

VITA
DOUGLAS FRANK WUNNEBURGER

HOME ADDRESS

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OFFICE ADDRESS

College of Architecture
Texas A&M University, MS-3137
College Station, TX 77843-3137
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d-wunneburger@tamu.edu

ACADEMIC BACKGROUND

Ph.D. – Forestry (Remote Sensing/GIS), December 1992

Texas A&M University
College Station, TX 77843

Dissertation: *Automating Geographically Referenced Digital Mosaics from Aerial Videography with Area Based Feature Matching*

Master of Forestry -- Forest Recreation, August 1981

Stephen F. Austin State University
Nacogdoches, TX 75962

Thesis: *Nationwide Availability of Private, Non-industrial Forest and Range Land for Public Recreation Use*

Bachelor of Arts – Economics, May 1977

The University of Texas at Austin
Austin, TX 78740

AREA OF PROFESSIONAL INTEREST

Interoperability and web-enabled GIS

Visualization of spatial environmental systems

Implementation of concepts of landscape ecology in sustainable resource planning and management

Development of automated mapping and remote sensing techniques (geoinformatics) for resource inventory, planning and management problems

Automated integration of remotely sensed data in GIS for spatial and temporal problem solving

Automation of acquisition and distribution of knowledge through web-based public participation GIS

EXPERIENCE

Visiting Associate Professor/Assistant Research Scientist/Lecturer, January 1998 - Present

Laboratory Manager
GeoInformatics Studio
College of Architecture, MS-3137
College Station, TX 77843-3137

Developed GIS laboratory in College of Architecture; support classes in Landscape Architecture and Urban Planning Department; develop and teach graduate courses in basic and advanced GIS. Cooperate in teaching graduate course in Landscape Ecology and GIS. Participate in development of TAMU graduate certificate in GIS. Procure software and hardware systems for outfitting teaching and research laboratory. Collaborate with other scientists in research in urban planning, landscape ecology, land development, automated mapping / facilities management, hazards preparation and planning. Perform research in landscape ecology, informatics and enterprise GIS. Secure funding through externally funded projects to support graduate assistants from all departments in the College of Architecture. Teach workshops in implementing GIS to College program participants.

Mapping Science Consultant, July 1997 - Present

Wunneburger and Associates
2008 Rockwood Dr.
Bryan, TX 77807

Developed automated analysis methods for pipeline corridor mapping; conducted and delivered population density analyses on over 6000 miles of pipelines including integrated mapping, analysis, and document management tools; delivered data formatted for OPS submission. Integrated aerial videography and GPS (global positioning system) data to automate conversion from geo-referenced image databases to GIS. Automated pipeline corridor population density analysis using geo-referenced satellite imagery, aerial videography and GIS based modeling. Provided GIS modeling and data base support for environmental engineering firms in contaminant litigation in urban settings, site assessment, environmental site remediation, and waste-solids distributed application projects.

Assistant Research Scientist, April 1992 - July 1997

Mapping Sciences Laboratory
Department of Forest Science
Texas A&M University
College Station, TX 77843-2135

Co-taught graduate course in Landscape Ecology. Created and taught graduate course on Advanced GIS topics, GIS database structure, and spatial analysis (now FRSC 652). Taught undergraduate and graduate introductory GIS courses (FRSC 461/651). Proposed initial concept of interdisciplinary campus-wide mapping science facility, participated in team to secure initial \$2.8m grant to establish Mapping Sciences Laboratory (now Spatial Sciences Laboratory). Administered and sought funding for new research. Assisted research projects for other scientists. Taught workshops on GIS and GPS.

Research Assistant, November 1988 to March 1992

Department of Forest Science
Texas A&M University
College Station, TX 77843-2135

Performed as Remote Sensing/GIS laboratory administrator. Managed all research projects undertaken in lab. Developed new research projects and assisted in soliciting funding.

Natural Resources Systems Modeler, October 1987 - October 1988

TGS Technology
National Ecology Research Center
U. S. Fish and Wildlife Department
Fort Collins, CO

Served as contractor to Advanced Technology Assessment Section of the U. S. Fish and Wildlife Department. Participated in team building GIS based integrated decision support system for INtegrated FOReSt Management System (INFORMS). Created Visual Impact Assessment Model for INFORMS to visualize forest treatments in landscapes.

Graduate Research Assistant, September 1984 - September 1988

Department of Forest Science
Texas A&M University
College Station, TX 77843-2135

Developed microcomputer based geographic information system for teaching and research applications. Taught photogrammetry, GIS, and remote sensing labs. Performed as leader on research projects. Assisted other graduate students in research. Developed software methods for spatial modeling.

Forestry Technician, December 1982 - August 1984

USDA Forest Service
Trinity Ranger District
Apple Springs, TX

Performed technical field operations in National Forests of Texas. Marked and prepared timber sales, road rights-of-way, performed fire management and suppression. Appointed one of 20 members of National Forests of Texas western fire response team. Supervised crew of technicians in forest field operations.

PUBLICATIONS (Refereed)

- Azevedo, J.C.M., S.B. Jack, R.N. Coulson, and D.F. Wunneburger. 2000. Functional heterogeneity of forest landscapes and the distribution and abundance of the red-cockaded woodpecker. *For. Ecol. Manage.* 127 (2000) 271-283.
- O'Keefe, S.T., J.L. Cook, T. Dudek, D.F. Wunneburger, M.D. Guzman, R.N. Coulson, and S.B. Vinson. 2000. The distribution of Texas ants. *Southwestern Entomologist*. June 2000, Supplement No. 22.
- Coulson, R.N., M.D. Guzman, K. Skordinski, J.W. Fitzgerald, R.N. Conner, D.C. Rudolph, F.L. Oliveria, D.F. Wunneburger, and P.E. Pulley. 1999. Heterogeneity of forest landscapes and the interaction of the southern pine beetle with the Red-cockaded Woodpecker. *J. Forestry* 97:04-11.
- Coulson, R.N. and D.F. Wunneburger. 1999. Impact of Insects on Human-Dominated and Natural Forest Landscapes. In Coleman, D. C. and P. F. Hendrix (Eds.). *Invertebrates as Webmasters of Ecosystems*. CAB International, Wallingford, UK, p. 271-291.
- Magnuson, Charles E., T.P. Grundy, Z.Z. Wang, M.J. Lupo, M.F. Conlin, D.F. Wunneburger, D. Rodriguez, and K.W. Brown. 1996. A GIS Application in a Study Involving a Large Number of Residents with Elevated VOC Exposures. *Geographic Information Systems in Environmental Resources Management*, Air & Waste Management Association, Pittsburgh, Pennsylvania, p. 334-345.

PUBLICATIONS (Technical Reports)

- Sullivan, Arthur L., H. Stone, D.F. Wunneburger, S. Pillai, and K. Grady. 1998. Integration of Economic Data with Erosion Projections, Task 3 Report on Contract GLO 98-014. November 30, 1998.
- Rowell, Gareth A., J.P. Maresh and D.F. Wunneburger. 1998. Aerial Videography of Black-capped Vireo Habitat in Central Texas. Final Report for Endangered Species Act, Section 6, Texas Grant E-1-9, Project No. 57. April 30, 1998.
- Thomas, John K. and D.F. Wunneburger, 1998. Community Development and Conflict Resolution: The Application of GIS and Survey Research Methods for Mitigating Hazardous Waste Disputes. Final Report for Research Enhancement Program FY 96-97.

PUBLICATIONS (In Proceedings)

- Wunneburger, D.F. and B.B. DeFee. 2001. Integrating IT Tools to Assist Local Stakeholders in Open Space Decisions (Abstract No. 032). *GeoSpatial World 2001*, June 9-12, 2001, Atlanta, GA.
- Wunneburger, D.F. and B.B. DeFee. 2001. Integrating IT Tools to Assist Local Stakeholders in Open Space Decisions. *CORP 2001: Geo Multimedia 01*, February 13-16, 2001, Vienna, AT.
- Wunneburger, D.F. S. T. O'Keefe, T. K. Dudek, M. R. Muslam, R. N. Coulson, S. B. Vinson. 2000. FASIMS 2000 – An Update on The Fire Ant Spatial Information Management System. 2000 Imported Fire Ant Conference. Chattanooga, TN. April 2000.
- O'Keefe, S.T., D.F. Wunneburger, R.M.Meegan, A. Men, R.N. Coulson, and S.B. Vinson. 2000. A Landscape Perspective of Fire Ants (*Solenopsis invicta* Buren) and Implications Toward Their Management: An Initial Assessment. 2000 Imported Fire Ant Conference. Chattanooga, TN. April 2000.
- Wunneburger, Douglas F. 1998. Project-based Development of Enterprise-wide GIS. In Proceedings: *Geospatial Information and Technology Association 1998 GIS for the Oil and Gas Industry Conference and Exhibition*. Houston, TX. September 28-30, 1998.
- Coulson, R. N., J.W. Fitzgerald, W.C. Daugherty, F.L. Oliveria, and D.F. Wunneburger. 1997. Using spatial data for integrated pest management in forest landscapes. Proc. 11th Conference on Geographic Information Systems: *Integrating Spatial Information Technologies for Tomorrow*. Vancouver, BC.
- McKinney, Tony and D.F. Wunneburger. 1997. Using GPS-Controlled Airborne Videography for Rapid Mapping. In Proceedings: *Illinois GIS Association, Spring Conference*. Champaign, IL. April 15-16, 1997.
- Coulson, Robert N., J.W. Fitzgerald, W.C. Daugherty, F.L. Oliveria, and D.F. Wunneburger. 1997. Using Spatial Data for Integrated Pest Management in Forest Landscapes. In Proceedings: *GIS '97*. Vancouver, BC. February 11-14, 1997.
- Meyer, Thomas H., R.C. Maggio, D.F. Wunneburger, M. Eriksson, B. McCormick and D.Z. Sui. 1996. A conceptual framework for creating DTMs using finite elements and B-spline surfaces. In Proceedings: *GIS/LIS '96*. Denver, CO. November 19-21, 1996.
- Winn, Jennifer P., R.C. Maggio and D.F. Wunneburger. 1996. GIS as an Educational Tool. In Proceedings: *GIS/LIS '96*. Denver, CO. November 19-21, 1996.
- Wunneburger, Douglas F. and Deborah G. Wright. 1996. Socio-economic and environmental site evaluation--placing a facility in a populated rural landscape. *Intergraph Fall Users Conference*. New Orleans, LA. September, 1996.

Wunneburger, Douglas F. 1994. Management and analysis issues of problem solving with very large data bases. In Proceedings: *1994 Federal Geographic Technology Conference*, Washington, DC, September 26-29, 1994.

Wunneburger, Douglas F., J. Buchmiller, and T.H. Meyer. 1993. Generating referenced digital mosaics from aerial videography with parallel processing. In Proceedings: *GIS/LIS 1993*. Minneapolis, MN. November 2-4, 1993.

PRESENTATIONS (Posters)

Wunneburger, Douglas F., R.N. Coulson, S.T. O'Keefe, R.M. Meegan, A. Men, and S.B. Vinson. A 2000. Landscape Perspective of Fire Ants (*Solenopsis invicta* Buren) and Implications Toward Their Management. International Association of Landscape Ecologists Conference, Tempe, AZ. April, 2001.

DeFee, Buren B. and D.F. Wunneburger. 2000. Integrating Stakeholder Concerns into Open Space Planning Decisions. International Association of Landscape Ecologists Conference, Tempe, AZ. April, 2001.

Baum, Kristen A., W.L. Rubink, R.N. Coulson, and D.F. Wunneburger. 1999. Effects of Landscape Pattern on the Distribution of Feral Honey Bee Colonies in Southeast Texas. Entomology Society of America, Atlanta, GA. December 16-18, 1999.

Coulson, Robert N., D.F. Wunneburger, S.T. O'Keefe R.P. Meegan, A. Men, S.B. Vinson. 1999. Hazard Rating Post Oak Savanna Landscapes for the Red Imported Fire Ant, *Solenopsis invicta* (Hymenoptera:Formicidae). International Association of Landscape Ecologists Conference, Snowmass, CO. July 29 – August 3, 1999.

Wunneburger, Douglas F., M. Guzman, R.N. Coulson, S.B. Vinson, and B. Drees. 1999. The Fire Ant Spatial Information Management System (FASIMS). 1999 Imported Fire Ant Conference. Charleston, SC. March 3-5, 1999.

Coulson, Robert N., D.F. Wunneburger, S.T. O'Keefe, R.P. Meegan, A.L. Jacroux Biggs and S.B. Vinson. 1999. Landscape Ecology of Red Imported Fire Ants in a Post Oak Savanna: Sampling Methodology. 1999 Imported Fire Ant Conference. Charleston, SC. March 3-5, 1999.

Coulson, Robert N., D.F. Wunneburger and F.L. Oliveria. 1998. Corridors for Movement of the Southern Pine Beetle in Forest Landscape Mosaics. *National Entomol. Soc Conference*. Las Vegas, NV. November 1998.

Guzman, Maria D., R.N. Coulson, D.F. Wunneburger, S.B. Vinson, and B. Drees. 1998. FASIMS, the fire ant spatial information management system. *National Entomol. Soc Conference*. Las Vegas, NV. November 1998.

Wunneburger, Douglas F. Jacroux Biggs, A.L., Coulson, R.N., S. T. O'Keefe, R. P. Meegan, and S.B. Vinson. 1999. Landscape Ecology of Red Imported Fire Ants in a Post Oak Savanna. *National Entomol. Soc Conference*. Las Vegas, NV. November 1998.

PRESENTATIONS (Invited Oral)

2002 Applying GIS Tools in Landscape Architecture Projects. Texas Nursery and Landscape Association. Austin, TX.

2001 Assisting Open Space Decisions with Geomedia Web-map, GeoSpatial World 2001, Atlanta, GA

2001 Integrating IT Tools to Assist Local Stakeholders in Open Space Decisions, CORP 2001 Geo-Multimedia 01, Vienna, AT

1999 GIS – Spatial Information in Business. MIS student presentation. College Station, TX.

1997 Measuring Crown Structure of Loblolly Pine with Close-Range Stereophotogrammetry. Intergraph International Users Group Conference, Huntsville, AL.

- 1997 Teaching in Grades K-12 with GIS. Intergraph International Users Group Conference, Huntsville, AL.
- 1997 Automating Conversion of Video Imagery to GIS Data Bases. ASPRS/ACSM/Resource Technology Conference, Seattle, WA.
- 1997 Classifying Satellite Imagery with Automatically Geo-Referenced Aerial Videography. ASPRS/ACSM/Resource Technology Conference, Seattle, WA.
- 1996 Integrating MicroStation into a University Education Program, Bentley MicroStation Forum, Austin, TX.
- 1996 Research Applications with Bentley MicroStation. Bentley MicroStation Forum, Austin, TX.
- 1996 Workshop on Automating Classification and Verification of Satellite Imagery with Aerial Videography, National GAP Investigators Meeting, Key Largo, FL.
- 1996 Integrating Automatically Referenced Aerial Videography with Satellite Remote Sensing. ASPRS/ACSM/RT Spring Meeting, April, 1996.
- 1996 A Case Study of Modeling with GIS: The Role of Heterogeneity of Forest Landscapes in Red-Cockaded Woodpecker Habitat. Blacksburg, VA.
- 1995 Research Issues at the Mapping Sciences Laboratory, East Texas GIS Forum, Huntsville, TX.
- 1995 GPS for Forest Resource Management, East Texas SAF, Cleveland, TX.
- 1994 Overview of Research Projects of the Mapping Sciences Laboratory, Texas GIS Forum, Austin, TX.
- 1994 Management and Analysis Issues of Problem Solving with Very Large Data Bases, International BioTechnology Institute, Houston, TX.
- 1994 Automating Multistage Sampling Procedures with Aerial Videography. National Biological Survey, White House Tour, Washington, DC, October, 1994.
- 1994 Automating Multistage Sampling Procedures with Aerial Videography. Federal Geographic Technology Conference, Washington, DC, September, 1994.
- 1994 Applying GIS in Construction Engineering. Construction Executive Program. Center for Construction Education, Texas A&M University, January, 1994.
- 1991 Applying the Global Positioning System in Forest Management. Texas Society of American Foresters, Austin, TX, August, 1991.
- 1990 GIS Data Base Storage Alternatives. Texas Association of Appraisal Districts, College Station, TX, April, 1990.
- 1989 Modeling Oak Wilt Spread with GIS. Texas Natural Resources Inventory System Second Biennial Symposium on GIS in Natural Resources, Austin, TX, April, 1989.
- 1987 Monitoring Oak Wilt with GIS. Texas Natural Resources Inventory System Second Biennial Symposium on GIS in Natural Resources, Austin, TX, April, 1987.
- 1986 Applying GIS in Pest Management and Response. East Texas Entomological Society, Kurth Lake, TX, April, 1986.

PRESENTATIONS (Voluntary Oral)

- 1999 Geographic distribution and abundance of fire ants: a GIS/landscape ecology approach to suppression and prevention. Texas Fire Ant Initiative Peer Review Board. November 1999.
- 1999 GeoInformatic measurements in landscapes: generating statistically valid tests of hypotheses. East Texas Forest Entomology Seminar. Nacogdoches, TX. October 1999.
- 1999 Future impacts of information technology on forest pest management. East Texas Forest Entomology Seminar. Nacogdoches, TX. April 1999.
- 1999 Distribution and abundance of fire ants in post oak savannas: GIS/landscape ecology approach to suppression and prevention. Imported Fire Ant Conference. Charleston, SC. March 1999.
- 1999 Landscape ecology of the red imported fire ant in a post oak savanna landscape. Imported Fire Ant Conference. Charleston, SC. March 1999.
- 1999 The fire ant spatial information management systems (FASIMS). Imported Fire Ant Conference. Charleston, SC. March 1999.
- 1998 The Impact of Insects on Human Dominated and Natural Landscapes. Arthropods as Webmasters of Ecosystems. University of Georgia, Athens GA. 1998.
- 1998 Using Meta-knowledge to Track Species Movement and Interaction in Landscape Mosaics. Department of Entomology, OARDC, Wooster, OH. 1998.

- 1998 Metapopulation Dynamics of Forest Insects: Matching Spatial and Temporal Scales of Research and Management. IUFRO D-7 Forest Health Conference on Solving Forest Insect Problems Through Research. San Juan Puerto Rico. 1998.
- 1998 Arthropod Activity Across Ecotones in a Post Oak Savanna Landscape. East Texas Forest Entomology Seminar. Lufkin, TX. 1998.
- 1998 Landscape Ecology of the Red-Imported Fire Ant in a Post Oak Savanna Landscape. East Texas Forest Entomology Seminar. Lufkin, TX. 1998.
- 1998 The Distribution of Texas Ants: A GIS Approach. East Texas Forest Entomology Seminar. Lufkin, TX. 1998.
- 1998 Species Movement in Landscape Mosaics: Three Dimensional Corridors for Movement of Bark Beetles. Southern Forest Insect Work Conference. Asheville, NC. 1998.
- 1998 Application of Computer Technologies in the Classroom. Southern Forest Insect Work Conference. Asheville, NC. 1998.
- 1998 A Risk-Rating System for the Red-Imported Fire Ant in Post Oak Savanna Landscapes. East Texas Forest Entomology Seminar. Lufkin, TX. 1998.
- 1998 Survey-Sampling for the Red Imported Fire Ant in Post Oak Savanna Landscapes. East Texas Forest Entomology Seminar. Lufkin, TX. 1998.
- 1997 Using Spatial Data for Integrated Pest Management in Forest Landscapes. Proc. 11th Conference on Geographic Information Systems: Integrating Spatial Information Technologies for Tomorrow. GIS '97, Vancouver, BC. 1997.
- 1997 Effects of Remote Sensor Resolution on Landscape Element Differentiation and Mapping. International Association of Landscape Ecologists Conference. Durham, NC.
- 1997 Teaching Landscape Ecology in the University Environment. International Association of Landscape Ecologists Conference. Durham, NC. March 1997.

CONTINUING EDUCATION

- 2004 Participant, 1 day workshop on spatial demographic analysis, Austin, TX
- 2003 Participant, 3 day workshop on Geo-database design and implementation, Vienna, VA
- 2002 Instructor, 2 day workshop on applying GIS tools in hazards preparation and mitigation for visiting Taiwanese delegation, College Station, TX
- 1999 Coordinator and Instructor, 1 day workshop on applying GeoMedia in county government for the National Association of Counties. College Station, TX.
- 1999 Participant, 3 day workshop on GeoMedia Web Map. Huntsville, AL.
- 1998 Coordinator and Instructor, 1 day workshop on application and integration with GIS of real-time differential GPS for field sampling navigation and recording, College Station, TX and Austin, TX
- 1997 Coordinator and Instructor, 1 day workshop on Using SkyKing for Classifying and Verifying Satellite Imagery, Stillwater, OK
- 1996 Participant, GIS Applications with GeoMedia, Huntsville, AL
- 1996 Participant, Cartography for GIS Professionals, Texas GIS Forum, Austin, TX
- 1996 Participant, Map Design for GIS Specialists, Texas GIS Forum, Austin, TX
- 1996 Coordinator and Instructor, 1 day workshop on Integrating Aerial Videography Into an Image Analysis Workflow, Key Largo, FL
- 1995 Coordinator and Instructor, 4 day workshop in GPS and Remote Sensing for Taiwan delegation, College Station, TX
- 1994 Participant, 5 day workshop on Intergraph ISI-I and ISI-II+ Remote Sensing Tools, Huntsville, AL.
- 1994 Participant, 5 day workshop on Intergraph Modular GIS Environment, College Station, TX.
- 1994 Participant, 5 day workshop on Intergraph MicroStation 2D Level I Graphics, College Station, TX.
- 1994 Coordinator and Instructor, one day workshop on applying GIS in construction engineering, presented to vice-president level executives of major world-wide construction engineering firms, Construction Executive Program, Center for Construction Education, Texas A&M University, College Station, TX.
- 1992 Participant, 5 day workshop on Machine Vision and Visualization, College of Engineering, University of Michigan, Ann Arbor, Michigan

- 1992 Coordinator and Instructor, one day workshop on Intergraph Modular GIS Environment at Government Technology Conference, Austin, Texas
- 1991 Participant, 3 day workshop on System 9 Analytical Tool Box
- 1991 Organizer and Instructor, 3 day GIS workshop for government personnel
- 1990 Coordinator and Instructor, One day workshop on GIS for city and county personnel
- 1990 Instructor, One day workshop for Texas State Soil and Water Conservation Board
- 1988 Organizer and co-instructor for one day workshop on GIS at the National GIS convention (GIS 88) for ASPRS, San Antonio, Texas
- 1987 Instructor, One day GIS workshop for regional planners
- 1987 Organizer and co-instructor for second 2.5 day GIS workshop
- 1986 Instructor, One day GIS workshop for National Park Service personnel
- 1985 Software developer, organizer and co-instructor for Microcomputer Based Geographic Information Systems for Forest Resource Managers, 2.5 day workshop

FUNDED PROPOSALS (Current)

Coastal Planning Atlas for Texas

Sponsor: Sea Grant

Amount: \$250,000

Cooperators: Sam Brody – PI, Walter Peacock, Forster Ndubisi, June Martin

Duration: Two years

Objectives: Develop an Internet based planning tool for coastal counties of Texas. Create model building scenarios to be used by planners and the general public. Output of scenarios to be delivered by web images, on-line GIS, and OGC standard feature services.

FUNDED PROPOSALS (Completed)

Hurricane Katrina Response

Sponsor: National Park Service

Cooperators: Gillian Bowser, Terry Wade, Anthony Filippi

Amount: \$6000

Duration: 6 months

Objective: Assist in analyzing impact of Hurricane Katrina on NPS employees, develop baseline datasets to monitor changes in Gulf Islands.

Understanding organizational and technological capabilities in public and private planning agencies in Texas for applications of GIS/PSS to practice and decision making

Sponsor: College Research Council, College of Architecture, TAMU

Amount: \$7,500

Duration: 2004 (9 mo.)

Co-PI: S.D. Brody, C.D. Ellis, M.K. Lindell, W.G. Peacock, M.Zhang

Objectives: Study limitations in Texas in application of current science and technology toward urban planning and management problems. Understand organizational capacities of public and private planning agencies in Texas with respect to the application and implementation of GIS/PSS for spatial decision-making on various urban issues; identify technological (hardware, software, and information management) capabilities of the agencies; develop educational programs based in the Department of Landscape Architecture and Urban Planning, Texas A&M that help overcome the limitations and improve planning decision making in the Texas agencies.

Integrating Collaborative Technology Resources for Instruction in Landscape Architecture and Urban Planning

Sponsor: TAMU Associate Provost for Information Technology, Computer Access Fee Grant

Amount: \$34,344

Duration: 2003-2004 (1 yr.)

Co-PI: D.L. Pugh, M.D. Murphy, M.C. Neuman, J.G. Baker

Objective: Acquire interactive video display tools that promote collaborative work among the students in the College of Architecture. Provide equipment intended for direct use by the students in a cross section of studios and classes taught in LAUP. Integrate multi-media capabilities in classroom to provide venue for presentation and critical review.

Integrating Collaborative Technology Resources for Instruction in the College of Architecture

Sponsor: TAMU Associate Provost for Information Technology, Classroom Instructional Technology Grant

Amount: \$28,584

Duration: 2002-2003 (1 yr.)

Co-PI: J.G. Baker, J.R. Naderi, G.Vasquez, M. Clayton, D.L. Pugh, M.D. Murphy

Objective: Provide interactive video display tools to promote collaborative work among College of Architecture students. Integrate hardware/software resources into College instructional programs.

Chairs for Open Access Computers in the Third Floor Studios

Sponsor: CARC IEEF Competitive Grants

Amount: \$10,800

Duration: 2002

Objective: requests funds to purchase 24 new chairs under the IEEF Competitive Grant program to provide seating adequate for computer operation

Developing Resources for Surveying and GPS Instruction in Landscape Architecture and Urban Planning

Sponsor: TAMU Associate Provost for Information Technology, Computer Access Fee Grant

Amount: \$33,568

Duration: 2001 (1 yr.)

Co-PI: C.D. Ellis, J. Baker

Objective: Provide field data-gathering equipment designed to produce accurate, high-resolution digital base maps for design and planning purposes. Satisfy needs for collecting absolute (GPS) and relative (Total Station) location data for classroom and studio instruction.

Developing Scanning Resources for Instruction in the College of Architecture

Sponsor: TAMU Associate Provost for Information Technology, Computer Access Fee Grant

Amount: \$9,000

Duration: 2000 (1 yr.)

Co-PI: M.C. Neuman, J.G. Baker

Objective: Provide pre-press scanning capability for student access in the Geoinformatics Studio. Satisfy needs for very high resolution, medium format reproduction for presentation in public forums and arenas; provide mid-size flat bed scanning for bound materials and other uses; and provide transparency scanning capability digitizing high-quality photographs.

Improving Computing Resources for Instruction in Landscape Architecture and Urban Planning

Sponsor: TAMU Associate Provost for Information Technology, Computer Access Fee Grant

Amount: \$30,400

Duration: 1999 (1 yr.)

Co-PI: C.D. Ellis, J. Baker

Objective: Develop a prototype GIS instruction facility by enhancing computerized teaching lab configuration. Integrate equipment to put all monitors in the classroom under the instructors control to enable selection of system projected on electronic white board. Improve system output and visualization tools.

Evaluating the Impact of Southern Pine Beetle on Ecologically Sustainable Forest Management, Co-PI.

Sponsor: USDA- Forest Service

Amount: \$30,000

Duration: 2000 (1 yr.)

Co-PI: R.N. Coulson, F.L. Oliveria, D.F. Wunneburger

Objective: To develop methods for a landscape ecology approach in evaluating impacts of endemic SPB populations on sustainable forest management and prescribe ecologically sound management practices for sustainability at landscape scale.

Open Space Inventory of Brazos Valley Counties

Sponsor: Brazos Valley Council of Governments, Environmental Subcommittee

Amount: \$28,800

Duration: 1999 - 2001

PI: D. F. Wunneburger

Objective: To develop an open space inventory of the seven counties in the Brazos Valley Council of Governments, and create Internet GIS-based delivery and evaluation tools for local stakeholders.

College Station Easement Conversion

Sponsor: City of College Station, TX

Amount: \$180,000

Duration: 1999-2000 (3 yr.)

PI: D.F. Wunneburger, Co-PI: T. Woodfin

Objective: Develop automated procedures for (a) conversion of historical easements from legal abstracts to GIS themes, and (b) evaluation and delivery using Internet-based GIS. Convert easements from abstracts and plats to GIS database.

Development of an Internet-Supported Enterprise GIS (ISEGIS), Co-PI

Sponsor: College Research Council

Amount: \$6,000

Duration: 1999 (6 mo.)

PI: Christopher Ellis (Dept. LAUP), Co-PI: D.F. Wunneburger (College of Architecture)

Objective: Identify and organize agencies that would benefit from real-time spatial data sharing and, develop a series of customized (or customizable) interfaces for supporting typical spatial queries and analyses within the participating agencies.

Geographic Distribution and Abundance of Fire Ants: A GIS/Landscape Ecology Approach to Suppression and Prevention, Co-PI

Sponsor: TAES, Texas Department of Agriculture

Amount: \$437,000

Duration: 1997-2001 (4 yrs.)

PI: R. N. Coulson, Knowledge Engineering Laboratory, Co-PI: D. F. Wunneburger (College of Architecture), S. B. Vinson, and Paul E. Pulley (Dept. Ento.), Dr. Dianzhi Sui (Dept. Geog.), Dr. Xinyuan Wu (Dept of Rang Ecol. and Mg.).

Objective: To develop a risk rating system for fire ants in post oak savanna landscapes and to develop a fire ant spatial information management system (FASIMS).

Applying GIS and satellite imagery based methods for estimating timber acreage by forest use type, Co-PI

Sponsor: Texas Comptroller of Public Accounts

Amount: \$27,000

Duration: One year

PI: Robert D. Baker, Co-PI: D. F. Wunneburger

Map Coverage Search for Marine Related Data of Mobile Bay

Sponsor: Center for Marine Training and Safety

Amount: \$1,500

Duration: Two Weeks

PI: D. F. Wunneburger

Texas GAP Analysis -- Inventory and Analysis of Biodiversity in Texas

Sponsor: National Biological Service

Amount: \$78,616

Duration: Eighteen Months

PI: Robert C. Maggio and D. F. Wunneburger

GIS Based Oil Spill Response Simulator for Egypt

Sponsor: Ship Analytics, Arab Academy of Science and Technology

Amount: \$210,834

Duration: Eight Months

PI: D. F. Wunneburger, Co-PI: R. C. Maggio

Community Development and Conflict Resolution: The Application of GIS and Survey Research Methods for Mitigating Hazardous Waste Disputes, Co-PI

Sponsor: Research Enhancement Program

Amount: \$38,800

Duration: Two Years

PI: John K. Thomas, Co-PI: D. F. Wunneburger, H. Ladewig, J. Thigpen

Black-Capped Vireo Habitat Assessment -- Predicting potential habitat using aerial videography and high altitude photography

Sponsor: Texas Parks and Wildlife

Amount: \$27,000

Duration: Fifteen Months

PI: D. F. Wunneburger

Texas GAP Analysis -- Developing and applying multi-stage sampling procedures for LANDSAT imagery using aerial videography

Sponsor: National Biological Survey

Amount: \$47,000

Duration: One year

PI: D. F. Wunneburger

Texas GAP Analysis -- Inventory and analysis of biodiversity in Texas, Co-PI

Sponsor: National Biological Survey

Amount: \$14,826

Duration: One year

PI: R. C. Maggio, Co-PI: D. F. Wunneburger

Developing a Center of Excellence in the Mapping Sciences, Co-PI

Sponsor: Intergraph Corporation, Trimble Navigation, TAES

Amount: \$2,815,000

Duration: Five years

Co-PI: R. C. Maggio, D. F. Wunneburger; With Administrator: G. D. Liccioni; Co-workers: C. R. Bassham, J. H. Culver and D. G. Wright

Automated Data Capture -- Developing procedures to rectify aerial videography

Sponsor: USDA -- Soil Conservation Service

Amount: \$30,447

Duration: One year

PI: Robert C. Maggio

Optimizing a Parallel Processing System for Very Large GIS and Remote Sensing Data Base Applications, Project Leader

Sponsor: Electronic Data Systems

Amount: \$100,757

Duration: One Year

PI: R. C. Maggio

PENDING PROPOSALS

UNFUNDED PROPOSALS

Converting Easements from Legal Abstracts and Plats into GIS Database

Sponsor: City of Bryan Engineering Dept.

Amount: \$150,000

Duration: 2.5 years

Duration: 2005 - 2008 (3 yr.)

PI: D.F. Wunneburger

Objective: Develop automated procedures for (a) conversion of historical easements from legal abstracts to GIS themes, and (b) evaluation and delivery using Internet-based GIS. Convert easements from abstracts and plats to GIS database. Integrate project into teaching and future research programs.

Establishing Framework Data Services Using the OGC Feature Service Specification in Brazos and Surrounding Counties of Texas

Sponsor: Federal Geographic Data Committee

Amount: \$129,000

Duration: 2005

Co-PI: Kevin Balke, TTI

Cooperators: Ionic Enterprise, Inc., City of Bryan, City of College Station, Brazos Valley Council of Governments, Brazos County Appraisal District, Texas Geographic Information Council

Objective: Establish Web Feature Service node that satisfies spatial data interoperability goals of local governments, the State of Texas and the FGDC. Construct a prototype for future applications throughout the state and region.

Creating a Mobile Seminar Room to Enable Interactive and Collaborative Remote Learning Through Data Conferencing and Multi-media Production

Sponsor: TAMU Computing Access Fee Matching Grant Program

Amount: \$45,000

Duration: 2005

Co-PI: F. Ndubisi, C. Ellis

Objective: Create a resource to be integrated with data conferencing applications to enable access to multi-media from one location. Facility would function as a collaborative remote learning forum, an event broadcast facility, and video production studio.

Integrating Geo-Spatial Technologies into the Right-of-Way Data Management Process

Sponsor: National Academy of Sciences-NRC-TRB-NCHRP

Amount: \$99,993

Duration: 2005 – 2006 (1 year)

PI: Neil Eldin

Co-PI: Khalid Eldrandaly

Objective: Provide solution to minimizing ROW problems using GIS to enhance handling, analysis and management of ROW information.

Introducing Soft Copy Video Production Tools into Studio Instruction in the College of Architecture

Sponsor: TAMU Associate Provost for Information Technology, Classroom Instructional Technology Grant

Not funded: \$28,000

Duration: 2003-2004 (1 yr.)

Co-PI: J.R. Naderi, J.G. Baker

Objective: Acquire interactive video display tools that promote collaborative work among the students in the College of Architecture. Complete configuration includes computer workstations, video and sound editing software, digital video camcorders, field display players, projectors, and video recording tools.

Establish Mobile Node of Geography Network of Texas A&M University

Sponsor: TAMU Infrastructure Technology Fund

Not funded: \$250,000

Objective: Implementation of telecommunications and informatics technology to enhance education, research and outreach in environmental informatics

A regional center for the study of urban and rural landscape dynamics

Not funded: \$550,000; NASA

Three Years

Establishing an Urban Recreation Research Center

With: Texas Southern University

Not funded: \$350,000; National Park Service

Predicting Regional Trends in Pest Outbreaks with the Lightning Imaging Sensor

(with R. N. Coulson, Co-PI)

Not funded: \$577,223; NASA

Three Years

Environmental Stewardship of Pine Forests Through Integrated Pest Management of the Southern Pine Beetle, Co-PI

(with R. N. Coulson, PI; R. Billings, Co-PI; W. Daugherty, Co-PI; D. Drummond, Co-PI; B. B. Eav, Co-PI; J. Jackman, Co-PI)
Not funded: \$458,000; Fund for Rural America
Four Years

Interaction of Southern Pine Beetle and Red-Cockaded Woodpecker in Forest Land Mosaics, Co-PI
(with R.N. Coulson, PI; P.E. Pulley, Co-PI; S.B. Jack, Co-PI)
Not funded: \$198,143; USDA-NRICGP
Two Years

A Knowledge Engineering Approach to Modeling Land-Cover and Land-Use Change in Sumatra, Indonesia: Integrating the Scientific and Social Elements of Sustainable Management, Co-PI
(with Robert N. Coulson, PI; J.R. Giardino, Co-PI; E.J. Rykiel, Co-PI; W. Daugherty, Co-PI)
Not Funded: \$586,317; NASA
Three Years

Interaction of Bark Beetles and Woodpeckers: The Role of Landscape Structure
(with R.N. Coulson, PI; P.E. Pulley, Co-PI; S.B. Jack, Co-PI)
Not Funded: \$204,118; USDA-NRICGP
Two Years

Implementation of Ecosystem Management Practices, Co-PI
(with R.N. Coulson, PI; S.B. Jack, Co-PI)
Not Funded: Research Enhancement Program
Two Years

Developing Parallelism in Spatial Modeling with Large Scale GIS Data Bases
(with Robert C. Maggio, Co-PI; Paul Dyke, Co-PI)
Not Funded: \$441,397; Electronic Data Systems
Two Years

COMMITTEE ACTIVITIES

Texas State GIS Advisory Committee, Department of Information Resources
Intergraph Users Group, Education Special Interest Group Chair (1996-1998), Vice-Chair(1998-2000)
College of Architecture Information Technology Committee

PROFESSIONAL AFFILIATIONS

American Society for Photogrammetry and Remote Sensing
International Association of Landscape Ecologists
Society of American Foresters
Xi Sigma Pi
Kappa Kappa Psi

CONSULTING ACTIVITIES

2005 Work with Environmental Research Group (ERG) to analyze impact of soils on contribution to air pollution in Texas from NOX and particulates in heavy construction
2005 Assist City of Brenham in developing street centerline database
2005 Assist Pipeline Compliance America in population density analysis project
2004 Assist Pipeline Compliance America in population density analysis project
2002 Assist Dow Gas Pipeline Company in Aerial mapping project
2001 Assist Seadrift Gas Pipeline Company in mapping pipeline
2000 Assist Union Carbide Gas Pipeline Company in GIS-Based Pipeline Management
1997 Assist Texas Department of Transportation with Litigation Action
1996 Assist Gas Pipeline Companies in GIS-Based Pipeline Management
1996 Assist Petroleum Refinery in Solid Waste Application Project
1995 Assist private engineering firm in litigation concerning contaminant migration

- 1994 Assist San Antonio Water District in Determining Potential Disposal Sites for Solid Waste Sludge
- 1994 Provide Assistance to Gas Pipeline Companies in Applying GIS in Pipeline Management
- 1993 Develop Class Location Analysis for gas pipeline companies
- 1992 Advise in applying GIS to site remediation plan for Star Refinery, Port Arthur, Texas
- 1991 Assist in developing proposal for preparing remediation plan for Star Refinery, Port Arthur, Texas
- 1988 Prepare report of environmental impact of saltwater disposal injection well to Katy Saltwater Disposal Company, Provide testimony to Texas Railroad Commission regarding report.

HONORS AND AWARDS

- 1986 Second Prize, FORS National Student Applied Forestry Software Contest.
- 1985 Second Prize, FORS National Student Applied Forestry Software Contest.
- 1994 Recognition for Significant Contributions to the Mapping Sciences

COMMUNITY SERVICE

- Board of Directors, Parent Educator Partnership Program, Bryan ISD, Bryan, TX
- Parents as Teachers Program, Bryan ISD, Bryan, TX.
- Brazos Valley Cyclists, Texas Bicycle Coalition founding member
- Administrative Board, First United Methodist Church of Bryan, 2000-2003
- FUMC Children’s Bell Choirs, Director
- President, Jane Long Middle School PTO, Bryan ISD, Bryan, TX
- Bryan ISD 2003-2004 Facilities Planning Committee
- Bryan ISD 2004-2005 Parent Communication Committee
- Bryan Little League North Jr. Minor Coach
- Bryan Schools Tomorrow Committee 2004-2005
- Bryan Soccer Club U-13 Girls Coach
- Co-chair, 2004-2005 Bond Election Committee Speakers Bureau

DATE OF PREPARATION: April, 2006