroney.
Department of Biological Sciences, Louisiana State University, Baton Rouge, Louisiana.
- 10:20 AM **The function and sub-cellular localization of APX3 in *Arabidopsis thaliana*.**
Savitha Narendra, Jing Wang, Juqiang Yan, Quigtian Li and Hong Zhang.
Department of Biology, Texas Tech University, Lubbock, Texas.
- 10:35 AM **Nitrogen-fixing nodule differentiation mutants of *Medicago truncatula*.**
Harita Veereshlingam, and Rebecca Dickstein.
Dept. of Biological Sciences. University of North Texas, Denton, Texas.
- 10:50 AM **Polarity Development in *Ceratopteris richardii*.**
Stephen Stout, Greg Clark, Tom Bushart, Marshall Porterfield, and Stanley Roux.
Molecular Cell and Developmental Biology, The University of Texas, Austin, Texas.
- 11:05 AM **Analysis of a cotton gene cluster for the antifungal protein osmotin.**
Jeffery R. Wilkinson, Kimberly D. Spradling, David W. Yoder, Irma L. Pirtle and Robert M. Pirtle.
Department of Biological Sciences, The University of North Texas, Denton, Texas.
- 11:20 AM **EST and microarray analysis of genes expressed during drought stress in cotton bolls.**
Debjeni Tripathy^a, Paxton Payton^b, Jing Wang^a, Natalya Klueva^a and Randy D. Allen^a.
^aDept. of Biological Sciences, Texas Tech University, Lubbock, Texas, ^bUSDA-ARS Cropping System Laboratory, Lubbock, Texas.
- 11:35 AM **ATP and ADP function as extracellular signals in plants: induction of the secondary messenger calcium.**
Collene Jeter, Elizabeth Henaff and Stan Roux
Molecular Cell and Developmental Biology, The University of Texas, Austin, Texas.
- 11:50 AM LUNCH BREAK (on your own)

SESSION III: DR. ED ETXEBERRIA SESSION CHAIR: 3 GRADUATE STUDENT COMPETITION PAPERS, 3 ADDITIONAL CONTRIBUTED PAPERS

- 1:00 PM **Degradation of total petroleum hydrocarbons in the rhizosphere of *Cynodon dactylon* variety *aridus*.**
Billy Melton and Magaly Rincón –Zachary.
Department of Biology, Midwestern State University, Wichita Falls, Texas.

1:15 PM **Cotton brassinosteroid insensitive 1 homolog complements *Arabidopsis* bri 1-5 mutant.**
Yan Sun, Fokar Mohamed, and Randy D. Allen.
Dept. of Biological Sciences, Texas Tech University, Lubbock, Texas.

1:30 PM **Accumulation and Volatilization of Selenium in *Ludwigia peploides*.**
Linda S. Young, Rickey Williams and Magaly Rincón-Zachary.
Department of Biology, Midwestern State University, Wichita Falls, Texas.

END OF STUDENT COMPETITION

1:45 PM **Enhanced gravitropism in roots with a disrupted actin cytoskeleton.**
Guichuan Hou, Deepti R. Mohamalawari, and **Elison B. Blancaflor**.
The Samuel Roberts Noble Foundation, Ardmore, Oklahoma.

2:00 PM **What is the role of germin-like proteins in cotton fiber development?**
H. J. Kim, T. C. Pesacreta, D. M. Smith, and **B. A. Triplett**.
USDA/ARS, SRRC, New Orleans, Louisiana, Biology Department, The University of Louisiana at Lafayette, Biology Department, Nicholls State University, Thibodaux, Louisiana.

2:15 PM **Insect oral factors as suppressors of defense gene expression in *Medicago truncatula*.**
Kenneth L. Korth¹, Jacqueline C. Bede², Sarah Doege¹, and Paul A. Nakata³.
¹Dept. of Plant Pathology, Univ. of Arkansas, Fayetteville, Arkansas ²Dept. of Plant Science, McGill University, Ste-Anne-de-Bellevue, Quebec, Canada, ³USDA/ARS, Baylor College of Medicine Nutrition Research Center, Dept. of Pediatrics, Houston, Texas.

2:30 PM BREAK

SESSION IV: DR. KENT BURKEY SESSION CHAIR: CONTRIBUTED PAPERS

2:50 PM **Selection of salt-sensitive mutants from *Synechocystis* sp. PCC 6803.**
David J. Longstreth and Terry M. Bricker.
Department of Biological Sciences, Louisiana State University, Baton Rouge, Louisiana.

3:05 PM **Assessment of genetic diversity in diploid cotton using microsattelites.**
Hirut Kebede, Gloria Burow, Ravi G. Dani and Randy D. Allen.
Department of Biology, Texas Tech University, Lubbock, Texas.

3:20 PM **The nontranscriptional synthesis of RNA by glutamate dehydrogenase: a simple method for discovery of metabolic circuitry.**
Godson O. Osuji.
Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, Texas.

3:35 PM **Apyrase suppression blocks pollen germination and suppresses root and shoot growth.**
Iris Steinebrunner, Yu Sun, Jian Wu and **Stanley J. Roux**.
Molecular Cell and Developmental Biology, The University of Texas, Austin, Texas

3:50 PM **Characterization and expression of a UDP glucose pyrophosphorylase gene in cotton fiber.**
Earl Taliercio and Reiner Kloth.
USDA/ARS, Stoneville, Mississippi.

4:15 – 6:00 PM

POSTER VIEWING AND POSTER COMPETITION
Poster Authors are requested to be present until 5:15

POSTER PRESENTATIONS

UNDERGRADUATE POSTER COMPETITION PARTICIPANTS ARE INDICATED WITH AN ASTERISK

- P1.* **Dependence of red oak seedling development on stored reserves in the cotyledon.**
Taylor Burge, Joelle Laing, Jodi Tholen, Pamela Wheeler and Patricia Tomlinson.
Biology Department, Berry College, Mount Berry, Georgia.
- P2.* **A germin-like protein accumulates in tobacco BY2 cells.**
Jheri Dupart and Barbara A. Triplett.
USDA-ARS Southern Regional Research Center, New Orleans, Louisiana.
- P3.* **Isolation and characterization of an insertional mutant of *Chlamydomonas reinhardtii* that requires a high CO₂ environment for normal growth.**
Ashley C. Godfrey, S.V. Pollock, S.L. Colombo, and J.V. Moroney.
Department of Biological Sciences, Louisiana State University, Baton Rouge, Louisiana.
- P4.* **Spatial and temporal gene expression characterization in nodulation mutants of *Medicago truncatula*.**
Kimberly Wilson and Rebecca Dickstein.
Dept. of Biological Sciences, University of North Texas, Denton, Texas.
- P5.* **Sexual dimorphism and reproductive ecology of *Maclura* and *Morus* species.**
Dori Greenwald and Camelia G.-A. Maier.
Department of Biology, Texas Women's University, Denton, Texas.
- P6.* **Production of alpha-eleostearic acid in transgenic cotton callus.**
Amy Rommel¹, Edgar B. Cahoon², Shea Austin-Brown¹, and Kent D. Chapman¹.
Department of Biological Sciences, The University of North Texas, Denton, Texas¹, Plant Science Center, St. Louis, Missouri².

- P7. **Molecular identification of cotton (*Gossypium hirsutum* L.) seedling Phospholipase D isoforms and their expression in *E. coli*.**
John L. McHugh, Heath G. Wessler, Robert C. Benjamin, and Kent D. Chapman.
Department of Biological Sciences, The University of North Texas, Denton, Texas.
- P8. **Structural identification and quantification of N-acylethanolamines in *Arabidopsis thaliana* seeds and seedlings using isotope-dilution mass spectrometry.**
William Wiant, **Cheryl Waggoner**, Barney Venables and Kent D. Chapman.
Department of Biological Sciences, The University of North Texas, Denton, Texas.
- P9. **Effects of optically active gossypol on growth parameters of *Aspergillus flavus*.**
Jay E. Mellon, Peter J. Cotty, and Michael K. Dowd.
USDA, ARS, SRRC, New Orleans, Louisiana.
- P10. **OsLti6.0 and OsLti6.2: Two members of the early cold stress-responsive gene family in rice (*Oryza sativa* L. subsp. *japonica*).**
Mustafa Morsy and Benildo de los Reyes.
Dept. of Crop, Soil and Environmental Sciences, University of Arkansas, Fayetteville, Arkansas.
- P11. **Characterization of *Chlamydomonas reinhardtii* Insertional Mutants.**
Ruby A. Ynalvez, Steve V. Pollock, Ashley C. Godfrey, Sergio L. Colombo and James V. Moroney.
Department of Biological Sciences, Louisiana State University, Baton Rouge, Louisiana.
- P12. **Metabolism of N-acylethanolamines during cottonseed germination and seedling growth.**
Rhidaya Shrestha and Kent D. Chapman.
Department of Biological Sciences, The University of North Texas, Denton, Texas.
- P13. **Whole-genome microarray analysis of N-acylethanolamine regulated gene expression in leaves of *Arabidopsis thaliana*.**
Swati Tripathy and Kent D. Chapman.
Department of Biological Sciences, The University of North Texas, Denton, Texas.
- P14. **Lipid composition of developing cotton fibers and reconciliation with metabolic pathway predictions from DNA databases.**
Sylvia Wanjie and Kent D. Chapman.
Department of Biological Sciences, The University of North Texas, Denton, Texas.
- P15. **Identification and characterization of vicilins in *Vigna luteola*.**
Caryl Chlan, Michele Salter and Zhongyu Xie.
Biology Department, University of Louisiana at Lafayette, Lafayette, Louisiana.
- P16. **Snap bean as an ozone bioindicator species.**
Kent Burkey, Allen S. Heagle, Joseph E Miller and Edwin L. Fiscus
USDA SRS SAA, Raleigh, North Carolina.

- P17. **Sucrose uptake into the vacuole of storage cells: Evidence for the involvement of fluid-phase endocytosis.**
Ed Etxeberria, Edurne Baroja-Fernandez and Javier Pozueta-Romero.
The University of Florida, Lake Alfred, Florida.
- P18 **Non-Destructive Measurement of Carotenoids.**
Helen Belefant-Miller.
USDA ARS Stuttgart, Arkansas.
- P19. **The radicular appendage of dodder (*Cuscuta pentagona*) seedlings.**
Tim Sherman¹, T. Wayne Barger^{2,3}, John C. Hoffman² and Kevin C. Vaughn².
¹Department of Biology, The University of South Alabama, Mobile, Alabama, ²USDA-ARS Southern Weed Science Research Unit, Stoneville, Mississippi, ³ Present Address: Department of Biology, University of West Georgia, Carrollton, Georgia.

6:30 **CASH BAR OPENS**
 BANQUET
 AWARDS

MEETING SCHEDULE

MONDAY, MARCH 17TH

SYMPOSIUM: BIOINFORMATICS FOR COMPARATIVE GENOMICS

- 8:00 AM Dr. Ruth Grene, Opening Comments
- 8:10 AM **The Role of Bioinformatics in Biological Discovery**
Andreas (Andy) Baxevanis
Principal Investigator, National Human Genome Research Institute (NHGRI) at Bethesda, MD
- 9:00 AM **4D Bioinformatics**
Christoph Sensen
Professor, Department of Biochemistry and Molecular Biology and Associate in the Evolutionary Biology Department at the University of Calgary, Alberta and Adjunct Professor, Dalhousie University
- 9:50 AM REFRESHMENT BREAK
- 10:10 AM **Polyploidy and Duplicate Gene Function in *Brassica***
Tom Osborn
Professor, Department of Agronomy at the University of Wisconsin, Madison
- 11:00 AM **BUSINESS MEETING**
- 12:00 PM **MEETING ENDS – WE LOOK FORWARD TO SEEING YOU NEXT YEAR IN LAFAYETTE, LOUISIANA!**