

## K. Clint Slatton, Associate Professor

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### EDUCATION

University of Texas, Austin, TX, Ph.D. (Electrical Engr.)	2001
University of Texas, Austin, TX, MS (Electrical Engr.)	1999
University of Texas, Austin, TX, MS (Aerospace Engr.)	1997
University of Texas, Austin, TX, BS (Aerospace Engr.)	1993

### APPOINTMENTS

2009 – Present	Associate Professor, University of Florida (UF) Electrical & Computer Engineering Dept.
2003 – 2009	Assistant Professor, University of Florida (UF) Electrical & Computer Engineering Dept. and Civil & Coastal Engineering Dept.
2002 – 2002	Adjunct Professor, University of Texas (UT)
2002 – 2003	Postdoctoral Fellow, Center for Space Research, UT
1998 – 2001	NASA Graduate Student Research Program Fellow
1998 – 1998	Visiting Researcher, Radar Sciences Section, JPL
1994 – 1998	Graduate research assistant, University of Texas (UT)
1994 – 1994	Graduate Co-op, Systems Engineering Section, JPL
1993 – 1993	Caltech Summer Undergraduate Research Fellow, Systems Engineering Section, JPL

### HONORS AND AWARDS

- Awarded the Presidential Early Career Award for Scientists and Engineers (PECASE) by the Office of Science and Technology Policy (OSTP), Executive Office of the President
  - Nominated by the US Army Research Office (FY 2006, awarded in 2007).
- Named semifinalist in the International Science and Engineering Visualization Challenge (2007), sponsored by the National Science Foundation and the Journal *Science*, published by the American Association for the Advancement of Science (AAAS).
- Elevation to IEEE Senior Member grade (2007).
- Renewed NASA Graduate Student Research Program (GSRP) Fellowship (JPL/2001)
- Renewed NASA Graduate Student Research Program (GSRP) Fellowship (JPL/2000)
- Awarded Texas Space Grant Consortium Fellowship (2000)
- Awarded NASA Earth System Science (ESS) Fellowship (1999) (had to decline since just awarded NASA GSRP Fellowship)
- Named a finalist in the IGARSS'99 Student Paper Competition
- Awarded travel grant by IEEE Geoscience and Remote Sensing Society to attend IGARSS'99 Conference in Hamburg, Germany (1999)
- Awarded NASA Graduate Student Research Program (GSRP) Fellowship (JPL/1999)

11. Awarded travel grant by IEEE Geoscience and Remote Sensing Society to attend IGARSS'98 Conference in Seattle, Washington (1998)
12. Awarded University of Texas Continuing Education Fellowship (1998)
13. Awarded Texas Space Grant Consortium Fellowship (1998)
14. Awarded Summer Undergraduate Research Fellowship from the California Institute of Technology (1993)
15. Member of Tau Beta Pi, Sigma Gamma Tau, and Sigma Xi honor societies

## RESEARCH

### *Sponsored research:*

**Summary: \$13.03M (total), \$2.89M (as PI), \$10.14M (as Co-I)**

(PI), Office of Naval Research (ONR), 2011 – 2013, \$750k, pending

- *Surprise Metric for Sensor Contact Fusion in Sparse Data Environments*
- A follow-on project to the ONR data fusion project from 2007-2010 below.
- Extend our graphical model inference to include the information-theoretic “value” of new data samples for the purpose of improved mine detection.

(Co-PI), National Science Foundation (NSF), 2010 – 2011, \$360k, pending

- *Facility Support: A New Two-color Full-waveform Airborne LIDAR System for Advanced 3D Topography and Bathymetric Characterization*
- Extending the current NCALM lidar unit to full-waveform capability, along with integration of a new sensor head for frequency-doubled green laser light.

(Co-PI), National Science Foundation (NSF), 2009 – 2011, \$456k

- *Collaborative Research: High Resolution Sensor Networks for Quantifying and Predicting Surface-Groundwater Mixing and Nutrient Delivery in the Santa Fe River, Florida*
- A follow-on project to the NSF sensor array project from 2006-2008 below.
- Extending our spatiotemporal Bayesian network for estimating stream flow to include message passing to enforce spatial correlation of the water flow and to include additional hydrologic features.

(Co-PI), National Science Foundation (NSF), 2008 – 2013, \$3.15M

- *Five-year renewal for the National Center for Airborne Laser Mapping (NCALM)*
- Just before the decision to award, the University NAVSTAR Consortium (UNAVCO), which manages measurement campaigns for NSF's Earthscope program, selected NCALM to acquire and process lidar data for their remaining sites.

(Co-PI), Army Engineer Research and Development Center (ERDC), 2009-2012, \$202k

- *A new paradigm for calculating below-canopy line-of-sight in forests through estimation of under-sampling probabilities in lidar point clouds*
- Developed to complement my existing Army projects. The intent is for an Army scientist to be PI, thus facilitating technology transfer from an academic co-PI to the Army

(Co-I), National Aeronautics and Space Administration (NASA), 2009-2010, \$195,283

- *Remote Sensing of Ancient Maya Land Use Features at Caracol, Belize Related to Rainforest Canopy Structure*
- Awarded under NASA's Space Archaeology Program

(PI), US Army Research Office (ARO), 2008-2009, \$200k

- Submitted under the title: *An Information-Theoretic Sampling Theorem for Lidar Point Cloud Data in Forested Terrain*
- After decision to award, was submitted to ARO as an add-on to the existing grant: *Predictive Modeling of Diffractive and Non-Diffractive Propagation in Forested Terrain*

- Army special projects study, funded through US Army Topographic Engineering Center (TEC) and US Army Research Office (ARO). Collaborating with forestry expert at TEC.
- (Faculty PI), National Aeronautics and Space Administration (NASA), 2008 – 2009, \$30k
- Year 3 of fellowship for my student.
  - *Development and Validation of an Improved Performance Model for Airborne Photon-Counting LIDAR*
  - Graduate Student Research Program (GSRP) Fellowship -- PhD student Tristan Cossio
- (PI), US Army Research Office (ARO), 2008-2013, \$1M
- *PECASE: Predictive Modeling of Diffractive and Non-Diffractive Propagation in Forested Terrain*
  - An expansion on earlier work for ARO to generally characterize diffractive and non-diffractive signal propagation in complex 3D volumes using high-resolution geometry (via lidar measurements), pattern recognition, and simplified physical models.
- (PI), Office of Naval Research (ONR), 2007 – 2010, \$300k
- *Probabilistic Graphical Models for Data Co-Registration and Contact Fusion*
  - Use graphical model inference approaches to fuse sonar and other underwater sensor data for the purpose of improved mine detection via mitigation of redundant detects and false alarms.
- (Faculty PI), National Aeronautics and Space Administration (NASA), 2007 – 2008, \$30k
- Year 2 of fellowship for my student.
  - *Development and Validation of an Improved Performance Model for Airborne Photon-Counting LIDAR*
  - Graduate Student Research Program (GSRP) Fellowship -- PhD student Tristan Cossio
- (PI), Harris Corporation (Harris), 2006 – 2007, \$20k
- *Improved Segmentation of Building Infrastructure and Vegetation Using Airborne and Ground-Based Lidar Data*
- (Affiliate faculty), National Science Foundation (NSF), 2007 – 2012, \$7M
- *NSF Center for High-Performance Reconfigurable Computing (CHREC)*
  - Develop new strategies for mapping computationally intensive pattern recognition algorithms onto FPGA platforms.
- (PI), US Army Research Office (ARO), 2006-2009, \$232k
- *Predictive Modeling of Diffractive and Non-Diffractive Propagation in Forested Terrain*
  - A narrow-scope project to characterize signal propagation in complex 3D volumes using lidar data and simplified physical models.
- (PI), National Oceanic and Atmospheric Administration (NOAA), 2006 – 2007, \$103k
- *Improving Storm Surge Simulation and Prediction Using High resolution Airborne LIDAR Measurements – Round 3*
  - Optimal projection of local high-resolution geometric information from lidar to coarser scales where physical surge models can be run.
- (Faculty PI), National Aeronautics and Space Administration (NASA), 2006 – 2007, \$22k
- Year 1 of fellowship for my student.
  - *Development and Validation of an Improved Performance Model for Airborne Photon-Counting LIDAR*
  - Graduate Student Research Program (GSRP) Fellowship -- PhD student Tristan Cossio
- (Co-PI), National Science Foundation (NSF), 2006 – 2008, \$360k
- *Design and demonstration of a distributed sensor array for predicting water flow and nitrate flux in the Santa Fe Basin*
  - Developing probabilistic inference (Bayesian network) framework to estimate stream flow with measurable uncertainty throughout a watershed that can accommodate mixtures of spatial, temporal, and spatio-temporal input data.

- (Co-PI), US Army Corps of Engineers (USACE), 2006-2008, \$73k
- *Three Dimensional Bathymetric Effects on Storm Induced Shoreline Response*
- (PI), National Oceanic and Atmospheric Administration (NOAA), 2006 – 2007, \$137k
- *Improving Storm Surge Simulation and Prediction Using High resolution Airborne LIDAR Measurements – Round 2*
- (PI), Harris Corporation (Harris), 2005 – 2006, \$20k
- *Evaluation of Analysis and Modeling Methods for Topographic and Image Data*
- (Co-PI), National Science Foundation (NSF), 2005 – 2008, \$2.99M
- *Three-year renewal for the National Center for Airborne Laser Mapping (NCALM)*
- (Co-PI), National Oceanic and Atmospheric Administration (NOAA), 2004 – 2005, \$195k
- *Improving Storm Surge Simulation and Prediction Using High resolution Airborne LIDAR Measurements – Round 1*
- (Co-PI), Office of Naval Research (ONR), 2004 – 2005, \$1.6M
- *Coastal Area Tactical-mapping System (CATS)*
- (Co-PI), United States Department of Defense (DOD), 2003 – 2004, \$70k (UF portion \$20k)
- *A Generalized Data Driven Prognostic Algorithm Based On a Kalman Filter Mixture-of-Experts Framework – Phase 1 (STTR)*
- (Co-PI), United States Department of Energy (DOE), 2002 – 2003, \$600k (UT portion \$100k)
- *EM Telemetry Tool for Deep Well Drilling Applications – Phase 1 (SBIR)*
- (Co-author), National Geospatial Intelligence Agency (NGA), 2001 – 2004, \$450k
- *Robust Modeling and Fusion of INSAR and LIDAR Data for Bare-Earth Topography, Error Correction, and Sensor-Independent Updating of DEMs*
  - NGA formally the National Imaging and Mapping Agency (NIMA)
- (Student PI), National Aeronautics and Space Administration (NASA), fellowship, 1999 – 2001, \$66k
- *Improved Estimation of Surface Topography and Vegetation Structure by Combining Interferometric SAR with Laser Altimetry*
  - Graduate Student Research Program (GSRP) Fellowship

***Student advising (serving as chair or co-chair)***

Ph.D. graduates

- Electrical & Computer Engineering (ECE) Dept.: Tristan Cossio (08/2009), Karthik Nagarajan (08/2009), Sweung Cheung (05/2009), Hyun-chong Cho (05/2009), Heezin Lee (05/2008)
- Civil & Coastal Engineering (CCE) Dept.: Jhon Caceres (12/2008), Michael Starek (12/2008), Brian Luzum (08/2004)

M.S. graduates

- ECE Dept.: Carolyn Krekeler (12/2005), Tristan Cossio (12/2005), Vikas Aggarwal (08/2005), Karthik Nagarajan (05/2005), Kittipat Kampa (05/2005)
- CCE Dept.: William Wright (05/2008), Raghavendraku Vemula (12/2007), Juan Fernandez (08/2007)

Current Ph.D. candidates (w/ expected graduation dates)

- ECE Dept.: n/a

Currently supervised Ph.D. students that are not yet candidates (as of fall 2008)

- ECE Dept.: Kittipat Kampa, James Cobb, Carolyn Krekeler, Li-Der Chang
- CCE Dept.: Kris Shrestha, Pang-Wei Liu

Funded UT graduate students (spring and summer 2003).

- M.S.: Suju Rajan, Kyungtae Han

Student committees: I serve, or have served, on Ph.D. and M.S. degree committees for students in the following departments. I can supervise students in the two departments in which I have Graduate Faculty (GF) status.

- Electrical and Computer Engineering (GF status)
- Civil and Coastal Engineering (GF status)
- Computer and Information Science and Engineering
- Agricultural and Biological Engineering
- Mechanical and Aerospace Engineering
- Forestry

### ***Research interests***

Multiscale stochastic estimation, data fusion, information-theoretic segmentation of complex 3D data, sensor modeling, and remote sensing applications (especially for laser ranging and radar)

### ***Laboratory and center affiliations***

Director, Adaptive Signal Processing Laboratory (ASPL) [<http://www.aspl.ece.ufl.edu/>]

Co-Investigator, NSF National Center for Airborne Laser Mapping (NCALM)

[<http://www.ncalm.org/>]

Member, UF Water Institute [<http://waterinstitute.ufl.edu/>]

NSF: Center for High-Performance Reconfigurable Computing (CHREC)

[<http://www.chrec.ufl.edu/>]

Suwannee River Hydrologic Observatory [<http://suwanneeho.ifas.ufl.edu/>]

Member, Geosensing Engineering and Mapping (GEM) Center [<http://www.alsm.ufl.edu/>]

### ***Collaborators***

Dr. José Principe, Professor, UF, Dept. of Electrical and Computer Engineering

Dr. José Moura, Professor, Carnegie Mellon University, Dept. of Electrical and Computer Engineering

Dr. Alan George, Professor, UF, Dept. of Electrical and Computer Engineering

Dr. Jian Li, Professor, UF, Dept. of Electrical and Computer Engineering

Dr. Ramesh Shrestha, Professor, UF, Dept. of Civil and Coastal Engineering

Dr. Bill Carter, Adjunct Professor, UF, Dept. of Civil and Coastal Engineering

Dr. Melba Crawford, Professor, Purdue University, Dept. of Agronomy

Dr. Jennifer Jacobs, Associate Professor, University of New Hampshire, Dept. of Civil Engineering

Dr. Wendy Graham, Director, UF Water Institute

Dr. Bill Dietrich, Professor, UC Berkeley, Dept. of Earth & Planetary Science

Dr. David Harding, Geophysicist, NASA, Goddard Space Flight Center

Dr. Wendell Cropper, Associate Professor, UF, School of Forestry

Dr. Matt Cohen, Assistant Professor, UF, School of Forestry

Dr. Jasmeet Judge, Associate Professor, UF, Dept. of Agricultural and Biological Engineering

Dr. Rick Lind, Associate Professor, UF, Dept. of Mechanical and Aerospace Engineering

Dr. John Kerekes, Associate Professor, Rochester Institute of Technology, Center for Imaging Science

Dr. Andrew Kennedy, Assistant Professor, Notre Dame University, Dept. of Civil Engineering and Geological Sciences

**TEACHING*****Courses (\* = developed)***

at the University of Florida

- EEL 6562, *Image Processing and Computer Vision* (graduate).
  - Fall 2010
- EEL 3135, *Introduction to Signals & Systems* (undergraduate).
  - Fall 2009.
- EEL 5701, *Foundations in Digital Signal Processing* (graduate).
  - Fall 2004, Fall 2003.
- EEL 6825 *Pattern Recognition* (graduate).
  - Spring 2010, Spring 2009, Spring 2008, Spring 2007, Spring 2006.
- \*CGN 6905 / EEL 5934, *Airborne Sensors and Instrumentation –Remote Sensing* (graduate).
  - Fall 2007, Fall 2005, Spring 2005, Spring 2004.
  - Course numbers scheduled to change to CGN 6381 / EEL 5400 after 2008.
- \*CGN 6905 / EEL 5934 *Airborne Laser Scanning: Data Processing and Analysis* (graduate).
  - Fall 2008, Fall 2006.
  - Course numbers scheduled to change to CCE 6516 / EEL 5401 after 2008.

at the University of Texas at Austin

- EE 345S, *Real-Time Digital Signal Processing Laboratory* (undergraduate).
  - Fall 2002. Adjunct faculty member. Taught lecture portion.
- EE 313, *Linear Systems and Signals* (undergraduate).
  - Spring 2002. Adjunct faculty member.
- EE 313, *Linear Systems and Signals* (undergraduate).
  - Fall 2001. Co-instructed the class. Taught approximately 60% of the lectures. Prepared homework assignments, solutions, and exams.
- EE 381K, *Multidimensional Digital Signal Processing* (graduate).
  - Fall 2000. Taught two lectures covering 2D frequency domain concepts and multidimensional sampling methods.
- ASE 389P, *Remote Sensing From Space* (graduate).
  - Fall 1996. Taught an introductory lecture on synthetic aperture radar imaging.

***Pedagogical development***

1. Co-authored abstract on inter-disciplinary curricula. If accepted, full paper will be submitted in late 2008.
  - a. Ramesh L. Shrestha, K. Clint Slatton, and William E. Carter, “Dual Degree Graduate Programs: The Next Frontier in Remote Sensing Education,” *Intrnl. Confr. and Exhibitn. on Geographical Info. Tech. and Apps.* (Map Asia), 2008, submitted.
2. Co-authored “A Hydrodynamic Wheatstone Bridge for use as a Teaching Tool in Instrumentation Laboratory Courses,” by D. Bloomquist, M. McVay, S. Wasman, and K. Clint Slatton, *2006 ASEE Annual Conference*, no. 2363, Chicago, IL; USA; 18-21 June 2006.
3. Attended the UF University Center for Excellence in Teaching (UCET) workshop: *Peer Review of Teaching Workshop*, 16 Sep 2005.
4. Published “On the Design of a Multidisciplinary Remote Sensing Graduate Course,” ASEE Southeast Section Annual Conference, *Engineering 2020 VISION of the Future*, (in press), April 3-5, 2005.
5. Attended the UF University Center for Excellence in Teaching (UCET) workshop: *How to 'Wake Up' Millennial Brain Cells*, 31 Jan 2005.

***Mentoring and outreach***

1. Gave invited guest lecture to two sections of a Remote Sensing class at the US Military Academy (West Point). The class is offered through their Division of Geography and Environmental Engineering.
2. Gave an invited tutorial at the US Army Topographic Engineering Center in Alexandria, VA. The tutorial was 2 ½ hours long and covered detailed “how to” steps for the detection of small stream channels underneath forest canopy using airborne lidar. This was work that I and a student of mine developed.
3. Mentor for UF *Student Science Training Program (SSTP)* students
  - a. Served as a mentor for the UF SSTP Program during the Summer of 2008. Hosted Mr. William Haber in my lab. Experience was excellent. Will had only completed his sophomore year in high school, yet he was still able to earn a best research poster award at the conclusion of the SSTP course.
  - b. Served as a mentor for the UF SSTP Program during the Summer of 2007. Hosted Mr. Daniel Sirotkin in my lab. Dan had completed his junior year in high school. Experience was excellent, and resulted in Dan earning accolades for his SSTP report.
  - c. Served as a mentor for the UF SSTP Program during the Summer of 2006. Hosted Mr. Scott Basford in my lab. Scott had completed his junior year in high school. Experience was excellent, and resulted in an online Web tutorial based on Scott’s research.
4. Created the *Lidar Remote-sensing Education Network (LREN)* to serve as a vehicle for education and outreach (<http://www.aspl.ece.ufl.edu/lidar.htm>). Through it, the lidar user community can access tutorials and source code relevant to lidar remote sensing.
5. Participated in the UF *Outstanding High School Scholars Program (OHSSP)* banquet, summer 2004. Visited with several students about science and engineering education at UF.

**PROFESSIONAL ACTIVITIES/SERVICE**

***Professional societies***

- Institute of Electrical and Electronics Engineers (IEEE)
  - Geoscience and Remote Sensing Society (GRSS)
    - Data Fusion Committee
    - Grade: Senior Member
  - Systems, Man, and Cybernetics Society (SMC)
- American Geophysical Union (AGU)
  - Hydrology Section
- International Society of Information Fusion (ISIF)
- International Society for Optical Engineering (SPIE)
- American Society for Engineering Education (ASEE)
- American Society for Photogrammetry & Remote Sensing (ASPRS)

***Reviewer for***

Funding agencies

- National Aeronautics and Space Administration (NASA)
  - Including panel review in 2008
- National Science Foundation (NSF)
- US Army Research Office (ARO)

Publications

- IJRS International Journal of Remote Sensing
- IEEE Transactions on Geoscience and Remote Sensing
- IEEE Transactions on Image Processing
- IEEE Geoscience and Remote Sensing Letters
- IEEE Signal Processing Letters
- SPIE Journal of Electronic Imaging
- IOP Journal of Optics A: Pure and Applied Optics
- IOP Waves in Random Media
- AGU Geophysical Research Letters
- AGU Water Resources Research
- ASPRS Photogrammetric Engineering and Remote Sensing
- ISPRS Journal of Photogrammetry & Remote Sensing

### ***Conference appointments***

- Technical session convener (Geodesy Section: *Geodetic Imaging: Advances in Instrumentation and Methods*), American Geophysical Union (AGU), Fall Meeting, 2008.
- Technical Program Committee Member and session organizer (invited session: *Advanced Lidar Technologies and Applications to 3D Landcover Structure*): IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2008). Attended Technical Program Committee meeting in Atlanta, GA in Feb., 2008 to organize sessions. Also reviewed submissions.
  - Session Chair (oral): *Advanced Lidar Technologies and Applications to 3D Landcover Structure I and II*
  - Session Chair (poster): *Lidar Sensors and Applications II and III*
- Technical Program Committee Member (reviewer): IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2008)
- Technical Program Committee Member (reviewer): IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2008)
- Technical session convener (Geodesy Section: *Geodetic Laser Scanning: Technologies and Methods for Data Acquisition and Processing*), American Geophysical Union (AGU), Fall Meeting, 2007.
- Conference session co-chair: *Surface Lidar Data Analysis*, IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2007).
- Conference session chair: *Algorithms and Techniques for Remotely Sensed Data Interpretation in Urban Areas*, IEEE/ISPRS Urban Remote Sensing Joint Event, Paris France (URBAN/URS 2007)
- Technical Program Committee Member (reviewer): IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2007)
- Technical Program Committee Member (reviewer): IEEE International Conference on Image Processing (ICIP 2007)
- Reviewer: EURASIP European Signal Processing Conference (EUSIPCO 2007)
- Technical session convener (Geodesy Section: *Geodetic Laser Scanning Methods and Applications*), American Geophysical Union (AGU), Fall Meeting, 2006.
- Program Committee Member: conference session #6242 - *Multisensor, Multisource Information Fusion: Architectures, Algorithms, and Applications* for the 2007 SPIE Defense & Security Symposium.
- Conference session co-chair: (invited session) *Information Extraction from Airborne Lidar Data*, IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2006)
- Technical Program Committee Member and session organizer (invited session: *Information Extraction from Airborne Lidar Data*; regular session: *Data Processing Techniques – 2*): IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2006). Attended

- Technical Program Committee meeting in San Juan, Puerto Rico, Feb., 2006 to organize sessions. Also reviewed submissions.
- Technical Program Committee Member (reviewer): IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2006)
- Technical Program Committee Member: IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2006)
- Organizing Committee Member: IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2006): Publicity Chair
- Technical session convener (Hydrology Section: *Advances in Airborne Laser Swath Mapping: Data Analysis and Discoveries in the Earth Sciences*), American Geophysical Union (AGU), Fall Meeting, 2005.
- Technical Program Committee Member and session organizer (*Data Processing Techniques – I* session): IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2005). Attended Technical Program Committee meeting in Vancouver, British Columbia, Feb., 2005.
- Technical Program Committee Member (reviewer): IEEE International Conference on Image Processing (ICIP 2005)
- Technical Program Committee Member (reviewer): IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2005)
- Conference session co-chair: *Data Fusion and Data Mining*, IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2004)
- Technical Program Committee Member (reviewer): IEEE International Conference on Image Processing (ICIP 2004)
- Technical Program Committee Member (reviewer): IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2004)
- Technical Program Committee Member (reviewer): IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2002)
- Conference session chair: *SAR Applications and Signal Processing*, IEEE International Geoscience and Remote Sensing Symposium (IGARSS 1996)

#### ***International conferences attended***

- 2008, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Boston, MA
- 2007, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Barcelona, Spain
- 2007, IEEE/ISPRS Urban Remote Sensing Joint Event, Paris France
- 2006, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Denver, Colorado
- 2006, SPIE Defense and Security Symposium (DSS), Orlando, Florida
- 2005, AGU Fall Meeting, San Francisco, California
- 2005, SPIE Defense and Security Symposium (DSS), Orlando, Florida
- 2004, AGU Fall Meeting, San Francisco, California
- 2004, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Anchorage, Alaska
- 2004, SPIE Defense and Security Symposium (DSS), Orlando, Florida
- 2003, AGU Fall Meeting, San Francisco, California
- 2002, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Toronto, Canada
- 2000, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Honolulu, Hawaii
- 1999, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Hamburg, Germany

- 1998, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Seattle, Washington
- 1996, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Lincoln, Nebraska

#### ***UF Committees***

- Technician Support Allocation Committee (CCE), 2007
- Seminar Committee (ECE), 2007-2008 academic year
- Curriculum Committee (ECE), 2004 – present
- Course Committee: EEL 4750 *Introduction to Digital Signal Processing* (ECE), 2006 – present
- Course Committee: 3105 *Analytical Methods in Electrical Engineering* (ECE), 2006 – present
- Graduate Admissions and Aid Committee (ECE), 2003 – 2004
- Suwannee River Hydrologic Observatory (2005 – present)
  - Subcommittee no. 5 *Modeling and data synthesis*
  - Subcommittee no. 6 *Data integration, management and sharing; Instrumentation.*
- Hydrologic Sciences Academic Cluster (HSAC), (2007 – present)

#### **COURSE WORK AND COMPUTER SKILLS**

1. Experience in scientific programming for photonics, microwave scattering, image processing, processing of raw radar data, orbital mechanics, satellite geodesy, and statistical estimation.
2. Completed graduate courses in digital signal processing, digital and analog communications, wavelets, image processing, and electromagnetics.
3. Computer Languages: extensive programming in FORTRAN77, with experience in C, C++, HTML, and L<sup>A</sup>T<sub>E</sub>X.
4. Algorithm Development Environments: worked extensively with MATLAB and have experience with IDL and Khoros.
5. Imaging Software: Extensive experience with PCI and Envi packages.
6. Other Software:
  - WaveLab.700 [Stanford University] wavelet algorithms (MATLAB),
  - Sarsim [MIT Lincoln Laboratory] SAR Processing Simulator (C),
  - JPLAIP [Jet Propulsion Laboratory] polarimetric/interferometric SAR processor (FORTRAN)
7. Operating Systems: familiar with Windows, Macintosh, UNIX (Sun, HP, Silicon Graphics) and VAX/VMS operating systems. Limited experience with Cray J90 supercomputer.
8. Experience with assembling and managing large multisensor imagery databases on a UNIX cluster. Includes many preprocessing activities such as accessing data from tape archives, synthesizing SAR imagery, header-based corrections, mosaicking, 2D and 3D registration, filtering, re-projection, bitmap sampling and statistics gathering for regions of interest. Writing FORTRAN code and UNIX scripts to output various intermediate data sets.

#### **PUBLICATIONS ( *underlined names = past and present students of mine* )**

##### ***Book Chapters***

1. Michael J. Starek, K. Clint Slatton, Ramesh L. Shrestha, and William E. Carter, “Airborne Lidar Measurements to Quantify Change in Sandy Beaches,” *Laser Scanning for the Environmental Sciences*, Blackwells Publishing, 2008, (in press, expected publication date of June 2009).
2. K. Clint Slatton and Brian L. Evans, “Software for Image and Video Processing,” in *Handbook of Image and Video Processing*, 2<sup>nd</sup> ed., (ed. A. C. Bovik), Elsevier, 2005, pp. 629 – 640.
3. K. Clint Slatton and Brian L. Evans, “Software for Image and Video Processing,” in *Handbook of Image and Video Processing*, 1<sup>st</sup> ed., (ed. A. C. Bovik), Academic Press, 2000, pp. 449 – 460.

**Refereed Journal Articles (\* = invited)**

1. Heezin Lee and K. Clint Slatton, “Segmentation of Diffuse Objects in 3D Range Data Using Spin Images,” *IEE Electronics Letters*, Nov. 2009, (submitted).
2. H. Cho, K. C. Slatton, C. Krekeler, S. Cheung, “Morphology-Based Approaches for Detecting Stream Channels from ALSM Data,” *International Journal of Remote Sensing*, Oct., 2009 (submitted)
3. J. Tory Cobb and K. Clint Slatton, “A Parametric Model for Characterizing Seabed Textures in Synthetic Aperture Sonar Images,” *IEEE Journal of Oceanic Engineering*, 2009, (in revision).
4. Tristan Cossio, K. Clint Slatton, William Carter, Kris Shrestha, and David Harding, “Predicting small target detection performance of low-SNR airborne lidar,” *IEEE Trans. on Geoscience and Remote Sensing*, 2009, (in revision).
5. Hyun-chong Cho, K. Clint Slatton, S. Cheung, S. Hwang, , “Stream Detection for LiDAR Digital Elevation Models from Forested Areas,” *International Journal of Remote Sensing*, Aug., 2009 (accepted).
6. \* Karthik Nagarajan, Carolyn Krekeler, K. Clint Slatton, “A Scalable Approach to Fusing Spatio-Temporal Data to Estimate Stream Flow via a Bayesian Network,” *IEEE Transactions on Geoscience and Remote Sensing*, 2007, (in revision).
7. S. Cheung , H. Jhee, and K. Clint Slatton, “Fusing airborne lidar and SRTM data for improved multiscale DEMs over the coastal zone and landscape-dependent evaluation of SRTM accuracy,” *International Journal of Remote Sensing*, Oct., 2009, (in revision).
8. Sweungwon Cheung, K. Clint Slatton, Hyun-chong Cho, and Robert G. Dean, “Multiscale Parameterization of LiDAR Elevations for Reducing Complexity in Hydraulic Models of Coastal Urban Areas, *IEEE Geoscience and Remote Sensing Letters*, Sep. 2009, (in revision).
9. Kristofer Y. Shrestha, K. Clint Slatton, William E. Carter, and Tristan K. Cossio, “Performance Metrics for Single-Photon Laser Ranging,” *IEEE Geoscience and Remote Sensing Letters*, Nov. 2009, (accepted).
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14. Hyun-chong Cho, Sridhar Srinivasan, Ali Sedighi, K.C. Slatton, “Extraction of Stream Channels in High-Resolution Digital Terrain Images Using Morphology,” *Proc. IEEE 2006 International Geoscience and Remote Sensing Symposium (IGARSS)*, Jul., 2006, pp. 1078 – 1081.
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22. K. C. Slatton, "On the Design of a Multidisciplinary Remote Sensing Graduate Course," *2005 ASEE Southeast Section Conference Proceedings (CD)*, April 3-5, 2005.
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#### *Nonrefereed Articles (\* = invited)*

1. Li-Der Chang, Heezin Lee, K. Clint Slatton, "Automatic Forest Canopy Removal Algorithm for Underneath Obscure Target Detection by Airborne LiDAR Point Cloud Data," *Proc. SPIE 2010 Defense and Security Symposium*, 2010, (accepted).
2. W. E. Carter, R. L. Shrestha, and K. C. Slatton, "Airborne Laser Swath Mapping: Improved Penetration of Dense Vegetation Opens New Applications," *Eos*, vol. 90, no. 52, *AGU Fall Meet. Suppl.*, Abstract G23A-0657, Dec. 2009.
3. \* K. Shrestha, W. E. Carter, and K. C. Slatton, "LSNR Airborne LIDAR Mapping System Design and Early Results (Invited)," *Eos*, vol. 90, no. 52, *AGU Fall Meet. Suppl.*, Abstract G23A-0661, Dec. 2009.
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7. J. Tory Cobb and K. Clint Slatton, "A Parameterized Statistical Sonar Image Texture Model," *Proc. SPIE 2008 Defense and Security Symposium*, vol. 6953, Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XIII, 2008.
8. K. Clint Slatton and William E. Carter, "A Primer for Airborne Lidar," National Center for Airborne Laser Mapping (NCALM), <http://www.aspl.ece.ufl.edu/lidarreports.html>
9. R. Shrestha, W. Carter, K.C. Slatton, W. Dietrich, "'Research-Quality' Airborne Laser Swath Mapping: The Defining Factors," ver. 1.1, *National Center for Airborne Laser Mapping (NCALM)*, <http://www.ncalm.ufl.edu/>, Jun. 22, 2007.
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12. E. L. Loudermilk, A. Singhanian, J. C. Fernandez, J. K. Hiers, J. J. O'Brien, W. P. Cropper, K. C. Slatton, R. J. Mitchell, "Application of Ground-Based LIDAR for Fine-Scale Forest Fuel Modeling," 2<sup>nd</sup> *IAWF Fire Behavior and Fuels Conference*, Destin, FL, March 26 - 30, 2007.

13. J. Tory Cobb and K. Clint Slatton, "Dynamic Tree Segmentation of Sonar Imagery," *Proc. SPIE 2007 Defense and Security Symposium*, vol. 6553, no. 6553-0P, 2007.
14. M. Starek, R. V. Kumar, K. C. Slatton, R. Shrestha, W. Carter, "Automatic Feature Extraction and Change Detection for Shoreline Position and Beach Morphology Using High-Resolution Lidar Measurements," *Eos Trans. AGU*, 87(52), *Fall Meet. Suppl.*, Abstract OS41C-0624, Dec., 2006.
15. J. C. Fernandez, R. L. Shrestha, W. E. Carter, K. C. Slatton, A. Singhania, "The UF GEM Research Center Mobile Terrestrial Laser Scanner System M-TLSS Applied to Beach Morphology Studies in St. Augustine, Florida," *Eos Trans. AGU*, 87(52), *Fall Meet. Suppl.*, Abstract G53C-0913, Dec., 2006.
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22. \* K. Clint Slatton, Carolyn Krekeler, Matthew Cohen, and Kathleen A. McKee, "Measuring Probabilistic Dependences at Multiple Scales Between Soil Type and Surface Morphology," *Eos Trans. AGU*, 86(52), *Fall Meet. Suppl.*, Abstract G33D-04, Dec., 2005.
23. K. Clint Slatton, William Carter, and Ramesh Shrestha, "A Simulator for Airborne Laser Swath Mapping via Photon Counting," *Proc. SPIE 2005 Defense and Security Symposium*, vol. 5794, Mar. 2005, pp. 12-20.
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25. W.E. Carter, R.L. Shrestha, and K.C Slatton, "Defining and Verifying Research Grade Airborne Laser Swath Mapping (ALSM) Observations," *Eos Trans. AGU*, 85(47), *Fall Meet. Suppl.*, Abstract G11B-01, Dec., 2004.
26. K.C. Slatton, K. Kampa, and H. Lee, "Estimating Leaf Area Index in Forests Using Airborne Laser Swath Mapping Data," *Eos Trans. AGU*, 85(47), *Fall Meet. Suppl.*, Abstract H13C-0445, Dec., 2004.
27. K.C. Slatton, H. Lee, K. Kampa, K. Nagarajan, V. Aggarwal, "Estimation of Optimal Transportation Paths and Optical Gaps in Forested Terrain," *24th Army Science Conference*, November 29 - December 2, 2004.
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30. K. C. Slatton, M. Coleman, W. Carter, R. Shrestha, M. Sartori, "Control Methods for Merging ALSM and Ground-Based Laser Point Clouds Acquired Under Forest Canopies," *Proceedings of SPIE*,

- 4th International Asia-Pacific Environmental Remote Sensing Symposium*, vol. 5661, Nov. 2004, pp. 96-103.
31. \* W. Carter, R. Shrestha, K. C. Slatton, "Photon-counting airborne laser swath mapping (PC-ALSM)", *Proceedings of SPIE, 4th International Asia-Pacific Environmental Remote Sensing Symposium*, invited, vol. 5661, Nov. 2004, pp. 78-85.
  32. K. Clint Slatton, "Multiscale Data Fusion Regulated by a Mixture-of-Experts Network," *EOS Trans. AGU, 84 (46), Fall Meet. Suppl.*, Abstract G11A-0246, 2003.
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  34. K. Clint Slatton, *Adaptive Multiscale Estimation for Fusing Image Data*, Doctoral Dissertation, The University of Texas at Austin, 2001.
  35. J. C. Gibeaut, R. Gutierrez, R. C. Smyth, M. M. Crawford, K. C. Slatton, and A. L. Neuenschwander, "Mapping Topography and Bathymetry of Barrier Islands Using Airborne, Terrestrial, and Marine Systems," (abstract), *AAPG Annual Convention official program: American Association of Petroleum Geologists*, 1999, p. A46
  36. Melba M. Crawford, James C. Gibeaut, Shailesh Kumar, Amy Neuenschwander, Rasih Ustun, and K. Clint Slatton, "High Resolution Wetland Mapping via AIRSAR and Optical Sensors," *Summaries of the 1999 Pacific Rim AIRSAR Workshop*, Maui, Hawaii, August 1999, to appear.
  37. K. Clint Slatton, M. M. Crawford, J. C. Gibeaut, and R. Gutierrez, "Post-Processing Techniques to Minimize Systematic and Random Height Errors In TOPSAR DEMs," *Summaries of the Eighth Annual JPL Airborne Earth Science Workshop*, Pasadena, CA, January 1216, 1998, vol. 2, pp. 8398.
  38. James C. Gibeaut, M. M. Crawford, R. Gutierrez, K. C. Slatton, A. L. Neuenschwander, and M. R. Ricard, "Detecting small scale topographic changes and relict geomorphic features on barrier islands using SAR," *NASA Topography and Surface Change Program Annu. Rep.: Year 2*, July 1997.
  39. K. Clint Slatton, *Simulating Synthetic Aperture Radar Backscatter from Wetland Environments*, Master's Thesis, The University of Texas at Austin, 1997.
  40. K. Clint Slatton, M. M. Crawford, J. C. Gibeaut, R. Gutierrez, "Modeling Wetland Vegetation Using Polarimetric SAR," *Summaries of the Sixth Annual JPL Airborne Earth Science Workshop*, Pasadena, CA, March 48, 1996, vol. 2, pp. 95103.

#### ON-LINE WEBINARS (also listed under PRESENTATIONS)

1. July 09, 2008, "Predicting L-Band Microwave Attenuation Through Forest Canopy Using Directional Structuring Elements and Airborne Lidar," IEEE 2008 International Geoscience and Remote Sensing Symposium (IGARSS), Boston, MA. Published online at [http://www.grss-ieee.org/OnlineLectures/Slatton%20Wed%20IGAR\\_presentation%2008/Presentation\\_Files/index.html](http://www.grss-ieee.org/OnlineLectures/Slatton%20Wed%20IGAR_presentation%2008/Presentation_Files/index.html).
2. August 03, 2006, "Multi-variate Bayesian classification of soil drainage using feature-level fusion of topographic and hydrologic data," IGARSS'06, Denver, Colorado. Published online at [http://www.grss-ieee.org/OnlineLectures/Slatton\\_Presentation/Presentation\\_Files/index.html](http://www.grss-ieee.org/OnlineLectures/Slatton_Presentation/Presentation_Files/index.html).
3. February 2, 2005, "NSF supported Center for Airborne Laser Mapping (NCALM) and HO's National Center for Airborne Laser Mapping (NCALM): A Collaborative Research Center," NSF Cyber-Seminar for CUAHSI. Online webinar at <http://www.cuahsi.org/cyberseminars/NCALM-20050202.pdf>.

#### PRESENTATIONS (\* = invited)

1. September 24, 2008, "Estimation of L-band Microwave Attenuation and Clutter Maps in Forested Terrain from Lidar Data", US Army briefing, USACE-ERDC Waterways Experiment Station, Vicksburg, MS.
2. July 09, 2008, "Predicting L-Band Microwave Attenuation Through Forest Canopy Using Directional Structuring Elements and Airborne Lidar," IEEE 2008 International Geoscience and Remote Sensing Symposium (IGARSS), Boston, MA. Published online at [http://www.grss-ieee.org/OnlineLectures/Slatton%20Wed%20IGAR\\_presentation%2008/Presentation\\_Files/index.html](http://www.grss-ieee.org/OnlineLectures/Slatton%20Wed%20IGAR_presentation%2008/Presentation_Files/index.html).
3. July 08, 2008, "Performance Prediction for Low-SNR Lidar Sensors," IEEE 2008 International Geoscience and Remote Sensing Symposium (IGARSS), Boston, MA
4. May 18, 2008, "An Overview of Lidar Research at NCALM," NCALM Steering Committee Meeting, Boulder, CO.
5. May 17, 2008, "Probabilistic Graphical Models for Contact Fusion", ONR Briefing, AUVSI, Washington, DC.
6. May 07, 2008, "Algorithm Development at NCALM," NSF Earth Science (EAR) – Instrumentation and Facilities (IF) Panel site visit, St. Augustine, FL.
7. \* May 01, 2008, "An Overview of Airborne Lidar and NCALM Activities," US Military Academy (West Point), NY.
8. \* April 29, 2008, "Multi-resolution detection of ground surfaces and stream channels in forests with airborne lidar," Army Topographic Engineering Center (TEC), Alexandria, VA.
9. \* March 2008, "An Overview of NCALM Activities and Relevant Research," briefing to NSF Polar Programs Office, Washington, DC.
10. February 13, 2008, "Probabilistic Graphical Models for Contact Fusion," ONR Briefing, UMST Review, Orlando, FL.
11. November 29, 2007, "An Overview of ASPL Research Activities Relevant to TEC," Site visit by USACE TEC program managers, University of Florida, Gainesville, FL.
12. \* September 28, 2007, "Streamflow Analysis at Watershed and Small Catchment Scales", Graduate Seminar Series, Environmental Engineering Sciences (EES) Dept., University of Florida, Gainesville, FL.
13. September 25, 2007, "Estimation of Sunlight Flux and GPS Attenuation in Forested Terrain from Lidar Data", US Army briefing, USACE-ERDC Waterways Experiment Station, Vicksburg, MS.
14. \* August 31, 2007, "Characterizing Shoreline Change and Detecting Forested Stream Channels: Case studies in Extracting Geomorphologic Information from High Resolution Lidar Topography", Marine, Earth and Atmospheric Sciences Dept. Seminar Series, North Carolina State University, Raleigh, NC.
15. August 14, 2007, "Extracting Geomorphologic Information from High Resolution Lidar Topography", Center for Space Research Seminar Series, University of Texas, Austin, TX.
16. \* July 27, 2007, "Probabilistic Fusion of spatio-temporal data to estimate stream flow via Bayesian belief networks," IEEE 2007 International Geoscience and Remote Sensing Symposium (IGARSS), Barcelona, Spain.
17. July 25, 2007, "Automatic Feature Extraction from Airborne Lidar Measurements to Identify Cross-Shore Morphologies Indicative of Beach Erosion," IEEE 2007 International Geoscience and Remote Sensing Symposium (IGARSS), Barcelona, Spain.
18. July 25, 2007, "Morphological Segmentation of Lidar Digital Elevation Models to Extract Stream Channels in Forested Terrain," IEEE 2007 International Geoscience and Remote Sensing Symposium (IGARSS), Barcelona, Spain, poster.
19. \* April 19, 2007, "Laser Remote Sensing of Buildings, Coastlines and Water Resources," North-Central Florida Chapter Meeting: Florida Engineering Society, Gainesville, FL.
20. \* April 12, 2007, "Improved Classification of Building Infrastructure from Airborne Lidar Data Using Spin Images and Fusion with Ground-Based Lidar," IEEE/ISPRS Urban Remote Sensing Joint Event, Paris, France, 11-13, Apr., 2007, pp. 1-7, invited.

21. March 22, 2007, "A framework for greater exploitation of lidar data to improve storm surge modeling," Florida Hurricane Alliance Research Program Workshop, Florida International University, Miami, FL.
22. March 12, 2007, "Predictive Modeling of Diffractive and Non-Diffractive Propagation in Forested Terrain," Site visit by ARO program manager, University of Florida, Gainesville, FL.
23. February 20, 2007, "Probabilistic Graphical Models for Contact Fusion," ONR MCM Data Fusion EC Kickoff meeting, Washington, DC
24. December 14, 2006, "Improved Classification of Building Infrastructure from Airborne Lidar Data Using Spin Images and Fusion with Ground-Based Lidar," Site visit by Harris Corp. Project Meeting, University of Florida, Gainesville, FL.
25. December 05, 2006, "F3: Application Case Studies & HLLs," (co-presented with Alan George), Kickoff Meeting for the NSF Center for High-performance Reconfigurable Computing (CHREC), Washington, DC.
26. \* November 15, 2006, "Morphological and Probabilistic Segmentation of Natural Terrain and Urban Infrastructure in 3D Lidar Data," 2006 Joint Remote Sensing Seminar Series, Purdue University, West Lafayette, IN
27. \* November 03, 2006, "Morphological and Probabilistic Segmentation of Natural Terrain and Urban Infrastructure in 3D Lidar Data," G2V2: Geometry, Graphics, Vision, Visualization Seminar Series, UF Computer and Information Science and Engineering (CISE) Dept., Gainesville, FL
28. August 04, 2006, "Estimation of Forest Structural Parameters Enabled by Segmenting Individual Trees from Airborne Lidar Point Data," IGARSS'06, Denver, Colorado
29. \* August 03, 2006, "Multi-variate Bayesian classification of soil drainage using feature-level fusion of topographic and hydrologic data," IGARSS'06, Denver, Colorado. Published online at [http://www.grss-ieee.org/OnlineLectures/Slatton\\_Presentation/Presentation\\_Files/index.html](http://www.grss-ieee.org/OnlineLectures/Slatton_Presentation/Presentation_Files/index.html).
30. August 01, 2006, "Extraction of Stream Channels in High-Resolution Digital Terrain Images Using Morphology," (poster session) IGARSS'06, Denver, Colorado.
31. June 1, 2006, "An Overview of In-House NCALM Research at UF," Steering Committee Meeting for the NSF-Supported National Center for Airborne Laser Mapping (NCALM), St. Augustine, Florida.
32. May 04, 2006, "Remote Sensing Applications for CHREC," Project Topic Presentation, NSF Center for High-Performance Reconfigurable Computing (CHREC) Planning Workshop, Naval Surface Warfare Center, Panama City, FL
33. April 12, 2006, "Remote Sensing Applications for CHREC," Project Topic Presentation, NSF Center for High-Performance Reconfigurable Computing (CHREC) Planning Workshop, University of Florida, Gainesville, FL
34. \* December 7, 2005, "Measuring Probabilistic Dependences at Multiple Scales Between Soil Type and Surface Morphology," (oral session), AGU Fall Meeting, San Francisco, California.
35. September 28, 2005, "Evaluation of Analysis and Modeling Methods for Topographic and Image Data," Harris-UF Collaboration Kickoff Meeting, Gainesville, Florida.
36. September 22, 2005, "Geosensing Systems Engineering (GSE) Area," CGN 2002 – Introduction to Civil Engineering, Gainesville, Florida.
37. July 7, 2005, "ALSM Data Analysis Techniques," Steering Committee Meeting for the NSF-Supported National Center for Airborne Laser Mapping (NCALM), Gainesville, Florida.
38. June 14, 2005, "Assessment of SRTM DTED-2 Accuracy in the Coastal Zone," The Shuttle Radar Topography Mission – Data Validation and Applications Workshop, USGS Headquarters, Reston, Virginia.
39. April 19, 2005, "Estimation of Meter-Scale Topography Under Forest Canopy Via Airborne Laser Measurements," Electrical and Computer Engineering Seminar, Electrical and Computer Engineering Department, University of Florida, Gainesville, Florida.

40. \* April 7, 2005, "Estimation of subcanopy topography and crown biomass from airborne laser measurements," Agricultural and Biological Engineering Seminar, Agricultural and Biological Engineering Department, University of Florida, Gainesville, Florida.
41. March 31, 2005, "Reduced Memory Multiscale Fusion for Combined Topographic and Bathymetric Data," *SPIE Defense and Security Symposium*, Orlando, Florida.
42. March 28, 2005, "A Simulator for Airborne Laser Swath Mapping via Photon Counting," *SPIE Defense and Security Symposium*, Orlando, Florida.
43. March 23, 2005, guest lecture on "Estimation of subcanopy topography and crown biomass from airborne laser measurements" in ABE 4036 (now ABE 4034) *Remote Sensing in Engineering: Science, Sensors, and Applications*, Agricultural and Biological Engineering Department, University of Florida, Gainesville, Florida.
44. February 21, 2005, "Information-theoretic segmentation of sampled topographic elevations," Wireless Information Networking Group (WING) Seminar, Electrical and Computer Engineering Department, University of Florida, Gainesville, Florida.
45. February 14, 2005, "Information-theoretic detection with pulsed laser systems," Landmine research group seminar, Computer and Information Science and Engineering Department, University of Florida, Gainesville, Florida.
46. February 7, 2005, "Using Information Theory to Segment Remote Sensing Data," Coastal Engineering Seminar, Civil and Coastal Engineering Department, University of Florida, Gainesville, Florida
47. February 2, 2005, "NSF supported Center for Airborne Laser Mapping (NCALM) and HOs," NSF Cyber-Seminar for CUAHSI. Online webinar at <http://www.cuahsi.org/cyberseminars/NCALM-20050202.pdf>.
48. December 14, 2004, "Estimating Leaf Area Index in Forests Using Airborne Laser Swath Mapping Data," (poster session), AGU Fall Meeting, San Francisco, California.
49. September 21, 2004, "Multiple-Model Multiscale Data Fusion Regulated by a Mixture-of-Experts Network," IGARSS'04, Anchorage, Alaska
50. September 22, 2004, "An Adaptive Multiscale Filter for Segmenting Vegetation in ALSM Data," (poster session) IGARSS'04, Anchorage, Alaska
51. July 15, 2004, "Airborne and Ground-based Laser Scanning Research at the University of Florida," First Response & Public Safety: Summer Colloquium Series on Homeland Security, Office of Research and Graduate Programs (RGP), University of Florida, Gainesville, Florida.
52. June 17, 2004, "Defining Research Grade ALSM Data for NCALM," Steering Committee Meeting for the NSF-Supported National Center for Airborne Laser Mapping (NCALM), St. Augustine, Florida.
53. June 9, 2004, "Photon Counting Airborne Laser Swath Mapping (PC-ALSM)," 5<sup>th</sup> Annual Coastal Mapping & Charting Workshop, Joint Airborne Lidar Bathymetry Technical Center of Expertise, USGS, St. Petersburg, Florida.
54. May 24, 2004, "Laser Scanning Research and Remote Sensing Applications at the University of Florida," Center for Space Research Seminar Series, University of Texas, Austin, Texas.
55. April 23, 2004, "Adaptive Signal Processing Laboratory: Interdisciplinary Research for Remote Sensing," UF ECE Department External Research Day, Gainesville, Florida.
56. February 9, 2004, "Multiscale Fusion of INSAR and LIDAR Digital Elevation Models for Hydrologic Applications," UF Coastal Engineering Seminar, Gainesville, Florida.
57. December 8, 2003, "Multiscale Data Fusion Regulated by a Mixture-of-Experts Network," (poster session), AGU Fall Meeting, San Francisco, California.
58. March 24, 2003, "Data Fusion and Signal Classification for Wireless Communications In the Presence of Time Varying Interference," Laboratory for Artificial Neural Systems (LANS) meeting, University of Texas, Austin, Texas.
59. December 18, 2002, "Landcover Dependent Fusion of SRTM Data and Airborne LIDAR Data," Terrain Analysis for Water Resources Applications Symposium, Austin, Texas.

60. October 8, 2002, "Combining SRTM Data and Airborne LIDAR Data Using Multiscale Data Fusion," 3rd International Workshop on Mapping Geo-surficial Processes Using Laser Altimetry, Columbus, Ohio.
61. June 27, 2002, "LIDAR Data Classification Using a Lower Envelope Follower and Gradient-based Operator," IGARSS'02, Toronto, Canada.
62. June 24, 2002, "Multiscale Fusion of INSAR Data for Improved Topographic Mapping," IGARSS'02, Toronto, Canada.
63. March 5, 2002, "Multiscale Fusion of INSAR Data for Hydrological Applications," 2002 AIRSAR Earth Science Applications Workshop, Pasadena, CA.
64. December 3, 2001, "Adaptive Multiscale Estimation for Fusing Image Data," Telecommunications and Signal Processing Seminar, Dept. of Electrical and Computer Engineering, The University of Texas at Austin, Austin, Texas.
65. July 18, 2001, "Robust Modeling and Fusion of INSAR and LIDAR Data for Bare Earth Topography, Error Correction, and Sensor-Independent Updating of DEMs," National Imagery and Mapping Agency (NIMA) University Research Initiative (NURI) Symposium, Washington, DC.
66. January 26, 2001, "Investigating an Adaptive Approach to Multiscale Estimation for Fusing Remotely Sensed Imagery," Telecommunications and Signal Processing Seminar, Dept. of Electrical and Computer Engineering, The University of Texas at Austin, Austin, Texas.
67. October 13, 2000, "Multiscale Sensor Fusion for Remote Sensing Imagery," Telecommunications and Signal Processing Seminar, Dept. of Electrical and Computer Engineering, The University of Texas at Austin, Austin, Texas.
68. July 30, 2000, "Combining Interferometric Radar and Laser Altimeter Data to Improve Topography Estimates," IGARSS'00, Honolulu, HI, USA.
69. April 3, 2000, "Improved Accuracy for Interferometric Radar Images Using Polarimetric Radar and Laser Altimetry Data," IEEE Southwest Symposium on Image Analysis and Interpretation, (poster), Austin, Texas.
70. August 20, 1999, "Vertical Super Resolution Methods for Interferometric Radar Imaging," Telecommunications and Signal Processing Seminar, Dept. of Electrical and Computer Engineering, The University of Texas at Austin, Austin, Texas.
71. June 30, 1999, "Modeling SAR Backscattering Response to Coastal Inundation," IGARSS'99, Hamburg, Germany.
72. July 1998, "Digital Terrain Mapping of Bolivar Peninsula, Texas Using Airborne Laser and Radar Systems", IGARSS'98, Seattle, Washington.
73. August 4, 1997, "Removal of Residual Errors from SAR Derived Digital Elevation Models for Improved Topographic Mapping of Low Relief Areas," IGARSS'97, Singapore, (poster session).
74. April 29, 1997, "Remote Sensing of Texas Environments: Current Projects," Texas Space Grant Consortium annual meeting, Clear Lake, Texas.
75. March 17-19, 1997, James C. Gibeaut, K. C. Slatton, M. M. Crawford, and R. Gutierrez, "Mapping Barrier Islands Using AIRSAR," 1997 ERIM Conference on Coastal Geology, Orlando, Florida.
76. March 1997, presented an introduction to electromagnetic scattering models for SAR remote sensing, Orbital Mechanics Seminar, Department of Aerospace Engineering and Engineering Mechanics, University of Texas at Austin, Austin, Texas.
77. March 1997, "Processing Interferometric SAR Data to Generate Very High Resolution Digital Elevation Models for Low Relief Areas," Hydrology series seminar, Department of Geology, University of Texas at Austin, Austin, Texas.
78. March 17, 1997, presented summary of work at the Center for Space Research using polarimetric and interferometric SAR for remote sensing of Texas coastal regions, Meeting of the Texas Geographical Information Systems Focus Group, Austin, Texas.
79. May 29, 1996, "Modeling Wetland Vegetation Using Polarimetric SAR," IGARSS'96, Lincoln, Nebraska, (poster session)

80. 28. May 29, 1996, "Mapping Geologic Structure On Barrier Islands Using Polarimetric SAR," IGARSS'96, Lincoln, Nebraska.
81. March 18, 1996, presented an introduction to SAR remote sensing and preliminary work on using a discrete scatterer model to simulate SAR backscatter from coastal wetland environments, invited seminar, Rice University, Houston, Texas.
82. March 6, 1996, presented preliminary work on using a discrete scatterer model to simulate SAR backscatter from coastal wetland environments, Sixth Annual JPL Airborne Earth Science Workshop, Jet Propulsion Laboratory, Pasadena, California.
83. September, 1994, "SURFSAT: A Student Spacecraft to Support R&D Experiments for NASA's Deep Space Network", American Institute of Aeronautics and Astronautics (AIAA)/Utah State University (USU) Conference on Small Satellites in Logan, Utah.
84. May, 1993, presented results from Satellite Design project, ASE274L Spacecraft Design, NASA Johnson Space Center, Houston, Texas.

PERSONAL

US citizen; Married with five children