

# **2008 Symposium on Remote Sensing for Precision Agriculture College Station, TX**

24-26 July 08

## **Conference Agenda**

### ***Thursday: 24 July 08***

Events: 1-2 p.m. Registration and Social

2-4 p.m. Tour the Research Labs in Building 2 and Annex in TAMU Riverside Campus

6-8 p.m. Group Dinners at a Local Restaurant

### ***Friday: 25 July 08***

8:00 – 8:30 a.m. Registration and Social

8:30 – 8:40 a.m. Welcome, Dr. John Westbrook, Research Leader, USDA-ARS-SPARC-APMRU

8:40 – 9:00 a.m. Symposium Overview  
Dr. Yubin Lan, Agricultural Engineer, USDA-ARS-SPARC-APMRU  
Dr. Ron Lacey, Professor, Texas A&M University

9:00 – 9:30 a.m. **Keynote Address**

Accessible Remote Sensing for Site-specific Agricultural Management. Dr. Steven J. Thomson, Research Agricultural Engineer, USDA-ARS, Stoneville, Mississippi.

9:30-9:40 a.m.: Q&A

9:40-10:00 a.m. Aerial Application Research for Efficient Crop Production: A Research Overview of the Aerial Application Group in College Station. Dr. W. Clint Hoffmann, Agricultural Engineer, USDA-ARS, College Station, TX

10:00-10:15 a.m.: Coffee Break

### ***AM Session: Remote Sensing-Airborne Based and Satellites Session Chair: Yubin Lan, USDA-ARS***

10:15-10:35 a.m.: Airborne and High Resolution Satellite Imagery for Crop Mapping and Pest Detection. Dr. Chenghai Yang, Agricultural Engineer, USDA-ARS, Weslaco, TX

10:35-10:55 a.m.: Lidar Remote Sensing of Forest Resources: Seeing the Trees and Characterizing the Three Dimensional Structure  
Sorin Popescu, Assistant Professor, Department of Ecosystem Science and Management, Texas A&M University, College Station, TX

10:55-11:15 a.m.: Autonomous UAV Based Agricultural Remote Sensing System.

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Dr. Haitao Xiang, Advanced Imaging Scientist, Monsanto Company,  
St. Louis, MO

11:15-11:35a.m.: Integration of a Real-Time Meteorological Monitoring System into Aerial Application. Dr. Bradley K Fritz, Agricultural Engineer, USDA-ARS, College Station, TX

11:35-11:55a.m.: Remote Sensing and Near Real-time Image Processing to Support Prescription Aerial Application. Dr. Yanbo Huang, Research Agricultural Engineer, USDA-ARS Stoneville, MS

12:00-1:00p.m.: Catered Lunch

### ***PM Session: Remote Sensing-Ground Based and Ground Truthing Session Chair: Ron Lacey, Texas A&M University***

1:00-1:20p.m.: Ground-based Remote Sensing System for Precision Agriculture. Dr. Ruixui Sui, Research Associate Professor, Texas A&M University, College Station, TX

1:20-1:40p.m.: Overview of Geospatial Activities at TAMU. Dr. David M. Cairns, Associate Professor, Department of Geography, Texas A & M University, College Station, TX

1:40-2:00p.m.: Crop Sensor-based Precision Nitrogen Management in North China. Dr. Yuxin Miao, Associate Professor, Precision Agriculture and Nutrient Management College of Resource and Environmental Sciences, China Agricultural University, Beijing, China

2:00-2:20p.m.: Biological Interpretation of Remotely Sensed Data: A Big Hurdle? Dr. Juan D. López, Research Entomologist, USDA-ARS, College Station, TX

2:20-2:40p.m.: Sensing Soil Variation Using EM38 and Relating It to Cotton Fiber Quality. Dr. Yufeng Ge, Post-Doctor, Texas A&M University, College Station, TX

2:40-3:15p.m.: Coffee Break

3:15-3:35p.m.: Sensing Technology for Quality and Safety of Agricultural Produce at Zhejiang University. Dr. Yibin Ying, Professor and Executive Dean College of Biosystems Engineering and Food Science, Zhejiang University, China

3:35-3:55p.m.: Integration Sensor and Instrumentation System. Huihui Zhang, Ph.D. student, Biological and Agricultural Engineering, Texas A&M University, College Station, TX

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- 3:55-4:15p.m.: Quantifying Land Cover in a Semi-Arid Region. Dr. Ron Lacey,  
Professor, Biological and Agricultural Engineering Assoc. Director  
CAAQES, Texas A&M University, College Station, TX
- 4:15-4:35p.m.: Overview of Remote Sensing Research Activities at USDA-ARS-SPARC-  
APMRU. Dr. Yubin Lan, Agricultural Engineer, USDA-ARS, College  
Station, TX
- 4:35-5:00p.m.: Discussion:  
Book proposal-Remote Sensing for Precision Agriculture  
International Consortium of Remote Sensing for Precision Agriculture.
- 5:00p.m. Adjourn.

### ***Saturday: 26 July 08***

Event: 8:00a.m.-12 p.m. Tour Texas A&M University Campus and George Bush Library.



Announcing an important symposium in Aggieland  
**Symposium on Remote Sensing for Precision Agriculture**



**When:** 1:30 pm on July 24 to noon on July 26, 2008

**Where:** USDA-ARS-SPARC Conference Room, 2881 F & B Road, Bldg. 1, College Station, TX

**What:** The symposium will be devoted to discussing recent developments in remote sensing technologies and their applications in precision agriculture by leading researchers. We will discuss plan for a book on remote sensing for precision agriculture which will likely be published by Taylor and Francis, Inc. Further, we will discuss the potential for establishing an International Consortium of Remote Sensing for Precision Agriculture.

**For more information, please contact:**

**Dr. Yubin Lan, Agricultural Engineer**

USDA-ARS-SPARC-APMRU  
2771 F&B Road  
College Station, TX 77845

Email: [yubin.lan@ars.usda.gov](mailto:yubin.lan@ars.usda.gov)  
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**Dr. Ronald E. Lacey, Professor**

Texas A&M University  
Biological and Agricultural Engineering Dept.  
College Station, Texas 77843-2117

Email: [ron-lacey@tamu.edu](mailto:ron-lacey@tamu.edu)  
Tel: (979) 845-3967

# Welcome to the 2008 Symposium on Remote Sensing for Precision Agriculture

Hosted by

**USDA-ARS**

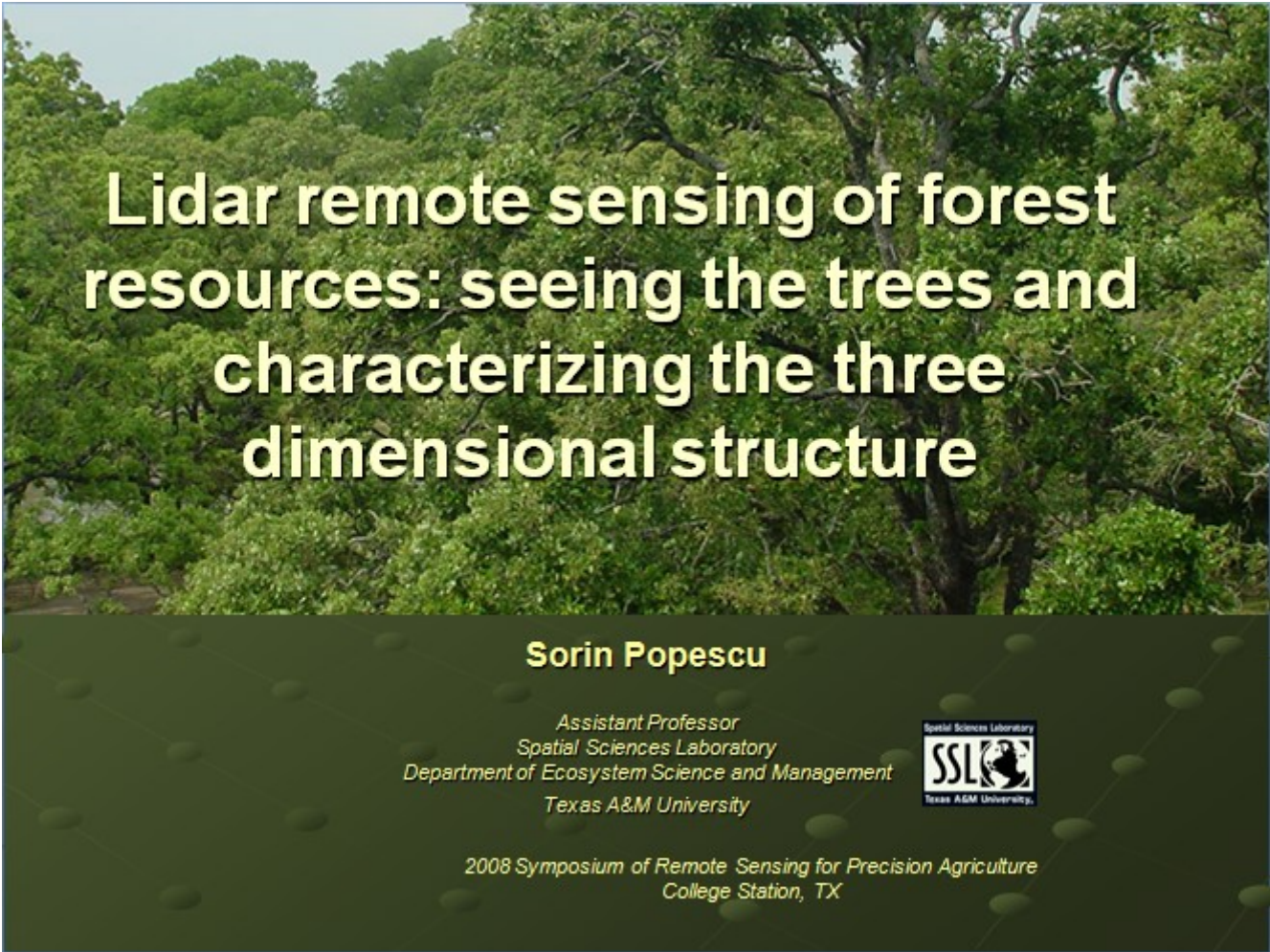
**Areawide Pest Management Research Unit  
College Station, TX**

and

**Texas A&M**

**Department of Biological and Agricultural Engineering  
College Station, TX**





# **Lidar remote sensing of forest resources: seeing the trees and characterizing the three dimensional structure**

**Sorin Popescu**

*Assistant Professor  
Spatial Sciences Laboratory  
Department of Ecosystem Science and Management  
Texas A&M University*



*2008 Symposium of Remote Sensing for Precision Agriculture  
College Station, TX*

## **Hyperion and CBERS satellite image classification intercomparison for Cerrado and agricultural mapping**

**Anthony M. Filippi, Christian Brannstrom,  
David M. Cairns, & Daehyun Kim**

**Department of Geography  
Texas A&M University  
College Station, TX USA**

# Integration of a Real-Time Meteorological Monitoring System into Aerial Application

Brad Fritz  
USDA-ARS  
Areawide Pest Management Research Unit  
College Station, TX



## Sensing Soil Variation Using EM38 and Relating It to Cotton Fiber Quality

Symposium on Remote Sensing for Precision Agriculture  
College Station, Texas  
July 24 – 26, 2008

# USDA-ARS Aerial Application Research in College Station, TX

**Clint Hoffmann, Brad Fritz, Yubin Lan, Dan  
Martin, Juan Lopez, and John Westbrook**

USDA-ARS-Aerial Application Technology  
College Station, TX

Presented at the NAAA Fall Board Meeting, Galveston, TX, 12 Oct 2007

## Remote Sensing and Near Real- Time Image Processing to Support Prescription Aerial Application

**Yanbo Huang, Steven J. Thomson**  
**USDA-ARS-APTRU**  
**Stoneville, MS**





# ***Quantifying Land Cover in a Semi-Arid Region***

Ronald E. Lacey, PhD, PE  
Professor  
Biological and Agricultural Engineering  
Texas A&M University

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## **OVERVIEW OF REMOTE SENSING RESEARCH ACTIVITIES**

**Yubin Lan, Dan Martin, W. Clint Hoffmann,  
Brad Fritz, Juan Lopez**

**USDA-ARS, College Station, Texas**



# Biological Interpretation of Remotely-Sensed Data: A Big Hurdle?

Juan D. López Jr.

USDA-ARS, Southern Plains Agricultural Research  
Center (SPARC), Areawide Pest Management  
Research Unit,

College Station, TX

For presentation at the

Use of Remote Sensing in Precision Agriculture  
Symposium

SPARC Conference Rm

July 24-26, 2008

College Station, TX



## Ground-Based Remote Sensing System for Precision Agriculture

**Ruixiu Sui**

**Research Associate Professor**

**Alex Thomasson**

**Professor**

*Biological & Agricultural Engineering*

*Texas A&M University*

**Symposium on Remote Sensing for Precision Agriculture**

**College Station, Texas**

**July 25, 2008**

# **Accessible remote sensing for site-specific agricultural management**

**Steven J. Thomson, United States Department  
of Agriculture, Agricultural Research Service,  
Application and Production Technology  
Research Unit (APTRU)  
Stoneville, MS, USA**



UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

## ***Autonomous UAV Based Agricultural Remote Sensing System***

**Haitao Xiang, PhD**

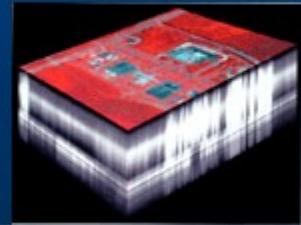
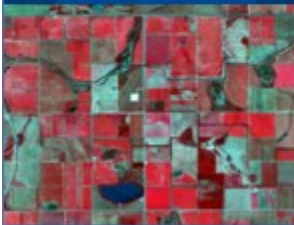


# Airborne and High Resolution Satellite Imagery for Crop Mapping and Pest Detection

Chenghai Yang  
Agricultural Engineer

USDA-ARS

Kika de la Garza Subtropical  
Agricultural Research Center  
Weslaco, Texas



浙江大学  
Zhejiang University

## Sensing Technology for Quality and Safety of Agricultural Produce at Zhejiang University



Yibin Ying

Symposium on Remote Sensing for Precision Agriculture, July 25th, 2008

*College of Biosystems Engineering and Food Science, Zhejiang University*



# **Development of an Integration Sensor and Instrumentation system**

## **Preliminary Studies**

**Huihui Zhang, PhD Student, TAMU**

**Yubin Lan, PhD, USDA-ARS**

**Ronald Lacey, PhD, TAMU**

**Clint Hoffmann, PhD, USDA-ARS**