

**Jason Alan Tullis**  
Assistant Professor  
Department of Geosciences / CAST  
7 Ozark Hall / 321 JBHT  
University of Arkansas, Fayetteville, AR 72701  
Office 479.575.4770, 479.575.8784  
Email [jatullis@uark.edu](mailto:jatullis@uark.edu)

13 October 2008

### **Education**

- B.S.** Brigham Young Univ., Provo, UT, 1992-1999 (Geography: GIS, Physical; Minor Botany). Senior thesis title: "Distribution of Terrestrial Impact Craters: Correlation with Geologic Structure". Advisor: Perry J. Hardin.
- M.S.** Univ. of South Carolina, Columbia, SC, 1999-2001 (Geography: GIS/Remote Sensing, Machine Learning, Urban Ecology). Thesis title: "Artificial Intelligence for Automated Housing Enumeration from Pan-Sharpener IKONOS Imagery". Advisor: John R. Jensen. Other committee members: David J. Cowen and Robert E. Lloyd, Dept. of Geography.
- Ph.D.** Univ. of South Carolina, Columbia, SC, 2001-2003 (Geography: GIS/Remote Sensing, Geocomputation, Biogeography). Dissertation title: "Data Mining to Identify Optimal Spatial Aggregation Scales and Input Features: Digital Image Classification with Topographic LIDAR and LIDAR Intensity Returns". Advisor: John R. Jensen. Other committee members: David J. Cowen and Michael E. Hodgson, Dept. of Geography; Ronald D. Bonnell, Dept. of Computer Science and Computer Engineering.

### **Academic Positions**

**Assistant Professor**, Dept. of Geosciences, Univ. of Arkansas (Aug 2004 to present).

**NASA ARC Program Manager**, Dept. of Geography, Univ. of South Carolina (Jun 2001 to Aug 2004).

**Instructor**, Dept. of Geography, Univ. of South Carolina (Aug 2001 to Dec 2003).

**Research Assistant**, Dept. of Geography, Univ. of South Carolina (Aug 1999 to May 2001).

### **PUBLICATIONS**

#### **A. Refereed Journal Articles**

1. Hodgson, M.E., J.R. Jensen, J.A. Tullis, K.D. Riordan and C.M. Archer, 2003, "Synergistic Use of LIDAR and Color Aerial Photography for Mapping Urban Parcel Imperviousness", *Photogrammetric Engineering and Remote Sensing* 69(9):973-980.
2. Tullis, J.A. and J.R. Jensen, 2003, "Expert System House Detection in High Spatial Resolution Imagery Using Size, Shape, and Context", *Geocarto International* 18(1):5-15.
3. Hodgson, M.E., J.R. Jensen, G.T. Raber, J.A. Tullis, B.A. Davis, G. Thompson and K. Schuckman, 2005, "An Evaluation of LIDAR-derived Elevation and Terrain Slope in Leaf-off Conditions", *Photogrammetric Engineering and Remote Sensing* 71(7):817-823.
4. Hadley, B.C., M. García-Quijano, J.R. Jensen and J.A. Tullis, 2005, "Empirical versus Model-based Atmospheric Correction of Digital Airborne Imaging Spectrometer Hyperspectral Data", *Geocarto International* 20(4):21-28.

5. Raber, G.T., J.R. Jensen, M.E. Hodgson, J.A. Tullis, B.A. Davis and J. Berglund, 2007, "Impact of Lidar Nominal Post-spacing on DEM Accuracy and Flood Zone Delineation", *Photogrammetric Engineering and Remote Sensing* 73(7):793-804.
6. Raber, G.T. and J.A. Tullis, 2007, "Rapid Assessment of Storm-Surge Inundation after Hurricane Katrina Utilizing a Modified Distance Interpolation Approach", *GIScience and Remote Sensing* 44(3):220-236.
7. Tullis, J.A., J.D. Cothren, D.E. Irwin, C. Yeager, W.F. Limp, J.M. Wilson, B.E. Gorham and S. Ogle, 2007, "Yearly Extraction of Central America's Land Cover for Carbon Flux Monitoring", *GIScience and Remote Sensing* 44(4):334-355.
8. Im, J., J.R. Jensen and J.A. Tullis, 2008, "Object-based Change Detection Using Correlation Image Analysis and Image Segmentation Techniques", *International Journal of Remote Sensing* 29(2):399-423.
9. Aquino, L.D., J.A. Tullis and F.M. Stephen, 2008, "Modeling Red Oak Borer (*Enaphalodes rufulus* Haldeman) Damage Using *In Situ* and Ancillary Landscape Data", *Forest Ecology and Management* 255:931-939.

#### **B. Refereed Journal Articles in Review or in Press**

1. Tullis, J.A. and J.M. Defibaugh y Chávez, 2008, "Scale Management and Remote Sensor Synergy in Forest Monitoring", *Geography Compass*, in review.
2. Riggins, J.J., J.A. Tullis and F.M. Stephen, 2008, "Per-segment Aboveground Forest Biomass Estimation Using LIDAR-derived Height Percentile Statistics", *GIScience and Remote Sensing*, in review.

#### **C. Book Chapters**

1. Jensen, J.R., J.A. Tullis and Xueqiao Huang, 2005, "Information Extraction Using Artificial Intelligence", *Introductory Digital Image Processing* (J.R. Jensen), 3<sup>rd</sup> Ed., Upper Saddle River, NJ: Prentice Hall, 526 pages.
2. Jensen, J.R., M.E. Hodgson, J.A. Tullis and G.T. Raber, 2005 "Remote Sensing of Impervious Surfaces and Building Infrastructure", in *Geo-Spatial Technologies in Urban Environments* (R.R. Jensen, J.D. Gatrell and D. McLean, editors), New York, NY: Springer-Verlag, Inc., 176 pages.
3. Schill, S.R., D. Rundquist, A. Filippi, K. Kvamme, J. Cothren and J.A. Tullis, 2008, "In Situ Sensors and Field Methods", in *Manual of Remote Sensing: Platforms and Sensors* (M.W. Jackson, editor), Silver Springs, MD: American Society of Photogrammetry and Remote Sensing, in press.

#### **D. Presentations at Meetings of Professional Societies (speaker underlined)**

1. Tullis, J. A., 2001, "Expert System Identification of Houses in Satellite Imagery", *Bulletin of the South Carolina Academy of Science* LXIII:102.
2. Tullis, J. A., 2001, "IKONOS House Detection Using an Expert System", *ASPRS 2001 Annual Convention*, 23-27 April, St. Louis, Missouri (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
3. Hodgson, M.E., J.R. Jensen, G.T. Raber, J.A. Tullis, B.A. Davis, G. Thompson, L. Schmidt, and K. Schuckman, 2001, "An Evaluation of LIDAR- and IFSAR- derived Digital Elevation Models in Leaf-on Conditions with USGS Level 1 and Level 2 DEMs," *ASPRS/MAPPS Fall 2001 Terrain Mapping Conference*, 31 October-2 November, St. Petersburg, Florida (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland), poster presentation.
4. Cowen, D.J., J.R. Jensen, W.L. Shirley and J.A. Tullis, 2002, "Use of IKONOS Data to Measure Housing Density", *Proceedings of the AAG 98<sup>th</sup> Annual Meeting*, 19-23 March, 2002, Los Angeles, California (Association of American Geographers, Washington, D.C.), unpaginated CD-ROM.

5. Tullis, J.A., D.J. Cowen, J.R. Jensen, W.L. Shirley and D.R. Morgan, 2002 “GIS and Remote Sensing for Smart Growth Research”, *Proceedings of the ASPRS 2002 Annual Convention*, 19-26 April, Washington, D.C. (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland), unpaginated CD-ROM.
6. Raber, G.T., M.E. Hodgson, J.R. Jensen, J.A. Tullis, G. Thompson, B.A. Davis and K. Schuckman, 2002, “Comparison of LIDAR Data Collected Leaf-on vs. Leaf-off for the Creation of Digital Elevation Models”, *Proceedings of the ASPRS 2002 Annual Convention*, 20-26 April (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland), unpaginated CD-ROM.
7. Hodgson, M.E., J.R. Jensen, J.A. Tullis, B.C. Hadley, C. Robinson, K.D. Riordan, G.T. Raber, and C.M. Archer, 2002, “The Use of LIDAR and Optical Remotely Sensed Data for Mapping Parcel Level Permeability”, *ASPRS 2002 Annual Convention*, 20-26 April, Washington, D.C. (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
8. Jensen, J.R., M.E. Hodgson, G.T. Raber, J.A. Tullis and B.A. Davis, 2003, “LIDAR-Derived Elevation and Slope Accuracy in Leaf-on and Leaf-off Conditions”, *Proceedings of the AAG 99<sup>th</sup> Annual Meeting*, 5-8 March, 2003, New Orleans, Louisiana (Association of American Geographers, Washington, D.C.), unpaginated CD-ROM.
9. Raber, G.T., M.E. Hodgson, J.A. Tullis, B.A. Davis, J. Dorman, 2003, “Effects of LIDAR Posting Density and Physiography on DEM Accuracy and Flood Risk”, American Society for Photogrammetry and Remote Sensing, *ASPRS 2003 Annual Convention*, 5-9 May, Anchorage, Alaska (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
10. Tullis, J.A., J.R. Jensen, K.D. Riordan, G.T. Raber, A.M. Browne, J. Backman and D.R. Morgan, 2003, “Measurement of Impervious Surfaces for Stormwater Management Applications Using Digital Aerial Imagery, Topographic LIDAR, and LIDAR Intensity Returns”, *Proceedings of the ASPRS 2003 Annual Convention*, 5-9 May, Anchorage, Alaska (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland), unpaginated CD-ROM.
11. Davis, B.A., J. Berglund, L. Estep, M.E. Hodgson, G.T. Raber, J.A. Tullis, D. Maidment, P. Gueudet, V. Fischer, D. Box, G. Thompson and J. Dorman, 2003, “The Relationship Between Optimal Post Density Spacing and Flood Model Performance”, *ASPRS/MAPPS Fall 2003 Terrain Mapping Conference*, 27-30 October, Charleston, SC (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
12. Tullis, J.A., J.R. Jensen, M.E. Hodgson and G.T. Raber, 2004, “LIDAR Digital Elevation Model Accuracy as a Function of Posting Density and Land Cover Category”, *Proceedings of the AAG 100<sup>th</sup> Annual Meeting*, 14-19 March, 2004, Philadelphia, Pennsylvania (Association of American Geographers, Washington, D.C.), unpaginated CD-ROM.
13. Raber, G.T., J.A. Tullis, and J.R. Jensen, 2004, “LIDAR Statistical Image Fusion with IKONOS Data for Land Cover Classification”, *Proceedings of the AAG 100<sup>th</sup> Annual Meeting*, 14-19 March, 2004, Philadelphia, Pennsylvania (Association of American Geographers, Washington, D.C.), unpaginated CD-ROM.
14. Raber, G.T., J.R. Jensen, M.E. Hodgson, M.E. Meadows, J.A. Tullis, B.A. Davis, J. Berglund, and J. Dorman, 2004, “The Impact of Varied Nominal Posting Density Topographic LIDAR Data on DEM Accuracy, Hydraulic Modeling and Flood Mapping”, *AWRA 2004 Spring Specialty Conference: Geographic Information Systems (GIS) and Water Resources III*, 17-19 May, Nashville, Tennessee (American Water Resources Association, Middleburg, Virginia).
15. Tullis, J.A., J.R. Jensen and G.T. Raber, 2004, “LIDAR Data Mining to Enhance Aerial Image Classification”, *Proceedings of the ASPRS 2004 Annual Convention*, 23-28 May, 2004, Denver, Colorado (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland), unpaginated CD-ROM.

16. Vaughan, D., J.R. Jensen, D. Porter, S. Walker, B.C. Hadley and J.A. Tullis, 2004, "Hyperspectral Change Detection of *Spartina alterniflora* in Murrells Inlet, SC 1997-2003", *ASPRS 2004 Annual Convention*, 23-28 May, 2004, Denver, Colorado (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
17. Raber, G.T., M.E. Hodgson, J.R. Jensen and J.A. Tullis, 2004, "A Sensitivity Analysis Using Varied Nominal Posting Density LIDAR Data for Hydraulic Modeling and Flood Zone Delineation", *ASPRS 2004 Annual Convention*, 23-28 May, 2004, Denver, Colorado (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
18. Hodgson, M.E., J.R. Jensen, G.T. Raber, J.A. Tullis, B.A. Davis, J. Dorman and G. Thompson, 2004, "Parcel-level Zoning Decisions and LIDAR Collection Parameters", *ASPRS 2004 Annual Convention*, 23-28 May, 2004, Denver, Colorado (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
19. Hadley, B.C., J.R. Jensen, J.A. Tullis and J.B. Gladden, 2004, "Hyperspectral Turf Grass Biomass Predictions as a Function of Atmospheric Correction Technique", *ASPRS 2004 Annual Convention*, 23-28 May, 2004, Denver, Colorado (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
20. Tullis, J.A., J.R. Jensen, M.E. Hodgson, 2004, "A Local-to-national Partnership for Comparing USGS and LIDAR-derived Elevation Models as Inputs for Hurricane Storm Surge Prediction", *Proceedings of AmericaView 2004*, 20-22 September, 2004, Sioux Falls, South Dakota (AmericaView Program, USGS, Reston, Virginia).
21. Gorham, B., J.A. Tullis and L. Farley, 2005, "Mapping Arkansas' Ever-changing Landscape; Arkansas LULC Program: 1992-2004", *ASPRS 2005 Central Region Technical Session*, 11 February, 2005, Fayetteville, Arkansas (Central Region of the American Society for Photogrammetry and Remote Sensing, Rolla, Missouri).
22. Tullis, J.A., B. Gorham and L. Farley, 2005, "Arkansas' 2004 Land-use / Land-cover Mapping Using Decision Trees", *ASPRS 2005 Central Region Technical Session*, 11 February, 2005, Fayetteville, Arkansas (Central Region of the American Society for Photogrammetry and Remote Sensing, Rolla, Missouri).
23. Tullis, J.A., J.R. Jensen and M.E. Hodgson, 2005, "Sensitivity of Hurricane Storm Surge Predictions to DEM Input: LIDAR versus USGS", *ASPRS 2005 Annual Convention*, 7-11 March, 2005, Baltimore, Maryland (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
24. Raber, G.T. and J.A. Tullis, 2005, "The Combination of Multi-spectral and LIDAR Statistical Image Data for Mapping Surface Roughness Coefficients", *ASPRS 2005 Annual Convention*, 7-11 March, 2005, Baltimore, Maryland (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
25. Jensen, J.R., J.A. Tullis and J. Im, 2005, "Urban Remote Sensing", *Third International Symposium on Remote Sensing and Data Fusion Over Urban Areas and Fifth International Symposium on Remote Sensing of Urban Areas*, 15 March, 2005, Phoenix, Arizona.
26. Cowen, D.J., J.R. Jensen, M.E. Hodgson, E.T. Bramble, A. Goyal and J.A. Tullis, 2005, "Development and Calibration of a Cellular Automata Urban Growth Model", *Auto-Carto 2005 Research Symposium*, 21-23 March, Las Vegas, Nevada (Cartography and Geographic Information Society).
27. Im, J., J.R. Jensen and J.A. Tullis, 2005, "Development of a Remote Sensing Change Detection System Based on Neighborhood Correlation Image Analysis and Intelligent Knowledge-based Systems", *IEEE International Geoscience and Remote Sensing Symposium*, 27 July, 2005, Seoul, Korea.
28. Tullis, J.A., B.E. Gorham, J. Cothren and W.F. Limp, 2005, "Per-segment Decision Tree Classification in the Arkansas 2004 Land Cover Project", *GIS For Local Government Conference 2005*, 17-19 October, 2005, University Park, Pennsylvania (Penn State Cooperative Extension, Geospatial Technology Program).

29. Tullis, J.A., J.D. Cothren, W.F. Limp, J. Im and J.R. Jensen, 2005, "GIS Implementation of Machine Learning Decision Trees", *Proceedings of Arkansas GIS Users Forum Conference and Symposium 2005*, 2-4 November, 2005, Hot Springs, Arkansas (Arkansas GIS Users Forum, Arkansas).
30. Gorham, B. and J.A. Tullis, 2005, "Monitoring Changes on the Arkansas Landscape: Land-use and Land-cover Dynamics 1992-2004", *Proceedings of Arkansas GIS Users Forum Conference and Symposium 2005*, 2-4 November, 2005, Hot Springs, Arkansas (Arkansas GIS Users Forum, Arkansas).
31. Im, J., J.R. Jensen and J.A. Tullis, 2006, "Object-oriented Change Detection Based on Correlation Analysis and Image Segmentation", *Proceedings of the AAG 2006 Annual Meeting*, 7-11 March, 2006, Chicago, Illinois (Association of American Geographers, Washington, D.C.), unpaginated CD-ROM.
32. Smith, Z.D., J.A. Tullis, K.F. Steele, L. Malfavon, 2006, "Martian Sinkholes: Implications for Large Scale Evaporite Deposits", *Proceedings of the Lunar and Planetary Sciences XXXVII*, 13-17 March, 2006, Houston, Texas (Lunar and Planetary Institute).
33. Tullis, J.A., J.D. Cothren, J.R. Jensen, M.E. Hodgson, B.C. Hadley and M. García-Quijano, 2006, "Hurricane Storm Surge Prediction as a Function of DEM Input: Exploring a LIDAR-derived Alternate in Beaufort County, SC", *ASPRS 2006 Annual Convention*, 1-5 May, 2006, Reno, Nevada (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
34. Riggins, J.J., J.A. Tullis and F.M. Stephen, 2006, "Assessing Forest Health at the Speed of Light: Applying Remote Sensing Technology to a Destructive Forest Insect", *ESA Annual Meeting*, 10-13 December, 2006, Indianapolis, Indiana (Entomological Society of America).
35. Stephen, F.M., M. Fierke and J.A. Tullis, 2006, "Red Oak Borer in Ozark Forests: Tracking the Rise and Fall of a Native Tree-killing Cerambycid", *ESA Annual Meeting*, 10-13 December, 2006, Indianapolis, Indiana (Entomological Society of America).
36. Coleman, K.S.A. and J.A. Tullis, 2007, "Classification of Depression Types on Mars", *Proceedings of the Lunar and Planetary Sciences XXXVIII*, 12-16 March, 2007, League City, Texas (Lunar and Planetary Institute).
37. Gorham, B.E. and J.A. Tullis, 2007, "Landsat Legacy and the Arkansas Land-use, Land-cover Mapping Project", *AAG 103<sup>rd</sup> Annual Meeting*, 17-21 April, 2007, San Francisco, California (Association of American Geographers).
38. Knapp, J.P., J.J. Riggins, J. Defibaugh y Chávez, J.A. Tullis and F.M. Stephen, 2007, "Examination of Spectral Leaf Signature Collection Methods in a Complex Upland Oak Ecosystem", *AAG 103<sup>rd</sup> Annual Meeting*, 17-21 April, 2007, San Francisco, California (Association of American Geographers).
39. Tullis, J.A., J. Wilson, J. Defibaugh y Chávez, F.M. Stephen, M. Fierke and J. Riggins, 2007, "Remote Sensing-assisted Decision Support for Red Oak Borer Hazard Response in Upland Oak-hickory Forests", *ASPRS 2007 Annual Convention*, 7-11 May, 2007, Tampa, Florida (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).
40. Riggins, J. J., F. M. Stephen and J. A. Tullis, 2007, "Seeing the Forest AND the Trees: High Resolution Remote Sensor Technology and a Destructive Forest Insect Pest", *50<sup>th</sup> Southern Forest Insect Work Conference*, 23-26 July, 2007, Jekyll Island, Georgia (University of Georgia, Athens, Georgia).
41. Riggins, J. J., F. M. Stephen and J. A. Tullis, 2007, "Estimation of Upland Oak Forest Biomass from LIDAR-derived Statistics", *Proceedings of AmericaView 2007*, 19-20 September, 2007, Fayetteville, Arkansas (AmericaView Program, USGS, Reston, Virginia).

42. Tullis, J.A., B. Culpepper, J. Defibaugh y Chávez, J.S. Jones, F.M. Stephen, J. Riggins, 2008, “Forest LIDAR-derived Statistical Enhancement of Oak Hazard Models”, *ASPRS 2008 Annual Convention*, 28 April-2 May, 2008, Portland, Oregon (American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland).

#### **E. Articles in Trade Periodicals**

1. Ata, H.A., J.C. Cothren and J.A. Tullis, 2005, “QT Modeler 3.0”, a review of a LIDAR visualization and analysis package developed by Johns Hopkins University Applied Physics Laboratory, *GeoWorld Magazine* (Mar).
2. Raber, G.T., J.A. Tullis and J.R. Jensen, 2005, “Remote Sensing Data Acquisition and Initial Processing”, *Earth Observation Magazine* 14(5).
3. Limp, W.F., J.C. Cothren and J.A. Tullis, 2007, “New Analysis Tools – Expanded LIDAR Information Content Drives New Application Opportunities”, *Earth Imaging Journal* (Jan/Feb).

#### **TECHNICAL REPORTS**

- Tullis, J.A., W.L. Shirley and S. Vehige, 2001, “Evaluation of High Resolution Imagery as Part of an Automated Classification System to Assess Market Potential for Future Investment Brokerage Branch Offices”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center* Final Report, NASA: Stennis Space Center, MS, 63 pages.
- Raber, G.T., M.E. Hodgson and J.A. Tullis, 2002, “A Comparison of LIDAR-derived Elevation Accuracy in Leaf-on and Leaf-off Conditions”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center* Final Report, NASA: Stennis Space Center, MS, 15 pages.
- Tullis, J.A., B.C. Hadley, K.D. Riordan and C.M. Archer, 2002, “The Use of LIDAR and Remotely Sensed Imagery for Mapping Parcel Level Permeability”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center* Final Report, NASA: Stennis Space Center, MS, 64 pages.
- Cowen, D.J., W.L. Shirley and J.A. Tullis, 2002, “GIS and Remote Sensing in Support of Smart Growth Research”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center* Final Report, NASA: Stennis Space Center, MS, 52 pages.
- Jensen, J.R., B.C. Hadley, J.A. Tullis, J. Gladden, E. Nelson, S. Riley, T. Filippi, M. Pendergast, 2003, "2002 Hyperspectral Analysis of Hazardous Waste Sites on the Savannah River Site", *DOE Office of Science and Technology, Westinghouse Savannah River Company* Technical Report 2003-00275, Westinghouse Savannah River Company: Aiken, SC, 52 pages.
- Goyal, A. and J.A. Tullis, 2003, “GIS and Remote Sensing in Support of Smart Growth Research – Phase II”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center* Final Report, NASA: Stennis Space Center, MS, 36 pages.
- Raber, G.T. and J.A. Tullis, 2003, “Effects of LIDAR Posting Density and Physiography on DTM Accuracy”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center* Final Report, NASA: Stennis Space Center, MS, 7 pages.
- Tullis, J.A., K.D. Riordan and A.M. Browne, 2003, “Measurement of Impervious Surfaces for Stormwater Management Applications Using Digital Aerial Imagery, Topographic LIDAR, and LIDAR Intensity Returns”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center* Final Report, NASA: Stennis Space Center, MS, 74 pages.

- Jensen, J.R., J.A. Tullis, M.J. García-Quijano, B.C. Hadley and J. Im, 2004, “Improved Management of Technological Hazards Focusing on the Development of a Remote Sensing-assisted Hazardous Waste Site Monitoring Decision Support System”, *NASA Earth Science Enterprise, University of South Carolina Research, Education, and Application Solutions Network (REASoN) Report*, 28 pages.
- Bramble, E.T. and J.A. Tullis, 2004, “GIS and Remote Sensing in Support of Smart Growth – Phase III”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center Final Report*, NASA: Stennis Space Center, MS, 34 pages.
- Tullis, J.A., 2004, “Predicted Storm Surge Inundation Boundaries: SLOSH Modeling with LIDAR-derived DEMs”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center Final Report*, NASA: Stennis Space Center, MS, 17 pages.
- Raber, G.T. and J.A. Tullis, 2004, “LIDAR Posting Density and Physiography: Effects on DTM Accuracy and Flood Zoning”, *NASA Earth Science Enterprise, Earth Science Applications Directorate, University of South Carolina Affiliated Research Center Final Report*, NASA: Stennis Space Center, MS, 57 pages.
- Gorham, B.E. and J.A. Tullis, 2005, “ArkansasView Semiannual Report (January-June 2005)”, *AmericaView Progress Report*, USGS: EROS Data Center, SD, 7 pages.
- Tullis, J.A. and B.E. Gorham, 2005, “Arkansas LULC Mapping – Phases I – II”, *Arkansas Soil and Water Conservation Commission Final Report*, Arkansas Soil and Water Conservation Commission: Little Rock, AR, 4 pages.
- Bramble, E.T., K.C. Remington and J.A. Tullis, 2005, “GIS and Remote Sensing in Support of Smart Growth – Phase IV”, *NASA Earth Science Enterprise, Applied Sciences Directorate, University of South Carolina Affiliated Research Center Final Report*, NASA: Stennis Space Center, MS, 19 pages.
- Tullis, J.A., B.C. Hadley, M. García-Quijano and Y. Greene, 2005, “Predicted Storm Surge Inundation Boundaries: SLOSH Modeling with LIDAR-derived DEMs – Phase II”, *NASA Earth Science Enterprise, Applied Sciences Directorate, University of South Carolina Affiliated Research Center Final Report*, NASA: Stennis Space Center, MS, 29 pages.
- Stephen, F.M., *et al.* and J.A. Tullis, 2005, “Development of Geospatial Techniques for the Prediction and Assessment of Red Oak Decline Due to Red Oak Borer”, *USDA Forest Service Forest Health Monitoring Program, Evaluation Monitoring Project Technical Report*, USDA Forest Service: Atlanta, GA, 5 pages.
- Stephen, F.M., *et al.* and J.A. Tullis, 2005, “Assessment, Analysis, and Monitoring of Red Oak Borer Populations”, *USDA Forest Service Special Technology Development Program Technical Report*, USDA Forest Service: Asheville, NC, 6 pages.
- Tullis, J.A. and B.E. Gorham, 2006, “ArkansasView Semiannual Report (July-December 2005)”, *AmericaView Progress Report*, USGS: EROS Data Center, SD, 6 pages.
- Tullis, J.A., 2006, “Intelligent Knowledge-based Systems for Data Integration” in “New Approaches to the Use and Integration of Multi-sensor Remote Sensing for Historic Resource Identification and Evaluation”, *Strategic Environmental Research and Development Program (SERDP) Final Report* by K.L. Kvamme, E. Ernenwein, M. Hargrave, T. Sever, D. Harmon, W.F. Limp, B. Howell, M. Koons and J.A. Tullis (2006), DOD, 13 pages.
- Stephen, F.M., *et al.* and J.A. Tullis, 2006, “Development of Geospatial Techniques for the Prediction and Assessment of Red Oak Decline Due to Red Oak Borer”, *USDA Forest Service Forest Health Monitoring Program, Evaluation Monitoring Project Technical Report*, USDA Forest Service: Atlanta, GA, 8 pages.
- Stephen, F.M., *et al.* and J.A. Tullis, 2006, “Assessment, Analysis, and Monitoring of Red Oak Borer Populations”, *USDA Forest Service Special Technology Development Program Technical Report*, USDA Forest Service: Asheville, NC, 9 pages.

Tullis, J.A. and B.E. Gorham, 2007, "ArkansasView Semiannual Report (July-December 2006)", *AmericaView* Progress Report, USGS: EROS Data Center, SD, 11 pages.

Gorham, B.E. and J.A. Tullis, 2007, "Arkansas Land Use and Land Cover (LULC) 2006", *Arkansas Natural Resource Commission* Final Report, Arkansas Natural Resource Commission: Little Rock, AR, 5 pages.

Tullis, J.A. and B.E. Gorham, 2008, "ArkansasView Semiannual Report (July-December 2007)", *AmericaView* Progress Report, USGS: EROS Data Center, SD, 13 pages.

## **TEACHING**

### **University of South Carolina**

*Digital Techniques of Remote Sensing Laboratory* (GEOG 751 Lab; Fall 2001, Spring 2003).

*Principles of Remote Sensing* (GEOG 551; Spring 2002).

*Principles of Remote Sensing Laboratory* (GEOG 551 Lab; Spring 2002, Fall 2003).

### **University of Arkansas**

*Introduction to Raster GIS* (ANTH/GEOG 4553; Fall 2004).

*Remote Sensing of Natural Resources* (GEOL 5423; Spring 2005, 2007).

*Principles of Remote Sensing* (GEOL/GEOS 4413; Fall 2005; Fall 2006, 2007, 2008).

*Vector GIS* (ANTH 4563/GEOS 4583; Spring 2006, 2008).

[*Special Problems in Geomatics*] (ENDY/GEOS variable; Summer 2006, Fall 2006, Spring 2008).

## **GRADUATE STUDENT MENTORING**

### **Advisees who Completed their Degree**

*Katherine S. Auld Coleman* (M.S. Geology), "A Classification of Closed Depression Types on Mars", Department of Geosciences, University of Arkansas, Fayetteville, AR (Aug 2006).

### **Committee Service Completed**

*Michael S. Sarhan* (M.A. Geography), "A Comparative Assessment of the Flooding Caused by Tropical Storm Jeanne in Haiti and the Dominican Republic" (Aug 2006).

*Philip D. Tanimoto* (Ph.D. Environmental Dynamics), "Advances in Biogeographic Modeling of Montane-obligate Avifauna in Mesoamerica" (Dec 2006).

*Mark D. Spond* (M.A. Geography), "Ancient Cypress-Tupelo Forest at the Dagmar Wildlife Management Area, Arkansas" (May 2007).

*John V. Ward* (Ph.D. Environmental Dynamics), "Changing Patterns of Land-use and Basin Morphometry: Impacts on Stream Geomorphology in the Illinois River Basin, Northwest Arkansas, 1941-2004" (Jul 2007).

*Aaron D. Jensen* (M.A. Geography), "Remote Sensing Analysis of Surface Temperature and Landscape Feature Dynamics" (Aug 2007).

*Rana N. Al-Jawarneh* (M.A. Geography), “Spatial Analysis of Land Cover and Land Use in Evaluating Land Degradation in Northwestern Al-Mafraq City, Jordan” (May 2008).

*John J. Riggins* (Ph.D. Entomology), “Remote Sensing of Forest Decline and *Enaphalodes Rufulus* Outbreak in the Arkansas Ozarks, U.S.A.” (Jul 2008).

*Jason Patton* (Ph.D. Environmental Dynamics), “Comparative Sedimentation and Geochemistry of Three Coves, Beaver Reservoir, Northwest Arkansas” (Aug 2008).

### **Advisement**

*Jason Defibaugh y Chávez* (Ph.D. Environmental Dynamics – Fall 2005 to Spring 2009).

*Karl A. Lintvedt* (M.A. Geography – Spring 2008 to Spring 2009).

*Joshua S. Jones* (M.A. Geography – Fall 2008 to Spring 2010).

### **Committee Service**

*Zola Moon* (Ph.D. Environmental Dynamics).

*John Dennis* (Ph.D. Environmental Dynamics).

*Dawn Farver* (Ph.D. Environmental Engineering).

*Katherine Coleman* (Ph.D. Space and Planetary Sciences).

*David McFee* (M.A. Geography).

*Kim Park* (M.A. Geography).

*Chris Cerney* (M.A. Geography).

*Obadiah Kegege* (Ph.D. Space and Planetary Sciences).

*Chris W. Rogers* (M.S. Crop, Soil, and Environmental Sciences).

*Kwasi Asante* (M.A. Geography).

### **OTHER MENTORING**

*Julia Danz* (Department of Geosciences; *National Science Foundation Research Experience for Undergraduate* participant), analyzed a variety of Central American land cover maps, Summer 2005.

*Zack D. Smith* (Arkansas Center for Space and Planetary Sciences; *National Science Foundation Research Experience for Undergraduate* participant), investigated Martian geology, Summer 2005.

*Luis Malfavon* (University of Arkansas; *U.S. Department of Education Upward Bound* participant), investigated planetary remote sensing and GIS, Summer 2005.

*Jonathan P. Knapp* (Department of Geosciences; *National Science Foundation Research Experience for Undergraduate* participant), “Applying Remote Sensing to Northern Red Oak Decline in the Ozark National Forest: Preliminary Methods Evaluation”, Summer 2006.

*Adam W. Rollins* (Department of Biological Sciences; *Arkansas Space Grant Consortium* participant), “Spatial and Temporal Dynamics of Red Spruce Population in the Central Appalachians”, Apr 2007 to Apr 2008.

Daniel Sundara (University of Arkansas; U.S. Department of Education Upward Bound participant), investigated the geoweb and geospatial visualization, Summer 2007.

## CONTRACTS & GRANTS

- Tullis, J.A. (*principal investigator*) and B. Gorham, “Arkansas Land-use / Land-cover Mapping with Machine Learning Decision Trees”, *Arkansas Soil and Water Conservation Commission*, 1 Nov 2004 to 31 May 2005, **\$46,411**.
- Limp, W.F., B.E. Gorham, and J.A. Tullis (*senior investigator beginning Sep 2004*), “ArkansasView”, *US Geological Survey & AmericaView*, 1 Jul 2004 to 5 Jun 2005, **\$89,496**.
- Stephen, F.M., W.F. Limp, J.A. Tullis (*senior investigator beginning Sep 2004*) and J. Wilson, “Development of Geospatial Techniques for the Prediction and Assessment of Red Oak Decline Due to Red Oak Borer”, *US Forest Service*, 30 Jun 2004 to 30 Sep 2008, **\$35,000**.
- Stahle, D.W. and J.A. Tullis (*co-principal investigator*), “The Distribution of Cross Timbers in Western Arkansas”, *USDA Forest Service*, 1 Apr 2004 to 31 Dec 2010, **\$11,019**.
- Limp, W.F., J.C. Cothren, J.A. Tullis (*senior investigator beginning Oct 2004*), *et al.*, “An Enterprise Geospatial Architecture and Development of Automated Analysis Methodologies for Central American Carbon Sequestration Analysis”, *NASA*, 1 Oct 2004 to 30 Sep 2006, **\$193,257**.
- Tullis, J.A. (*principal investigator*), K.F. Steele and G.T. Raber, “Search for Martian Sinkholes”, *NASA and Arkansas Center for Space and Planetary Sciences*, 1 May 2005 to 30 Apr 2006, **\$29,290**.
- Stephen, F.M., *et al.* and J.A. Tullis (*senior investigator beginning May 2005*), “Applied Silvicultural Assessment of Upland Oak-Hickory Forests and the Red Oak Borer in the Ozark and Ouachita Mountains of Arkansas”, *USDA Forest Service*, 2005 to 2006, **\$16,875** (subset of \$249,042).
- Kvamme, K., *et al.* and J.A. Tullis (*senior investigator beginning Jul 2005*), “New Approaches to Use of Integration of Multi-sensor Remote Sensing”, *US Department of Defense*, 18 Jun 2002 to 15 Dec 2005, **\$5,000** (subset of total).
- Limp, W.F., J.A. Tullis (*co-principal investigator*) and B.E. Gorham, “ArkansasView Program Development and Operations”, *US Geological Survey & AmericaView*, 1 Jul 2005 to 30 Jun 2006, **\$89,500**.
- Tullis, J.A. (*principal investigator*), B.E. Gorham, W.F. Limp and R.K. Davis, “Arkansas Land Use and Land Cover 2006”, *Arkansas Natural Resource Commission*, 1 Oct 2005 to 31 May 2007, **\$62,188**.
- Tullis, J.A. (*principal investigator*), B.E. Gorham and W.F. Limp, “ArkansasView: Expanding the Use and Value of Remote Sensing through Education, Research, and Outreach”, *US Geological Survey & AmericaView*, 1 Jul 2006 to 30 Jun 2007, **\$84,000**.
- Stephen, F.M., M.K. Fierke and J.A. Tullis (*co-principal investigator*), “Applied Silvicultural Assessment (II) of Upland Oak-Hickory Forests and the Red Oak Borer in the Ozark and Ouachita Mountains of Arkansas”, *USDA Forest Service*, 1 Oct 2006 to 30 Sep 2011, **\$220,000**.
- Rollins, A.W., Stephenson, S.L. and J.A. Tullis (*faculty mentor*), “Spatial and Temporal Dynamics of Red Spruce Populations in the Central Appalachians”, *NASA*, 15 Apr 2007 to 14 Apr 2008, **\$2,382**.
- Inlander, E.M., Slay, M.E., Brahana, J.V., Tullis, J.A. (*participant*), *et al.*, “The Karst Conservation Toolbox: Advancing the Protection of Karst Species and Habitats Globally”, *The Nature Conservancy*, 1 Jul 2007 to 30 Jun 2009, **\$50,000**.

- Tullis, J.A. (principal investigator), B.E. Gorham and W.F. Limp, “ArkansasView: Expanding the Use and Value of Remote Sensing through Education, Research, and Outreach”, *US Geological Survey & AmericaView*, 1 Jul 2007 to 30 Jun 2008, **\$51,000**.
- Stephen, F.M. and J.A. Tullis (co-principal investigator), “Applied Silvicultural Assessment (III) of Upland Oak-Hickory Forests and the Red Oak Borer in the Ozark and Ouachita Mountains of Arkansas”, *USDA Forest Service*, 18 Sep 2007 to 15 Sep 2012, **\$115,000**.
- Tullis, J.A. (principal investigator), B.E. Gorham and W.F. Limp, “ArkansasView: Expanding the Use and Value of Remote Sensing through Education, Research, and Outreach”, *US Geological Survey & AmericaView*, 1 Jul 2008 to 30 Jun 2009, **\$23,989**.

## **AWARDS & HONORS**

- Awarded the *U.S. Department of Agriculture Certificate of Merit* twice for initiative and success in conducting the Uinta Oak Fuels Analysis fire ecology project, U.S. Forest Service, Pleasant Grove, UT (1996 – 1997).
- Invited to discuss forestry applications of remote sensing with Teddy Reynolds and Jackson Cothren on *Timber Talk*, a 30 minute live radio interview broadcast over 59 counties or parishes in Arkansas, Louisiana, Oklahoma, and Texas, from 100.5 FM KZHE, Magnolia, AR (Jan 2005).
- Received *commendation from USAID and NASA officials* for success in leading the Spanish language “Land Use / Land Cover Change Detection for Central American Carbon Management” workshop for eighteen representatives from across Central America, City of Knowledge, Panama (Oct 2005).
- Invited to discuss LIDAR-assisted forestry assessment related to the red oak borer with Jacqueline Froelich and Fred Stephen on *Ozarks at Large*, a weekly radio broadcast from 91.3 FM KUAF *National Public Radio*, Fayetteville, AR (Mar 2007).

## **PROFESSIONAL SERVICE & ACTIVITIES**

### **Refereed Journal Service**

- Reviewed a manuscript for *Computers, Environment and Urban Systems* published by Elsevier (Dec 2003).
- Reviewed nine manuscripts for *GIScience and Remote Sensing* published by Bellwether (Mar 2004, Apr 2004, Nov 2004, Sep 2005, Jan 2006, Jun 2006, Oct 2006, May 2008, Jul 2008).
- Served on the editorial board for the Earth Observation section of *Geography Compass* published by Blackwell (Jun 2007 to present).
- Reviewed two manuscripts for *Geography Compass* published by Blackwell (Dec 2007, Feb 2008).
- Reviewed a manuscript for *Photogrammetric Engineering & Remote Sensing* published by the American Society for Photogrammetry & Remote Sensing (Feb, 2008).

### **Proposal or Program Reviews**

- Reviewed National Sea Grant College Program proposal for consideration by the *University of Puerto Rico Sea Grant* (Sep 2005).
- Served on two internal grant proposal review panels for NASA and NSF proposals prepared by the *Arkansas Center for Space and Planetary Sciences* (Jun 2006; Nov 2007).

- Raber, G.T., J.A. Tullis and J.R. Jensen, 2006, “[Geospatial Primer](#)”, an online course from *The Institute for Advanced Education in Geospatial Sciences*, University of Mississippi, Oxford, MS.
- Served on the *Learning Outcomes* (Aug 2006 to present) and *Curriculum* (Jan 2007 to present) committees in the *Department of Geosciences* at University of Arkansas.
- Reviewed proposal for consideration by the *National Science Foundation* program in *Geomorphology and Land-Use Dynamics* (Oct 2006).
- Reviewed proposal for consideration by the *USGS Northern Prairie Wildlife Research Center* (Nov 2007).
- Asked by *Organization of American States* and *Inter American Biodiversity Information Network* to investigate and review “Machine Learning-assisted Terrestrial Ecosystem Classification Schema ‘Cross-walks’ for Central and South America” (Oct 2007 to Jan 2009).
- Asked by *U.S. EPA* and *ICF International* to review and advise *in situ* and geomatics-based efforts to improve land use / land cover maps for greenhouse gas monitoring in Guatemala, Honduras, El Salvador, Nicaragua, and Costa Rica (Apr 2008 to Sep 2009).
- Reviewed proposal for consideration by the *National Science Foundation* program in *Geography and Regional Science* (May 2008).
- Reviewed proposal for an advanced environmental remote sensing textbook being considered by *Springer* (Aug 2008).

### **Professional Society Service**

- Served as moderator for the “DEM Technologies and Applications: Modeling Surface Roughness, Coastal Movements, and Hurricane Storm Surge” session for the *American Society for Photogrammetry and Remote Sensing* 2005 Annual Convention, Baltimore, MD (Mar 2005).
- Served as a *Central Region Director* within the *American Society for Photogrammetry and Remote Sensing* (Apr 2005 to Mar 2008).
- Served as moderator for the “Hurricane Katrina” session for the *Southwest Division of the Association of American Geographers* Annual Convention, Fayetteville, AR (Nov 2005).
- Served as moderator for the *American Society for Photogrammetry and Remote Sensing* Central Region Technical Meeting, Fayetteville, AR (Apr 2006).
- Served as moderator for the “Monitoring Natural Hazards” session for the *American Society for Photogrammetry and Remote Sensing* 2006 Annual Convention, Reno, NV (May 2006).
- Served as *Central Region Membership Subcommittee Chair* for the *American Society for Photogrammetry and Remote Sensing* (Aug 2006 to Mar 2008).
- Served as a *Faculty Mentor* for the inaugural *University of Arkansas Student Chapter of the American Society for Photogrammetry and Remote Sensing* (Feb 2007 to present).
- Served as moderator for the “Applications of Lidar to Forestry” session for the *American Society for Photogrammetry and Remote Sensing* 2007 Annual Convention, Tampa, FL (May 2007).
- Served as moderator for the “Lidar – Forestry Applications” session for the *American Society for Photogrammetry and Remote Sensing* 2008 Annual Convention, Portland, OR (May 2008).

## **Invited Papers, Lectures, Presentations, Workshops & Media Interviews**

- Presented “The Use of LIDAR and Remotely Sensed Imagery for Mapping Parcel Level Permeability” to NASA officials from *Earth Science Enterprise (ESE)*, Stennis Space Center, MS (Feb 2002).
- Presented “Measurement of Impervious Surfaces for Stormwater Management Applications Using Digital Aerial Imagery, Topographic LIDAR, and LIDAR Intensity Returns” to NASA officials from *Earth Science Enterprise (ESE)*, Stennis Space Center, MS (Feb 2003).
- Presented workshops and a seminar on remote sensor and digital terrain modeling, GIS databases, data mining, and visualization for researchers in the *Mathematics Department*, Univ. of South Carolina, Columbia, SC (Dec 2002, May 2003, Nov 2003).
- Presented workshops on “Principles of Remote Sensing” and “Remote Sensing Information Extraction with Decision Trees” at the *State Mapping Advisory Committee (SMAC)* Biennial Conference, Columbia, SC (Jan 2004).
- Presented “GIS and Remote Sensing for Smart Growth Research – Phase III” and “Predicted Storm Surge Inundation Boundaries: SLOSH Modeling with LIDAR-derived DEMs” to NASA officials from *Earth Science Enterprise (ESE)*, Stennis Space Center, MS (Feb 2004).
- Presented “GIScience for Industry, Government, and the People: Examples in Urban Analysis and Floodplain Modeling” to faculty and students in the *Geography Department*, Ohio University, Athens, OH (Feb 2004).
- Presented “GIS Data Mining and Decision Trees” to faculty and students in the *Geography & Earth Sciences Department*, University of North Carolina, Charlotte, NC (Feb 2004).
- Presented “LIDAR Data Mining and Scale Optimized Decision Tree Classification” to faculty and students in the *Geography Department*, University of Iowa, Iowa City, IA (Feb 2004).
- Presented “LIDAR Assisted Land Cover Analysis” to faculty and students in the *Geosciences Department*, University of Arkansas, Fayetteville, AR (May 2004).
- Presented “CAST and Forestry Applications: From LIDAR to SDSS” with Jackson Cothren and W. Fredrick Limp to foresters at the *Arkansas Forestry Association (AFA)* 2004 meeting, University of Arkansas, Fayetteville, AR (Oct 2004).
- Presented “Expert and Machine Learning Decision Trees” to *Arkansas Soil and Water Conservation Commission* officials, University of Arkansas, Fayetteville, AR (Oct 2004).
- Presented “Hurricane Storm Surge Prediction as a Function of DEM Input: Exploring a LIDAR-derived Alternate” to faculty and students in the *Geosciences Department*, University of Arkansas, Fayetteville, AR (Oct 2004).
- Presented “On the Road to Generic Remote Sensing-assisted Spatial Decision Support Systems” to faculty and students in the *Environmental Dynamics PhD Program*, University of Arkansas, Fayetteville, AR (Nov 2004).
- Presented a workshop on 3D visualization of orthophotography and LIDAR-derived elevation data to students, faculty, and government officials at the *Mullins Library GIS Day Open House*, University of Arkansas, Fayetteville, AR (Nov 2004).
- Discussed forestry applications of remote sensing with Teddy Reynolds and Jackson Cothren on *Timber Talk*, a 30 minute live radio interview broadcast over 59 counties or parishes in Arkansas, Louisiana, Oklahoma, and Texas, from 100.5 FM KZHE, Magnolia, AR; the program is available at <http://www.timbertalk.com/> (4 Jan 2005).

- Presented “Exploring LIDAR-derived Inputs for Hurricane Storm Surge Models” to faculty and students in the *Department of Geography*, University of Southern Mississippi, Hattiesburg, MS (Feb 2005).
- Presented “Predicted Storm Surge Inundation Boundaries: SLOSH Modeling with LIDAR-derived DEMs – Phase II” to NASA officials from *Applied Sciences Directorate*, Stennis Space Center, MS (Feb 2005).
- Presented “Potential Remote Sensing-assisted Terrain, Land Cover, and Decision Support Models within a Grid Computing Environment” to Dr. Pat Brezonik from NSF and Central U.S. hydrology researchers at the *Great Plains Network Cyberinfrastructure Workshop*, University of Kansas, Lawrence, KS (Feb 2005).
- Presented “Per-segment Classification and Machine Learning Decision Trees” to geospatial community professionals at the *eCognition 2005 International User Meeting*, Baltimore, MD (Mar 2005).
- Presented “Automating & Optimizing Intelligent Knowledge-based Extraction of Land Cover Change” to students and faculty in the *Department of Biological Sciences*, University of Arkansas, Fayetteville, AR (Apr 2005).
- Presented “Optimizing Arkansas’ 2004 Land Use / Land Cover Map” to students and faculty in the *Environmental Dynamics PhD Program*, University of Arkansas, Fayetteville, AR (Apr 2005).
- Presented “Automating & Optimizing Intelligent Knowledge-based Extraction of Land Cover Change” to students and faculty in the *Program in Environmental Science and Regional Planning*, Washington State University, Pullman, WA (Apr 2005).
- Presented “Overview of Remote Sensing Activities”, posters and graphics featuring remote sensor data processing, and a 3D fly-through over Northwest Arkansas to the chief executives of Leica Geosystems, faculty and students, local officials, and local media as part of the inaugural *Leica Geosystems Center of Excellence* press conference at University of Arkansas (May 2005); a related article by Jeff Smith of *The Morning News* can be viewed at <http://www.nwaonline.net/articles/2005/05/03/front/03fzuagis.txt>.
- Submitted “Remote Sensor Data Processing Applications in Dire Need of Supercomputing at the Center for Advanced Spatial Technologies (CAST)” white paper to Dr. Kenneth Bishop at *University of Kansas* as a collaborative effort toward acquiring new supercomputing capabilities at University of Arkansas (May 2005).
- Presented “Space and Planetary Science: An Earth Remote Sensing Perspective” to visiting undergraduate students, graduate students, and faculty in the *Arkansas Center for Space and Planetary Sciences* as part of the Center’s summer undergraduate research program, University of Arkansas, Fayetteville, AR (May 2005).
- Presented “The Search for Martian Sinkholes” with Kenneth F. Steele, Zackery E. Smith, and Luis Malfavon to students and faculty in the *Arkansas Center for Space and Planetary Sciences*, University of Arkansas, Fayetteville, AR (Jul 2005).
- Presented a workshop on LIDAR-assisted hydrologic modeling to staff and affiliated high school students of *Audubon Arkansas* as part of their efforts to raise public awareness on issues surrounding the College Branch watershed, University of Arkansas, Fayetteville, AR (Jul 2005).
- Presented “A Cellular Automata Model for ArcMap” with David J. Cowen, E. Thomas Bramble, Kevin Remington, John R. Jensen, Michael E. Hodgson, W. Lynn Shirley, and Apurva Goyal to geospatial community professionals at the *ESRI 2005 International User Conference*, San Diego, CA (Jul 2005).
- Presented “Overview of Remote Sensing Activities” to *Computer Science and Computer Engineering (CSCE)* faculty at two workshops aimed at developing collaboration between the Center for Advanced Spatial Technologies (CAST) and CSCE, University of Arkansas, Fayetteville, AR (Sep 2005).

- Presented colloquium on “Intelligent Knowledge-based Extraction of Remotely Sensed Variables” to students at the *Arkansas Center for Space and Planetary Science*, University of Arkansas, Fayetteville, AR (Sep 2005).
- Presented with Jack Cothren and John Wilson the five-day Spanish language “Land Use / Land Cover Change Detection for Central American Carbon Management” *USAID-funded NASA SERVIR workshop* for eighteen representatives from across Central America, City of Knowledge, Panama (Oct 2005).
- Presented with John Wilson “Extraction of Polygonal Ridgetop Areas in the Ozark Mountains” to students, faculty, and government officials at the *Mullins Library GIS Day Open House*, University of Arkansas, Fayetteville, AR (Nov 2005).
- Presented with Fred Stephen *et al.* “Monitoring and Predicting Populations of Red Oak Borer in the Ozark Mountains” in the *2006 National Forest Health Monitoring (FHM) Working Group Meeting*, Charleston, SC (Jan-Feb 2006).
- Presented “Extraction of Polygonal Ridgetop Areas in the Ozark Mountains” and “Integration of *In Situ*, Ancillary, and Remote Sensor Databases” to Jim Guldin of *USDA Forest Service Southern Research Station* and ecologists from *University of Missouri* and *University of Kansas*, Lawrence, KS (Mar 2006).
- Assisted members of the *University Wellness Committee*, Tom Paradise, and geomatics students in a workshop and data preparation for maps delineating walking and jogging routes on campus, *University of Arkansas*, Fayetteville, AR (Spring 2006).
- Recognized with Jackson Cothren and Bruce Gorham for geomatics research and development with *NASA*, *USAID*, and *Central American countries*; a news release from University of Arkansas *Daily Headlines* is available at <http://dailyheadlines.uark.edu/text/8579.htm>, Fayetteville, AR (Apr 2006).
- Presented, with George T. Raber, “Rapid Assessment of Hurricane Katrina Storm Surge Inundation in Mississippi Utilizing a Cost Weighted Interpolation Approach”, a multimedia map exhibition at the *26<sup>th</sup> ESRI International User Conference*, San Diego, CA (Aug 2006).
- Presented “Remote Sensing-assisted Decision Support for Red Oak Borer Hazard Response” to *USDA Forest Service* officials and forest entomologists from around the United States at the *East Texas Forest Entomology Seminar*, Nacogdoches, TX (Oct 2006).
- Presented a workshop on “LIDAR applications for High Throughput Computing (HTC)” to students enrolled in *Computer Science and Computer Engineering Senior Design*, University of Arkansas, Fayetteville, AR (Oct 2006).
- Presented “Automated Processing of 2006 Pictometry Neighborhood Orthogonal Images” and “High Throughput Computation (HTC) of a LIDAR-derived Digital Elevation Model (DEM)” to students, faculty, and government officials at the *Mullins Library GIS Day Open House*, University of Arkansas, Fayetteville, AR (Nov 2006).
- Presented “High Throughput Computation (HTC) of Light Detection and Ranging (LIDAR) Derivatives” poster for the Governor’s reception in conjunction with a press conference on the *AREON high speed network initiative*, University of Arkansas, Fayetteville, AR (Dec 2006).
- Discussed LIDAR-assisted forestry assessment related to the red oak borer with Jacqueline Froelich and Fred Stephen on *Ozarks at Large*, a weekly radio broadcast from 91.3 FM KUAF *National Public Radio* (program aired 23 Mar 2007 and 25 Mar 2007 and is available at <http://www.kuaf.org/>); a previous news release on 14 Mar 2007 from University of Arkansas *Daily Headlines* is found at <http://dailyheadlines.uark.edu/10367.htm>; a short summary was also posted by *USA Today* on 15 Mar 2007.

- Presented “Scalable Remote Sensing-assisted Decision Support” with a focus on a LIDAR in forestry and high throughput computing to the *Geosciences External Advisory Board*, Fayetteville, AR (May 2007).
- Forest LIDAR research was highlighted by Joe M. Smith of the *Society of American Foresters* in an article entitled “Researchers Use Spatial Technology to Gain Insights into Insect’s Role in Oak Decline” published in *The Forestry Source* (May 2007).
- Presented “The Fourth R: Remote Sensing” to Arkansas and Oklahoma high school students in the 8<sup>th</sup>-10<sup>th</sup> grade *Gifted and Talented Program*, Fayetteville, AR (Jul 2007).
- Presented “Buscando Referencias Cruzadas Entre Ecosistemas de América Latina” or “Search for Latin American Ecosystem Crosswalks” in Spanish to Central and South American scientists at a terrestrial ecosystem workshop sponsored by the *Inter-American Biodiversity Information Network (IABIN)*, Panama City, Panama (Dec 2007).
- Presented options on Central American land cover monitoring to Tom Wirth from *EPA Climate Change Division* and geomatics researchers at the *Centro de Estudios Ambientales*, Universidad del Valle de Guatemala, Guatemala City, Guatemala and at the *Centro Agronómico Tropical de Investigación y Enseñanza* or *CATIE*, Turrialba, Costa Rica (Apr 2008).
- Presented “Central American Carbon Analysis” and “Remote Measurement of Deciduous Forest Biomass in the Ozark Mountains” to Emil Peña, Executive Director of *Energy & Environmental Systems Institute at Rice University*, Fayetteville, AR (Jun 2008).
- Forest monitoring research was highlighted by Barbara Shields of *Environmental Systems Research Institute (ESRI)* in an article entitled “Rx for Forest Health: Scientists Use GIS to Battle Red Oak Borer in Ozark Woodlands” published in *National Woodlands Magazine 31(2):11-12* and available at <http://www.woodlandowners.org/> (Spring 2008).
- Presented “Integrated Spatial Decision Support for Red Oak Borer Hazard Response” including an interactive red oak borer hazard map and website (<http://asa.cast.uark.edu/>) to *USDA Forest Service* officials and forest entomologists from around the United States at a workshop and at the *East Texas Forest Entomology Seminar*, Nacogdoches, TX (Oct 2008).