

# *Curriculum Vitae*

## **I. Personal Information**

**TIMOTHY N. BURCHAM, P.E., Ph.D.**

*Work Address*                      Dept. of Agriculture, Geosciences, and Natural Resources  
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University of Tennessee at Martin  
Martin, TN 38238

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## **II. Educational Credentials**

*Doctor of Philosophy*              Agricultural Engineering, Clemson University, Clemson,  
South Carolina. December, 1989.

*Master of Science*                  Agricultural Engineering, Mississippi State University,  
Starkville, Mississippi. May, 1985.

*Bachelor of Science*                Agricultural Engineering, Mississippi State University,  
Starkville, Mississippi. *Cum Laude*. August, 1983.

*Registered Engineer*                Registered Professional Engineer. State of Mississippi  
License # 14034.

### **III. Employment History/Teaching Accomplishments**

#### **A. Employment History**

*7/11 – Present* **Interim Department Chair and Professor in the Department of Agriculture, Geosciences, and Natural Resources (AGN) (tenured)**

**Interim Department Chair** - Responsibilities include: organization, planning, and implementation of all academic programs within the department with majors in Agriculture, Geosciences, and Natural Resources Management. Responsible for all Agriculture, Geosciences, and Natural Resources departmental budgets (academic, grants, endowments, and gifts) totaling \$1,640,526.

**Director of the Center of Excellence (COE) in Experiential Learning in the Agricultural Sciences** – Responsible for all managerial aspects of a 640 acre teaching farm that includes cropland, agricultural livestock, and domestic animals used in teaching and applied research programs. Responsible for all budgetary aspects of the COE totaling \$1,117,040.

**Tennessee Governor’s School for the Agricultural Sciences (TGSAS).** Responsible administrator for all aspects of the TGSAS. The TGSAS Director reports to the AGN Department Chair. The total TGSAS budget (with UTM participation and gifts) is \$126,311.

*6/02 – 7/11* **Professor (tenured), Gilbert Parker Chair of Excellence**

University of Tennessee at Martin, Tennessee, Department of Agriculture, Geosciences, and Natural Resources (AGN). Major responsibilities of this position are to coordinate the MS in Agriculture and Natural Resources (MSANR) for the department and to assist regular faculty as they develop convenience delivery formats for courses taught within the department at the graduate and undergraduate level. The Parker Chair has teaching responsibilities in the MSANR program and the AGN department. Other responsibilities include, but are not limited to: networking with industry, foundations, and government agencies to secure funding and other forms of support to enhance the department’s teaching program; working directly with other resources within the university; and cooperating with associated personnel in the development and implementation of creative methods of delivering education in agriculture and natural resources management disciplines.

**Academic/Assistant Director** (2004 – 2010) Tennessee Governor’s School for the Agricultural Sciences (TGSAS). Academic/Assistant Director for the development and implementation of the TGSAS academic curriculum.

*2001 – Present*      **President, Innovative Biosystems Engineering, PLLC**

Environmental engineering consultation. Emphasis: onsite wastewater design and development, engineering analysis for onsite wastewater products, livestock waste treatment system design/management, and CNMP development.

*7/98 – 6/02*      **Associate Professor, Bio-Environmental Engineer (tenured)**

*1/93 – 6/98*      **Assistant Professor, Bio-Environmental Engineer**

Mississippi State University, Department of Agricultural and Biological Engineering, Starkville, MS. Research programs in land application of animal manures, animal manure treatment facilities design, swine waste water treatment and odor abatement technologies, dairy manure solids separation, and surface water quality. Teaching duties included: Agricultural Surveying and Drainage, Analytical Methods, Land Surveying, Machinery Management for Agro-Ecosystems, Principles of Engineering Design, and Soil & Water Conservation Management.

*10/89 – 12/92*      **Assistant Professor, Water Quality Specialist**

The University of Tennessee Agricultural Extension Service, Agricultural Engineering Department, Knoxville, TN. Responsible for conducting statewide educational programs emphasizing water quality and environmental conservation in the areas of: Animal Waste Management, Agricultural Chemicals and Fertilizers, Soil Erosion, Domestic Water Supplies, On-Site Domestic Waste Water Treatment Systems, and Irrigation. Responsible for design and implementation of water quality demonstrations for a cooperative program with the Tennessee Valley Authority. Conducted research on the Vortical Particle Size Distribution System.

8/85 – 10/89

**United States Department of Agriculture National  
Needs Fellow and Graduate Research and Teaching  
Assistant**

Agricultural Engineering Department, Clemson, South Carolina. Conducted investigative research in the field of particle size distribution in sediment-laden runoff. Designed and developed the Vortical Particle Size Distribution System (VPSDS). Instructor for land surveying laboratory. Assisted in design and development of the Clemson University Rainfall Simulator. Dissertation title: Vortical Particle Size Distribution System. Dissertation director: Dr. John C. Hayes.

8/82 – 8/85

**Laboratory Instructor and Research Assistant**

Department of Agricultural and Biological Engineering, Mississippi State University, Starkville, Mississippi. Conducted field, laboratory, and analytical research on pressure forces generated at the soil-tire interface of a logging skidder used in forest harvesting operations. Supervised land surveying laboratory instruction. Assisted in research studies related to the reduction of soil compaction in forestry operations. Instructional experience in Electrical Applications and Introduction to Agricultural Engineering. Thesis title: Mobile Soil-Tire Interface Pressure Sensing Systems. Thesis director: Dr. R. Kenneth Matthes.

8/82 – 8/83

**Full-time Undergraduate Studies**

5/80 – 8/82

**Product Engineering Co-op – John Deere**

John Deere Ottumwa Works, Ottumwa, Iowa. Product engineering training included equipment design, durability testing, product safety, and experimental shop supervision. Manufacturing Engineering training included operation of fabrication machinery, production control, industrial engineering, plant engineering, and production line supervision. Responsible for redesign of experimental row guidance system that involved application of mechanical, electrical, and hydraulic engineering principles.

## **B. Teaching Accomplishments**

### **Courses Taught**

#### University of Tennessee at Martin

- AGEC-AGET 784 – Applied Management Science in Agricultural Systems I (3)
- AGEC-AGET 785 – Applied Management Sci. in Agricultural Systems II (3)
- AGET/CIEG 354 – Advanced Land Surveying and Geomatics
- AGET 482 – Principles of GPS and GIS for Agriculture and Natural Resource Management (3)
- AGET 760 – Comprehensive Nutrient Management Planning & System Design (3)
- AGET 720 – Advanced Soil and Water Conservation Technology (3)
- AGET 760 – Comprehensive Nutrient Management Planning and System Design (3)
- AGET 781 – Agricultural Operations Management Seminar (1)
- AGET 782 – GIS for Agriculture and Natural Resources Management (3)
- FRP 201-202 – Fellows Research Program (1, 2)
- AGRI 701-702 – Master’s Thesis (3, 1-3)
- AGRI 772 – Special Topics: Advanced Soil and Water Conservation Engineering (3)
- AGRI 791 – Research in Agricultural Operations Management (1-3)
- AGRI 792 – Research in Agricultural Operations Management (2)
- NRM 701-702 – Master’s Thesis (3, 1-3)
- NRM 791 – Research in Natural Resources Management (1-3)

#### Mississippi State University

- ABE 1863 – Engineering Technology in Agriculture (3)
- ABE 2263 – Agricultural Surveying and Drainage (3)
- ABE 2421 – Analytical Methods (1)
- ABE 2873 – Land Surveying (4)
- ABE 4163 – Machinery Management in Agro-Ecosystems (3)
- ABE 4263 – Soil and Water Management (3)
- ABE 4812 – Principles of Engineering Design (3,3)
- ABE 4990 – Power Train Technology & Design (3)
- ABE 8213 – Advanced Soil & Water Engineering (3)
- ABE 8990 – Animal Waste Mngt. – An Overview of Modern Techniques (1)
- ABE 8990 – Nutrient Management & Engineering in Biosystems (3)

## Teaching Evaluations

University of Tennessee at Martin (5.0 scale)

<u>Course</u>	<u>Term</u>	<u>Score</u>
AGET 781	Fall 2002	4.58
AGET 781	Spring 2004	4.28
AGET 781	Spring 2005	4.29
AGET 482	Fall 2003	3.71
AGET 482	Spring 2004	3.33
AGET 482	Fall 2004	4.68
AGET 482	Spring 2005	4.10
AGET 482	Fall 2005	4.51
AGET 482	Spring 2006	4.29
AGET 482	Fall 2006	4.80
AGET 482	Spring 2007	4.55
AGET 482	Fall 2007	4.59
AGET 482	Fall 2008	4.26
AGET 482	Fall 2009	4.50
AGET 760	Spring 2003	4.45
AGET 760	Fall 2003	4.48
AGET 760	Spring 2005	4.80
AGET 782	Spring 2004	4.13
AGET 784	Spring 2004	4.23
AGET 784	Spring 2005	4.55
AGET 785	Fall 2002	4.83
AGET 785	Fall 2003	4.05
AGET 785	Fall 2004	4.35
AGET 792	Fall 2003	4.71
AGRI 772	Summer 2005	4.74
AGET 354	Spring 2008	4.49
AGET 354	Spring 2009	4.70
AGET 482	Fall 2009	4.57
FRP 202	Spring 2011	4.84
FRP 201	Fall 2011	4.42
FRP 202	Spring 2012	4.83
FRP 201	Fall 2012	4.65
FRP 202	Spring 2013	-
<b>Average</b>		<b>4.45</b>

Mississippi State University (5.0 scale)

<u>Course</u>	<u>Term</u>	<u>Score</u>
ABE 1863	Fall 1996	4.66
ABE 2263	Spring 1998	4.32
ABE 2263 Lab	Spring 1998	4.31
ABE 2873	Fall 1993	4.21
ABE 2873 Lab	Fall 1993	4.21
ABE 2873	Fall 1994	4.03
ABE 4163	Fall 1995	4.58
ABE 4163	Spring 1997	4.24
ABE 4163 Lab	Spring 1997	4.02
ABE 4163	Fall 1998	4.43
ABE 4163 Lab	Fall 1998	4.20
ABE 4163	Fall 2000	4.47
ABE 4163	Fall 2001	3.97
ABE 4263	Spring 1997	4.27
ABE 4263	Spring 1998	4.32
ABE 4263	Spring 1999	3.92
ABE 4263 Lab	Spring 1999	4.01
ABE 4263	Spring 2001	4.22
ABE 4263 Lab	Spring 2001	4.41
ABE 8990	Spring 1999	4.28
<b>Average</b>		<b>4.25</b>

## **Curriculum Development**

### **Master of Science in Agriculture and Natural Resources (MSANR) Program (2002 - Present)**

In June 2002, the MSANR program had seven students and four hybrid classes. Since that time, enrollment has grown to about 40 active students, and we now offer 28 online graduate courses that are taught predominantly by AGN faculty. The MSANR program has students located throughout the United States and around the world. Since its inception in 2001, the program has undergone numerous curriculum enhancements to serve the diverse needs of agriculture and natural resources professionals. The curriculum is comprised of 36 hours of graduate course work. Beginning Fall 2011, the MSANR degree program will offer four concentrations: 1) Agribusiness and Risk Management, 2) Agricultural Education and Leadership, 3) Natural Resources Systems Management, and 4) Systems Science in Agriculture. The Agribusiness and Risk Management concentration provides a range of agricultural economics course work developed specifically to address risk management issues associated with agribusiness enterprises. The Agricultural Education and Leadership (AEL) concentration provides education specific courses from the College of Education and Behavioral Sciences and the College of Agriculture and Applied Sciences. Students selecting the Natural Resources Systems Management concentration have access to a wide range of natural resources based graduate course work from the University of Tennessee at Martin as well as participating universities in the Natural Resources Distance Learning Consortium (NRDLC). The Systems Science in Agriculture concentration features course work in agricultural engineering technology, management science, and agricultural economics providing a well-rounded graduate education for professionals seeking careers in agricultural industries and government agencies. The growth and success of this program can be attributed to the unique “online” delivery methods developed through the years and the commitment of AGN faculty and staff to our graduate mission.

### **Governor’s School for the Agricultural Sciences (2004 – Present)**

One of the most exciting things to happen in AGN department since Dr. Burcham arrived in 2002 is the Tennessee Governor’s School for the Agricultural Sciences (TGSAS). Dr. Burcham has served as Assistant Director and/or Academic Coordinator of the TGSAS since its inception in 2004. Through the efforts of Dr. Burcham and his AGN colleagues, an ambitious and daring curriculum, rich in science and hands-on learning experiences, was developed. That curriculum development effort has stood the test of time, as it has remained the foundational basis for all subsequent TGSAS cohorts. The TGSAS program has markedly improved our recruitment of top students throughout the state, elevating the stature of the AGN department regionally and nationally. No program has influenced the stature of the AGN department more positively than the TGSAS.



### **Fellows Research Program**

(2008- Present)

With the tremendous success of the Tennessee Governor's School for the Agricultural Sciences from a student recruitment standpoint, Dr. Burcham felt there was an excellent opportunity to develop an "honors" program specifically for AGN students. With this vision and the help of a dedicated group of AGN faculty, the Agriculture, Geosciences, and Natural Resources Research Fellows Program (AGN-FRP) was born. The program includes an additional 12 hours of course work tailored to enhance student's investigative skills. The AGN-FRP provides an opportunity for outstanding AGN students to gain organized experiences in research and scholarship through a mentored relationship with an AGN faculty member. The primary goal of the AGN-FRP is to foster and enhance undergraduate research in a manner that is mutually beneficial for the student and the faculty mentor. The inaugural AGN-FRP class began in Fall 2010.

### **Land Surveying and Geomatics Certification (LSGC) Program**

(2007-Present)

Prior to the development of the Land Surveying and Geomatics Certification (LSGC) program at UT Martin, there was only one institution in Tennessee that offered a formal training path to becoming a registered land surveyor (and that institution was in the far reaches of east Tennessee). Recognizing that the Tennessee Board of Examiners for Land Surveyors (TBELS) had modified their criteria for becoming a registered land surveyor, Dr. Burcham led a team of faculty from the Department of Agriculture, Geosciences, and Natural Resources and the Department of Engineering to develop a curriculum that prepared our students to qualify for the Fundamental of Land Surveying (FLS) Exam. This program requires 24 hours of land surveying specific course work. This LSGC program has grown markedly since its inception and our students are having success in passing the FLS exam.

### **Agricultural Engineering Technology Concentration**

(2004 - Present)

The Agricultural Engineering Technology (AGET) Concentration was added to the Bachelor of Science in Agriculture curriculum and approved by the UT Martin Faculty Senate in the fall of 2004. Dr. Burcham developed this curriculum (in consultation with long-time AGN faculty member, Mr. Richard Shadden) based on experience at Mississippi State University. This degree concentration provides an excellent background in agricultural engineering technology and business/agribusiness. This combination makes AGET graduates valuable for many agricultural based employers in Tennessee. This concentration has grown to about 50 students.

## **GIS Certification Program**

Dr. Burcham, in cooperation with Jeff Brinkley and Mark Simpson of the Geography department, developed a 15-hour Geographic Information Systems Certification Program at UT Martin. The program was made available in the fall of 2006 and requires students participating in the program to take 15 hours of GPS-GIS specific course work from the AGN department. Students completing this certification program have found excellent employment opportunities in the GIS field.

## **General Organic & Biochemistry (GOB) Curriculum Revisions for Agriculture & Natural Resources (ANR) programs**

Dr. Burcham chaired an ANR committee that worked closely with faculty from the Chemistry department to develop a new two-course sequence in General Organic & Biochemistry (GOB). The committee succeeded in developing CHEM 111-112 sequence courses. The committee then proceeded to submit curriculum changes for all affected Ag & NR degree programs (ultimately about 80 percent of the agriculture and natural resources curriculums adopted the new GOB sequence). The CHEM 111-112 sequence better prepares AGN students for career challenges in their respective fields of professional endeavor.

## **New Course Development**

### ***UT Martin***

#### **2010**

**FRP 201-202** - Current topics in agriculture, geosciences, and natural resources management. Features topical subject delivery by Department of Agriculture, Geosciences, and Natural Resources faculty with guest lecturers from industry, government agencies, and field practitioners. Students will complete an exhaustive literature review for FRP 202 in a subject area associated with their field of study. Graded Pass/Fail. *Prereq: Student must be a member of the Agriculture, Geosciences, and Natural Resources Fellows Research Program (AGN-FRP) and be in good standing (as determined by the AGN-FRP Committee).*

#### **2009**

**AGEC-AGET 784** - Applied Management Science in Agricultural Systems I (3) Mathematical programming and constrained optimization research methods for applied decision making in agriculture. Development of computer and writing skills necessary for finding optimal solutions to complex applied problems in addition to succinctly communicating results in the proper format and context. Theory, implementation and optimal solution sensitivity of linear and integer programming as well as network and project scheduling models are examined.

**AGEC-AGET 785** – Applied Management Science in Agricultural Systems II (3)  
Probability concepts, decision making under uncertainty and forecasting for applied decision making in agriculture. Continued development of computer and writing skills necessary for finding and communicating results professionally. The theory and implementation of decision analysis and forecasting techniques as well as inventory, queuing, and simulation models are examined.

**AGET 482** GPS-GIS Technologies in Agriculture, Geosciences, and Natural Resources (3)

Revised AGET 482 to better reflect course content and be inclusive of the Geosciences faculty that joined our department in 2009.

## **2008**

**AGET 354** Advanced Land Surveying and Geomatics (3)

Engineering surveying measurements, methods and computations. mensuration (art of measuring), leveling, traversing, earth work, topographic mapping, and laying out horizontal and vertical curves. (New course created for the Land Surveying and Geomatics certification program at UT Martin).

## **2007**

### **Biofuels Technology Group Study Project for TGSAS**

A four-week Group Study Project developed for the 2008 Tennessee Governor's School for the Agricultural Sciences. Subject areas included: Introduction to Agricultural Engineering Technology, Global Positioning System/Geographic Information Systems (GPS/GIS), Agricultural Shop Procedures, Biodiesel Production, and Ethanol Production from Corn.

## **2005**

**AGET 482/682** - Precision Technologies for Agriculture and Natural Resources Management (3)

Revised course to include additional data-mining integration. Submitted revised course description to more accurately reflect course content (Changes were approved by Faculty Senate).

## **2004**

### **AGET 720 - Advanced Soil and Water Conservation Engineering (3).**

Provide the student with a thorough foundation for formulating and solving soil and water conservation engineering problems. Topics will include: Hydrologic Frequency Analysis, Rainfall Runoff Estimation, Open Channel Hydraulics, Hydraulics of Structures, Sediment Properties and Transport, Erosion and Sediment Yield, Sediment Control Structures, Groundwater, monitoring Hydrologic Systems, and Hydrologic Modeling.

## **2003**

### **AGET 482/682 - Precision Technologies for Agriculture and Natural Resource Management (3)**

Principles and application of technologies supporting farming and natural resource data management and planning. Topics include internet information access, positioning systems (GPS), GIS, data layering, and software packages for management. This course uses an immersion technique to provide students with skills necessary for GPS data collection and data analysis using ESRI's ArcGis.

### **AGET 760 - Comprehensive Nutrient Management Planning & System Design (3)**

Application of agronomic sciences and engineering technology for developing Comprehensive Nutrient Management Plans (CNMPs) for livestock production. Elements include: environmental law and regulatory policy; watershed planning considerations; animal waste characteristics; role of soils; role of plants; geologic and ground water concerns; facilities location; waste treatment systems design; land application of wastes; and agricultural waste management system design.

### **AGET 784 - Agricultural Systems Science (3)**

Analysis and optimization of systems for agricultural production and processes; simulations by mathematical models of discrete and continuous biological and biochemical systems; single server queuing; mathematical programming; and search techniques for agricultural processes.

## **2002**

### **AGET 785 - Decision and Information Systems in Agriculture (3)**

Computerized decision systems for agriculture, expert systems, decision support systems, simulations, subjective probability and utility theory, and types of applications in agriculture. Impact of technology on the agricultural organization including topics of problem agricultural organization and complexity, database management, operation systems, data communications, and privacy.

**AGET 781 - Agricultural Operations Management Seminar (1)**

Fundamentals of operations management; mathematical programming, decision theory, stochastic processes, and their applications in agriculture; emphasis on problem formulation, solution strategies, and computer software packages. Topics include agricultural production, strategy, production planning, master scheduling, inventory control, forecasting, material requirements planning, just-in-time systems, quality management, and agricultural technologies.

***Mississippi State University***

**2001**

**ABE 8990 - Special Topic - Nutrient Management & Engineering in Bio Systems (3)**

The consumer demand for safe and inexpensive meat products has driven the livestock industry toward more concentrated production facilities. These facilities house large numbers of animals in environmentally controlled production facilities. The quantity and quality of the livestock waste produced in confinement operations requires an extensive set of engineered systems for proper storage, treatment, and utilization. Land application of nutrients must be done in a manner that minimizes environmental impact. Today's systems must be designed to meet increasingly stringent environmental regulation with little opportunity for capital recovery. This course explores many of the engineering and management components involved in developing a "Comprehensive Nutrient Management Plan" for a livestock production facility including: aerobic and anaerobic lagoon design, waste storage, land application of animal wastes, nutrient balance, best management practices for reducing nutrients in runoff, and odor management.

**1999**

**ABE 4990 - Special Topic - Power Train Technology & Design (3)**

This was a special topics course utilized to design and develop the 2001 ASAE ¼-Scale Pulling Tractor. Topics included: power-train design, hydrostatic drive computations, stress and strain computations, and electrical systems design.

**ABE 8990 - Special Topic - Animal Waste Management (1)**

An Overview of Modern Techniques. The course will provide an overview of the various technologies and management systems employed for livestock waste collection, storage, treatment, and utilization. Emphasis will be placed on systems associated with the three primary livestock species (dairy, poultry, and swine). The seminar will explore engineering aspects as well as social issues associated with livestock production. The class will meet once each week for a one-hour seminar in Room 105 of the ABE Building. Lectures for the various course topics will be delivered by MSU scientists (ABE, ADS, CHE, PSS, & PS), livestock industry professionals, Mississippi NRCS, and the Mississippi DEQ.

## **1998**

### **ABE 4163/6163 - Machinery Management for Agro Ecosystems (3)**

(Previous Course Title: Agricultural Machinery Management). Previously, this course stressed traditional components machinery management; e.g., how to adjust belts and pulleys, etc. I took a new approach that utilized the basic premises of the traditional course, while adding new components that are germane to the 21<sup>st</sup> century. The new course is built on three major modules: 1) measuring machinery performance; e.g., time study, 2) estimating fixed and variable costs associated with owning, leasing and renting machinery, and 3) Time Value of Money (*as it relates to machinery management*).

### **AIS 2613 - Intro. to Information and Decision Science in Agro Ecosystems (3)**

Dr. Matt Raven (AIS) and I developed a new course for Fall, 1998. We team-taught AIS 2613 for the first time during the 1998 Fall Semester. A total of 35 students took the course.

## Statement of Teaching Philosophy

The exchange of knowledge is the foundation of all learning. It is the ability to convey knowledge to others through written words or verbal instruction that sets the “teacher” apart. The possession of knowledge in and of itself is useless to society, if it cannot be conveyed to others. Teaching and applied research provide a platform from which to convey knowledge. Applied research, by nature, is a learning process. As the researcher “learns,” a real-time conduit is established with students in the classroom. The nature of this information exchange ensures that students will be exposed to the latest technologies and theories. As new discoveries are made and presented, the teacher is in a position to receive feedback from the student, thus enhancing the overall knowledge base. A mutually beneficial environment is created through this student-teacher relationship that enhances the creative ability of both parties, now and in the future.

The classroom provides the teacher with an excellent environment to develop communication skills. Today, the opportunity to communicate one’s ideas is only a “mouse click” away. Honing one’s presentation skills in the classroom always results in better communication with your peers. From a communication standpoint, teaching provides unparalleled growth opportunity with regard to the exchange of knowledge. The Internet has expanded the importance of the teacher by providing a new and more diverse audience. The experience gained in the classroom will be invaluable in conveying knowledge to this world audience.

I have learned that a “one size fits all” mentality in the classroom does not create an equal learning opportunity for all students. I have become increasingly aware of the different learning styles (visual, auditory, tactile) exhibited by students in today’s classroom. In particular, conveying agricultural concepts to students with little or no farming background can be daunting. In order to accentuate the learning experience, I frequently incorporate “real-world” examples in my teaching and laboratory activities. Using a diverse set of examples ensures that I reach students from various backgrounds. The incorporation of web-based materials has been most effective in bridging the gap in learning styles. Since many of my classes have students from various concentrations, I strive to present information that is well received by a diverse audience.

When I examine my goals as a teacher, I begin with the student. They are my customers, but the responsibility that I have to them goes beyond a typical business-customer relationship. The knowledge and professionalism that I convey to them during their college education must be sufficient to last a lifetime. In this sense, the technologies and buzz-terms of today will quickly become dated, but a thorough understanding of the “critical thinking process” will last a lifetime. Therefore, when I consider my role as a teacher, my first priority is to become a mentor to my students.

Webster defines a mentor as “a trusted counselor or guide.” The mentor concept is fundamentally different from the advisor concept, in that an advisor gives “information” without extensive personal knowledge of the individual and their station in life. While advice can be useful in life, true counsel can be life changing. The commitment to be a

mentor is not to be taken lightly, as this path will invariably require valuable time, e.g., you must “be there” for your students to provide true counsel. While rewards for this type of commitment are hotly debated at institutions of higher learning, it is a sacrifice that the “teacher/mentor” must make.

As a colleague said, “No learning will occur until the student is receptive to learning.” Certainly this statement reveals the heart of the learning process. While I have incorporated many multimedia components into my teaching, no amount of “gee-whiz” gimmicks will substitute for a solid student-teacher relationship. Developing this kind of trust requires time and commitment, so the stakes, from a professional development standpoint, are high.

I consider my role as a teacher an honor, not a requirement. My activities as a teacher and researcher are mutually beneficial to the institution. For the many hours I spend interacting with students, I know that they, like a well-nourished seed, will grow to a thousand-fold bounty. I am both humbled and blessed by this awesome responsibility.

### **C. Advising/Student Support**

#### **UT Martin**

- Dr. Burcham assisted agricultural engineering students in organizing the University of Tennessee at Martin, Student Mechanization Branch of the American Society of Agricultural and Biological Engineers. He also served as the group’s club advisor in 2009-10.
- Dr. Burcham is the co-advisor for all MSANR graduate students. He is responsible for the full range of academic advising, as well as determining the most appropriate group of MSANR courses to be offered for a particular semester.



## IV. Scholarly/Creative Activities

### A. Publications

#### Journal Articles

*S.D. Parrott, J. W. Stamey, and T.N. Burcham.* 2012. Forecasting Rounds of Golf. Foresight: The International Journal of Applied Forecasting, Winter 2012 pp. 19-24.

*Burcham, T.N., D.G. Wren, J.R. Wooten, and J.J. Varco.* 1997. Distributed Data Acquisition System for Runoff Monitoring and Automated Water Sampler Control. *Applied Engineering in Agriculture*, 14 (6): 591-597.

*Burcham, T.N., and M.R. Raven.* 1997. Machinery Management for Agro-Ecosystems: A Non-Traditional Approach to a Traditional Topic. *NACTA Journal*, 42 (4), 38-43.

*Smith, B.E., T.N. Burcham, F.S. To, K.W. VanDevender, and R.K. Matthes.* 1992. Mobile Soil-Tire Interface Pressure Measurement System. *TRANS of the ASAE*, Vol. 37, No. 5, pp. 1633-1637.

#### Book Chapter(s)

*M. Bhuta, H. Hall, J.M. Zimmerman, T.N. Burcham, E.P. Columbus, and M.J. Fuller.* 1997. Chapter 34 Kenaf Composite Sports Wheelchair. Copyright 1999 by Mississippi State University, pages 401-420. ISBN 0-9670559-0-3.

#### Patents

Variable Volume Drain Field System. *Patent 7,857,545 B2.* Status: Granted. Innovative Biosystems Engineering, PLLC. Personal U.S. Patent . Dec. 28, 2010.

Baste Medium Biological Reactor Treatment Systems (BMBRTS) for Remediation and Odor Suppression of Organic Waste Streams. *T.N. Burcham, E.P. Columbus, M.E. Zappi, and J.M. Jones.* 11/2001. (U.S. Patent #6,436,288).

#### Extension Publications

*Lang, David, R.B. Moore, T.N. Burcham, and R. Elmore.* 1998. Sampling and Application of Dairy Lagoon Effluent. Mississippi State University Extension Service. Publication No. 2208.

*Moore, R.B., and T.N. Burcham.* 1997. Dairy Bedding: How It Impacts the Manure Management System. Mississippi Cooperative Extension Service. Publication No. 2195.

*Bonner, J., R.B. Moore, J. Thomas, M. Crenshaw, B. McKinley, and T.N. Burcham.* 1994. Managing Animal Waste Nutrients. Mississippi Cooperative Extension Service. Publication 1937.

*Burcham, T.N., and C.R. Mote.* 1993. On-Site Domestic Wastewater Treatment Systems. University of Tennessee Agricultural Extension Service Publications PB 1472.

*Burcham, T.N., and C.R. Mote.* 1993. Septic Systems – Proper Maintenance Protects You and our Ground Water. The University of Tennessee Agricultural Extension Service Publication, PB 1423.

*Burcham, T.N., and M.J. Buschermohle.* 1993. Improving Home Water Quality. University of Tennessee Agricultural Extension Service Publication, PB 1481.

*Goan, H.C., and T.N. Burcham.* 1992. Well Water Protection on Poultry Farms. The University of Tennessee Agricultural Extension Service, PB 1457.

*Wills, J.B., and T.N. Burcham.* 1992. TISMRS, Tennessee In-field Sprayer Mounted Rinse System. University of Tennessee Agricultural Extension Service. Review process complete, pending printing.

*Burcham, T.N., and C.R. Mote.* 1991. Well Disinfection Using Laundry Bleach. The University of Tennessee Agricultural Extension Service, Special Publications: SP 392-D.

## Conference Abstracts

*Mehlhorn, S.A., S. Parrott, J.E. Mehlhorn, T.N. Burcham, J. Roberts, and P. Smartt.* Use of Digital Learning Objects to Improve Student Problem Solving Skills. (Abstract) *Journal of Agricultural and Applied Economics*. Vol. 43:3 page 462. August 2011. (P) Full paper can be accessed at: AgEcon Search: <http://purl.umn.edu/98763>.

*Mehlhorn, J.E., T.N. Burcham, B. Darroch, R. Joost, and M. Lowery.* 2006. An Economic Comparison of the Efficacy of Defoliation Recommendations. (Abstract) *Journal of Agriculture & Applied Economics*. Volume 38:2 pg. 471 August 2006.

*Smart, P., T.N. Burcham, and J.E. Mehlhorn.* 2005. Software Simulation Using Macromedia Captivate in the Blackboard Environment. Blackboard Southeastern Users Group (BbSEUG) Annual Meeting, Sept. 28-30, 2005. <http://aimcenter.scad.edu/BbSEUG2005/>

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- T.N. Burcham, S. Mehlhorn, S. Parrott, P. Smartt, J. Roberts, and J. Mehlhorn.** Livescribe Plus™ - A Digital Pen and Paper Solution for Online and Traditional Teaching Methods. North American Colleges and Teachers of Agriculture (NACTA) Annual Meeting, State College, PA, June 22-25, 2010. (P)
- Bridges, C., and T. N. Burcham.** 2008. Using Geospatial Analysis Techniques to Assess the Import of Riparian Forest on Stream Quality in Tennessee. Tennessee Geographic Information Counsel. April 9, 2008
- T.N. Burcham, J.E. Mehlhorn, and R. Joost.** 2008. Creating and Distributing Digital Learning Objects. 2008 Southern Agricultural Economics Association Meeting. Dallas, TX. February 3-6, 2008
- Butler, J., J.E. Mehlhorn, W. Totten, M. Spangler, and T. N. Burcham.** 2007. Promoting Agriculture Literacy Among Gifted High School Students. NACTA Annual Meetings, Champaign-Urbana, IL. June 20-22, 2007.
- Mehlhorn, J.E., and T.N. Burcham and P.L. Smartt.** 2007. Using Technology to Enhance Student Understanding: Experiences from the Tennessee Governor's School for the Agricultural Sciences. 12<sup>th</sup> Annual Instructional Technology Conference. Murfreesboro, TN April 2, 2007.
- Mehlhorn, J.E., and T.N. Burcham.** 2007. The Evolution of Technology in the Classroom: From Chalk Dust to iPods. Southern Agricultural Economists Association. Riverview Plaza Hotel, Mobile, AL.
- Mehlhorn, J.E., and T.N. Burcham.** 2006. Teaching Agribusiness Courses Online is Now a Breeze. Southeast Decision Science Meetings, Wilmington, NC February 24-27, 2006. (Accepted, peer reviewed)
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## **Conference Proceedings and Papers**

**P (peer reviewed) I (invited)**

*Mehlhorn, S. A., and T.N. Burcham.* 2011. Engaging Students with Digital Learning Objects. 2011 American Society of Agricultural and Biological Engineers Annual International Meeting. Louisville, KY. August 7-10, 2011. Pub ID: 1111457. (P)

*Roberts, J., S.A. Mehlhorn, S. Parrott, J.E. Mehlhorn, T.N. Burcham, and P. Smartt.* Use of Digital Learning Objects to Improve Student Problem Solving Skills. 2011 Southern Agriculture Economics Association Meetings, Corpus Christi, Texas February 4-6, 2011. (P)

*Mehlhorn, J.E., T.N. Burcham, P.L. Smartt and R. Joost.* 2007. The Changing Role of Faculty as Educational Technologies Evolve. Selected Paper Presentation NACTA Annual Meetings, Champaign-Urbana, IL. June 20-22, 2007. (I)

*Burcham, T.N., J.E. Mehlhorn, and P.L. Smartt.* 2007. Student Outcome Comparison: Traditional, Hybrid, and Online. Selected Paper Presentation NACTA Annual Meetings, Champaign-Urbana, IL. June 20-22, 2007. (I)

*Burcham, T.N., J.E. Mehlhorn, and P.L. Smartt.* 2007. Creating Enhanced Podcast for Blackboard and iTunesU with an Intel-based Apple Macintosh. Selected Paper Presentation NACTA Annual Meetings, Champaign-Urbana, IL. June 20-22, 2007. (I)

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*J.E. Mehlhorn, T.N. Burcham, and P.L. Smartt.* 2007. Using Apresso Classroom to Deliver Video Lectures on Demand. Southeast Decision Science Annual Meetings, Savannah, GA February 21, 2007. (P)

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## **White Papers**

Co-produced a written response of professional comments on the USDA/EPA Draft Unified Strategy for Animal Feeding Operations. 2000.

Co-produced a white paper entitled Poultry Waste Research at Mississippi State University. Authors: T.N. Chamblee, **T.N. Burcham**, D. May, L. Oldham, B. Kingery, G. Brink, and D. Hite. 1999.

Co-produced a white paper with other Nutrient Management & Water Quality Task Force members in response to NRCS proposed guidelines for swine production facilities. May, 1999.

## **Popular Articles and Features**

***Fueling Change.*** An article written by Rita Mitchell highlighting the department of Agriculture and Natural Resources educational efforts in alternative liquid bio-based fuels. Tennessee Alumnus Magazine Vol. 87, No. 2, Spring 2007.

***Food, Fiber & Fuel.*** An article by Rita Mitchell highlighting UT Martins efforts in alternative bio-based transportation fuels. UT Martin Campus Scene, Vol. XXXIV, Winter/Spring 2006-07.

***Skills Applied in Lighting Project.*** Drs. Burcham, Darroch, and Smartt, along with Agriculture students, are featured in an article illustrating applied skills learned in Dr. Burcham's Precision Technologies class. The University of Tennessee at Martin ADDENDA. Vol. XXI, No. 20. May 16, 2005.

***Tablet PCs in Faculty Rotation.*** Dr. Burcham is featured in an article detailing the introduction of Tablet PCs to the UT Martin faculty. The University of Tennessee at Martin ADDENDA. Vol. XIX, No. 46. August 16, 2004.

***More Than Just Summer School.*** Dr. Burcham and other faculty are featured in an article describing the 2004 Tennessee Governor's School for the Agricultural Sciences. Tennessee Cooperator. Vol. 45, No. 8, pages 8-9. August 2004.

***Off-Campus & Online.*** Dr. Burcham and MSAOM students are featured in an article describing the MSAOM program at UT Martin. Tennessee Cooperator. Vol. 45, No. 7, page 11. July 2004.

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- Manure Matters: Getting the Right Wastewater Sample.*** Author: **T.N. Burcham.** In Dairy News. MSU Cooperative Extension Service. May, 1995.
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- Manure Matters: Spring Cleaning.*** Authors: **T.N. Burcham,** T.P. Cathcart, J.W. Pote. In Dairy News. Cooperative Extension Service, Mississippi State University. March, 1995.
- Information Technologies: Preparing for the Next Utility.*** Article and picture appeared in Resource Magazine, May 1994.
- Symposium Examines Future Technology.*** The Reflector, Mississippi State University's Student Newspaper. An article written by Nicole Oakes from an interview with **Dr. T.N. Burcham** concerning the ASAE career development symposium entitled "Information Technologies: Preparing for the Next Utility." November 5, 1993.
- MSU Students Design, Build Wheelchair of Plant's Fiber.*** The Clarion – Ledger. Dr. Burcham and MSU student's are featured with a wheel chair made of plant fiber by MSU. May 9, 1997.

## **Master of Science in Agriculture and Natural Resources – Thesis and Research Reports**

### ***Thesis***

*Kaleb Rathbone.* Effect of Nitrogen Rate and Cultivar on Burley Tobacco (*Nicotiana tabacum L.*) Yield and Leaf Quality. Unpublished MSANR Thesis, University of Tennessee Martin Library. May 2011. Research Chairman: Greg Hoyt and Timothy N. Burcham.

*Deborah K. Joines.* Effect of Sulfur Applications on Vaughn's #1 Bermudagrass Hay Yield and Forage Quality. Unpublished MSANR Thesis, University of Tennessee Martin Library. April 2008. Research Chairman: Warren W. Gill and Timothy N. Burcham.

### ***Research Reports***

*Doug Snider.* Knowledge and Attitudes of Tennessee Agriculture Education Teachers to Agri-Tourism and Marketing Issues. Unpublished MSANR Research Project. University of Tennessee Martin Library, May 2011. Research Chairs: Dr. Joey Mehlhorn, Dr. Timothy N. Burcham, and Dr. Barbara Darroch.

*Mary Garmon.* Recovery of Streams in the Mill Creek Watershed of Davidson County from the May 2010 Flood using *Escherichia coli* as Indicator Bacteria. Unpublished MSANR Research Project. University of Tennessee Martin Library. December 2010. Research Chairs: Dr. Timothy N. Burcham, Dr. Joey Mehlhorn, and Dr. Barbara Darroch.

*William Barnes.* Acreage Response of Southeastern Upland Cotton to Federal Policy in the Freedom of Farm Era. Unpublished MSANR Research Project. University of Tennessee Martin Library. December 2010. Research Chairs: Dr. Timothy N. Burcham, Dr. Joey Mehlhorn, Dr. Philip Smartt, and Dr. Barbara Darroch.

*Nathan Stamper.* Linear and Ultra Sound Measurements in Crossbred Goats as a Predictor of Live and Hot Carcass Weights. Unpublished MSANR Research Project. University of Tennessee at Martin Library. August 2010. Research Chairs: Dr. Timothy N. Burcham, Dr. Clay Bailey, and Dr. Barbara Darroch.

*Chakeeb Hamra.* An Assessment of the Potential Profitability of Poultry Farms : A Broiler Case Study. Unpublished MSANR Research Project. University of Tennessee at Martin Library. May 2010. Research Chairs: Dr. Timothy N. Burcham, Dr. Joey Mehlhorn, and Dr. Barbara Darroch.

*Helena Paxton.* Rabies in Tennessee: Regional Differences and Trends, 1999-1008 and Human Deaths from Rabies in the United States, 1950-2008. Unpublished MSANR Research Project. University of Tennessee at Martin Library. August 2010. Research Chairs: Dr. Timothy N. Burcham, Dr. Joey Mehlhorn, and Dr. Barbara Darroch.

*Eric Brady.* Development of an Urban Tree Inventory for he City of Crossville, Tennessee. Unpublished MSANR Research Project. University of Tennessee at Martin Library. December 2009. Research Chairs: Dr. Timothy N. Burcham, Dr. Douglas Airhart, and Dr. Barbara Darroch.

*J. Brad Greenfield.* Carcass Trends in Beef Cattle Shown at the Clarksville Better Beef Show. Unpublished MSANR Research Project. University of Tennessee at Martin Library. December 2009. Research Chairs: Dr. Timothy N. Burcham, and Dr. Barbara Darroch.

*Dave J. Mallard.* Management of Glyphosate Resistant *Palmer Amaranth* in Liberty Link Soybeans. Unpublished MSANR Research Project. University of Tennessee at Martin Library. December 2009. Research Chairs: Dr. Timothy N. Burcham, Dr. Larry Steckel, and Dr. Barbara Darroch.

*Ben Rudy.* Knowledge and Attitudes of Tennessee Agricultural Education Teachers on Biotechnology Issues. Unpublished MSANR Research Project. University of Tennessee at Martin Library. December 2009. Research Chairs: Dr. Timothy N. Burcham Dr. Barbara Darroch, Dr. Philip Smartt, and Dr. Jimmy Butler.

*Matthew Hunter.* Evaluation of Herbicides for Control of White Clover in Athletic Turf Grass. Unpublished MSANR Research Project. University of Tennessee at Martin Library. December 2009. Research Chairs: Dr. Timothy N. Burcham, Dr. Larry Trevathan, and Dr. Barbara Darroch.

*John Stamey.* An Exploratory Study in Forecasting Rounds of Golf. Unpublished MSANR Research Report, University of Tennessee Martin Library. December 2008. Research Chair: Timothy N. Burcham.



## **Master of Science in Agricultural Operations Management - Thesis and Research Reports**

### ***Thesis***

*Glendon Shaun Jackson.* An Assessment of the Meat Goat Industry in Tennessee. Unpublished MSAOM Master's Thesis, University of Tennessee, Martin Library. May 2007. Research Chairs: Richard Joost and Timothy N. Burcham.

### ***Research Reports***

*Justin D. Pope.* Stockpiling Forage Grasses for Winter Grazing in West Tennessee. Unpublished MSAOM Research Project. University of Tennessee Martin Library. May 2011. Research Chairs: Dr. Richard Joost, Dr. Timothy N. Burcham, and Dr. Barbara Darroch.

*Jason Evitts.* Improved Establishment Methods for Native Warm Season Grass. Unpublished MSAOM Research Report, University of Tennessee Martin Library. December 2008. Research Chair: Timothy N. Burcham.

*Tara Woods.* Effect of Fertilizer Source, Application Rate and Application Timing on Nitrate Accumulation in Bermudagrass. Unpublished MSAOM Research Report, University of Tennessee at Martin Library. December 2008. Research Chair: Timothy N. Burcham.

*Kristal Lee.* An Evaluation of the Effects of Fortified Starter and Grower Rations on Beef Cattle. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2007. Research Chairs: Matthew Spangler and Timothy N. Burcham.

*Brandon Mitchell.* A Study of Proteins and their Effects on the Reproduction in Boer Goats. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2007. Research Chair: Timothy N. Burcham.

*Neale, Benjamin D.* Effects of Fertilizer Application and Cutting Interval on Nitrate Accumulation in Bermudagrass. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2006. Research Chair: Timothy N. Burcham.

*Nicks, Marjorie A.* Evaluation of Commercial Goat Abattoir in Tennessee. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2006. Research Chair: Timothy N. Burcham.

*Roesner, Jason F.* Comparison of Costs and Benefits of Traditional Levee versus Low-head Levee Impoundments for Waterfowl Hunting in Tennessee: A Case Study. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. Research Chair: Timothy N. Burcham.

- Bain, Clint.* The Effect of Different Seeding Rates on Soybean Yield. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2005. Research Chair: Timothy N. Burcham.
- Crews, Jessica.* An Evaluation of the Establishment of Seed Propagated Bermudagrass Varieties for Use in Horse Exercise Areas. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2005. Research Chair: Timothy N. Burcham.
- Morgan, Rebecca.* Relationship of Governor's School Student Proclivity to Technical Acceptance. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. Dec. 2005. Research Chair: Timothy N. Burcham.
- Rankin, Laura Michelle.* An Economic Evaluation of Round-Up Ready<sup>®</sup> Flex Cotton: An On-Farm Situation in West Tennessee. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2005. Research Chair: Timothy N. Burcham.
- Smith, Jeffrey.* Correlation of Pelvic Shape and Birthweight EPDS in Reducing Dystocia in Beef Cattle. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2005. Research Chair: Timothy N. Burcham.
- Sullivan, Tracey.* An On-Farm Evaluation of WideStrike<sup>®</sup> Insect Protection Technologies in Commercially Available Cotton Varieties. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2005. Research Chair: Timothy N. Burcham.
- West, Jeremy.* Soil Fertility Relationship to Forage Quality. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2005. Research Chair: Timothy N. Burcham.
- Yancey, Frank.* Middle Tennessee Cattle Producers Perception of the National Livestock Identification Program. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2005. Research Chair: Timothy N. Burcham.
- Lowery, Melissa.* An Evaluation of the Efficacy of Defoliation Recommendations. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. May 2005. Research Chair: Timothy N. Burcham.
- Knipp, Laura.* A Bobwhite Quail Population Model base on Avian Predators and Agricultural Crop Production. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2003. Research Chair: Timothy N. Burcham.

*Lingo, David.* Environmental Assessment: Mammal Damage Management in the Tennessee Wildlife Services Program. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2003. Research Chair: Timothy N. Burcham.

*Brent Styles.* Effects of Seed Processing Methods on Germination and Early Seedling Development of Cotton. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2003. Research Chair: Timothy N. Burcham.

*Tritt, Chad.* An Economic Evaluation of Bollgard II Cotton in West Tennessee. Unpublished MSAOM Research Report, University of Tennessee, Martin Library. December 2003. Research Chair: Timothy N. Burcham.

## **Master of Science in Biological Engineering**

### ***Thesis Chair***

*Zuller, Charles D.* Manipulation of Microbial Metabolic Pathways for the Reduction of Sulfide Production. Unpublished Master's Thesis, MSU Library. Thesis Chair: Timothy N. Burcham. May 2003.

*Kirkpatrick, A.P.* Evaluation of an Attached Growth Organic Media Bioreactor for Swine Waste Treatment and Odor Abatement. Unpublished Master's Thesis, MSU Library. Thesis Chair: Timothy N. Burcham. December 2001.

*Jones, J.M.* Preliminary Comparison of Inert and Organic Attached Growth Bioreactor Media for Odor Reduction and Wastewater Treatment in Animal Feeding Operations. Unpublished Master's Thesis. MSU Library. Thesis Chair: Timothy N. Burcham. December 2000.

*McCarty, S.L.* The Effect on Biofiltration Media and Nutrient Solution on Swine Waste Odor Abatement. Unpublished Master's Thesis. MSU Library. Thesis Chair: Timothy N. Burcham. December 2000.

### ***Thesis Committee Member***

*Robert E. McClain.* Microbiotic Assessment of an Upflow Anaerobic/Aerobic Swine Treatment Process. Ph.D., Civil Eng., May 2001.

*Leslie Henderson.* Propane Induced Biofiltration of TCE Contaminated Air. M.S. in Chemical Engineering. May 2000.

*Shivinder S. Gill.* Evaluation of Solids and Nutrient Removal Efficiency for a Dairy Solids Separation Facility. M.S. Bio. Eng., December 1997.

*Stephen M. Schraer.* Factors Contributing to Cyanazine and Metolachlor Losses to Surface Runoff in the Mississippi Delta. PhD. Plant & Soil Science, August 1999.

*James Wooten.* Classification of Wood Chips Using Image Processing. M.S. Bio. Eng., December 1996.

## **B. Professional Presentations**

*D'Antoni, Jeremy M., T. Burcham, J. Mehlhorn, S. Parrott, P. Smartt, and J. D. Detre.* Using Smart Phones, Tablets, and Online Technologies to Enhance the Classroom Experience. Organized Symposium accepted at 2013 Southern Agricultural Economics Association annual meeting, Orlando, FL, February 4-7, 2013. (I)

*Burcham, T.N.* American Agriculture: Our Apollo. WestStar Leadership Program, Legislative Chamber at the University of Tennessee at Martin, Martin TN, January 3, 2013 (I).

*Mehlhorn, J.E., T.N. Burcham, S.A. Mehlhorn, and P.L. Smartt.* Teaching Natural Resource Economics with Digital Learning Objects: Evolution from Chalkdust to Digital Ink. 9<sup>th</sup> Biennial Conference University Education in Natural Resources. Fort Collins, CO March 22, 2012 (P)

*Burcham, T.N.* American Agriculture: Our Apollo. Tennessee Farm Bureau AgStar Recognition Banquet. DoubleTree Hotel, Jackson, TN, March 12, 2012.

*Mehlhorn, S. A., and T.N. Burcham.* Engaging Students with Digital Learning Objects. 2011 American Society of Agricultural and Biological Engineers Annual International Meeting. Louisville, KY. August 7-10, 2011. Pub ID: 1111457. (I)

*Mehlhorn, S.A., S. Parrott, J.E. Mehlhorn, T.N. Burcham, J. Roberts, and P. Smartt.* Use of Digital Learning Objects to Improve Student Problem Solving Skills. 2011 Southern Agriculture Economics Association Meetings, Corpus Christi, Texas February 5-8, 2011. (P)

*Burcham, T.N., S. Mehlhorn, S. Parrott, J. Roberts, P. Smartt, and J. Mehlhorn.* Digital Pen and Paper Solutions for Online and Traditional Teaching Methods. Innovative Professors Conference, Austin Peay State University, Clarksville, TN. November 8-9, 2010. (I)

- Burcham, T.N.*** Automotive Technologies: Present and Future. A presentation for the UT Martin GEARS Sustainability Series. University of Tennessee at Martin, October 27, 2010. (I)
- Burcham, T.N.*** Out of Gas? A presentation for the UT Martin GEARS Sustainability Series. University of Tennessee at Martin, October 20, 2010. (I)
- Burcham, T.N.*** Green Energy: How Realistic?. Presentation to the Martin Rotary Club. University Center, University of Tennessee at Martin. Martin TN. September 13<sup>th</sup>, 2010. (I)
- Roberts, J., Burcham, T.N., Bailey, C., Smartt, P., and Mehlhorn, J.*** Developing Critical Thinking Skills Through Experiential Learning Through Stocker Cattle Management. North American Colleges and Teachers of Agriculture (NACTA). Annual Meeting, State College, PA, June 22-25, 2010. (P)
- Roberts, J., Burcham, T.N., Bailey, C., Smartt, P., and Mehlhorn, J.*** Connecting Students to the Veterinary Profession Through Service Learning. North American Colleges and Teachers of Agriculture (NACTA). Annual Meeting, State College, PA, June 22-25, 2010. (P)
- Burcham, T. N.*** Bio-Diesel: Pros, Cons, and a Demonstration. Engineering and Professional Sciences, University of Tennessee at Martin. February 18, 2010. (I)
- Burcham, T.N.*** Using the Livescribe Pen for Online and Traditional Teaching. West Tennessee Technology Symposium. University Center, University of Tennessee at Martin. November 18, 2009. (I)
- Burcham, T.N.*** Livescribe Pen Educational Uses and Demonstration. Instructional Technology Center Faculty Development Seminar. University Center, University of Tennessee at Martin. May 13, 2009.
- Burcham, T.N.*** Livescribe Pen Educational Uses and Demonstration. Instructional Technology Services (ITS) Quarterly Meeting. University Center, University of Tennessee at Martin. May 8, 2009. (I)
- Burcham, T.N.*** Agriculture's Vital Role in the Production of Renewable Fuels. WestStar Leadership program. Buchanan Resort, Paris TN. May 1, 2009. (I)
- Burcham, T.N.*** National Resource Distance Learning Consortium Panelist for National Training Center Satellite Broadcast. Phoenix, AZ. April 13-15, 2009.
- Burcham, T.N.*** Biofuels and Automotive Technology. 29<sup>th</sup> Annual Science Bowl, University of Tennessee at Martin. November 15, 2008. (I)

- Burcham, T.N., R. Joost, J. Mehlhorn, P. Smartt.** Elements for Quality Online Course Development. 2008 ASABE Annual Meeting, Providence, RI. June 29 – July 2, 2008. (I)
- Burcham, T.N., and P. Smartt.** Master of Science in Agriculture and Natural Resources Management (MSANR) course report developed for presentation by Dr. Philip Smartt at the National Resource Distance Learning Conference. Shepardstown, VA. October 14-16, 2008. (I)
- Burcham, T.N., R. Shadden.** Biodiesel Mini-Batch Procedure. Tennessee Farmer's Cooperative Farm Fest 2008. LaVergne, TN. August 12 – 14, 2008. (I)
- Burcham, T.N., R. Joost, J. Mehlhorn, and P. Smartt.** Factors Influencing the Development of Enhanced Podcasts: A Faculty Members Perspective. 13<sup>th</sup> Annual Instructional Technology Conference, Murfreesboro, TN. April 6 – 8, 2008. (I)
- Burcham, T.N., J. Mehlhorn, and P. Smartt.** MacBook Basis: Living with a Mac in a Windows World. 13<sup>th</sup> Annual Instructional Technology Conference, Murfreesboro, TN. April 6 – 8, 2008.
- Burcham, T.N., J. Mehlhorn, and P. Smartt.** Creating Enhanced Podcasts: Apple's iLife 08, Procast and iShowU. 13<sup>th</sup> Annual Instructional Technology Conference, Murfreesboro, TN. April 6 – 8, 2008. (I)
- Burcham, T.N.** Elements to Building an Online Graduate Program, SoTL Conference, Myrtle Beach, SC, March 26 – 28, 2008. (I)
- Burcham, T.N.** Emerging GPS and GIS Applications. Field Trips. 2008 Southeastern Wildlife Conclave. Paris, TN. March 14, 2008. (I)
- Burcham, T.N., B. Darroch, J. Mehlhorn, and P. Smartt.** Elements for Quality On-line Course Development. West Tennessee Technology Symposium. University of Tennessee at Martin, Martin, TN. March 6, 2008. (I)
- Burcham, T.N., M. Buschermohle, and P. Smartt.** GIS/GPS Basics. U.S. Department of Agriculture – Animal Plant Health Inspection Services, 2008 Rabies Biologists' Meeting. Nashville, TN. February 14-15, 2008. (I)

- Smartt, P., and T.N. Burcham.* Strengthening an Existing Precision Agricultural Technology Program through the Creation of a Related Natural Resource Technology Associate of Applied Science Degree. Advanced Technical Education National Principal Investigators Conference. Collaborations and Partnerships: Keeping Technical Programs Viable and Sustainable. Washington, D.C. October 19, 2007. (I)
- Burcham, T.N., J.E., Mehlhorn, P. Smartt, B. Darroch, and T. Greer.* Master of Science in Agricultural Operations Management: An Online MS Degree Program at UT Martin. Annual International Meeting of the American Society of Agricultural and Biological Engineers. Minneapolis MN. June 17-20, 2007. (I)
- Burcham, T.N.* Small-scale Production of Biodiesel. Bio-Energy Production in Agriculture, UT Extension Agent Training. Cookeville, TN. April 4, 2007. (I)
- Burcham, T.N.* Small-scale Production of Biodiesel. Bio-Energy Production in Agriculture, UT Extension Agent Training. Jackson, TN. April 3, 2007. (I)
- J.E. Mehlhorn, T.N. Burcham, B. Darroch, C. Darroch, and P.L. Smartt.* Reinforcing Classroom Materials Through Video Lectures on Demand. 12<sup>th</sup> Annual Instructional Technology Conference. Murfreesboro, TN April 3, 2007. (I)
- Burcham, T.N.,* Incident at Morales Ethics Workshop. Tennessee Onsite Wastewater Association's 11<sup>th</sup> Annual Conference and Product Expo 2007. Spring Hill, TN. February 4-6, 2007.
- P.L. Smartt, T.N. Burcham, and J.E. Mehlhorn.* Podcasting with Apples' Intel-Based Macbook Pro. 12<sup>th</sup> Annual Instructional Technology Conference. Murfreesboro, TN April 2, 2007. (P)
- T.N. Burcham, P.L. Smartt, and J.E. Mehlhorn.* Apple's Intel-based Macbook Pro: Have Your Cake and Eat It Too! 2007 University of Tennessee at Martin Technology Showcase. Martin, TN. March 6, 2007. (I)
- J.E. Mehlhorn, P.L. Smartt, and T.N. Burcham.* Apriso™ Classroom Demonstration. 2007 University of Tennessee at Martin Technology Showcase. Martin, TN. March 6, 2007 (I)
- Gale, P., and T.N. Burcham.* Safe Assignment in Blackboard. 2007 University of Tennessee at Martin Technology Showcase. Martin, TN. March 6, 2007. (I)
- C.S. Darroch, B.A. Darroch, J.E. Mehlhorn, and T.N. Burcham.* Enhancing Student Performance in the Traditional Classroom Environment Through Blackboard™ and Use of Apriso™. Fourth Annual Blackboard Southeast Users Group Conference. Sea Turtle Inn, Atlantic Beach, FL. February 28 – Mar. 2, 2007 (P)

*Darroch, C.S., B.A. Darroch, J.E. Mehlhorn, and T.N. Burcham.* Enhancing Student Performance in the Traditional Classroom Environment through Blackboard and Use of Apresso. Fourth Annual Blackboard Southeast Users Group Conference. Sea Turtle Inn, Atlantic Beach, FL. Feb. 28 – March 2, 2007. (P)

*Burcham, T.N., J.E. Mehlhorn, P. Smartt, T. Greer, and B. Darroch.* Intel-based Apple Macintosh: Bb Content Creation in a Dual OS Environment. Fourth Annual Blackboard Southeast Users Group Conference. Sea Turtle Inn, Atlantic Beach, FL. Feb. 28 – March 2, 2007. (P)

*Smartt, P., T.N. Burcham, and J. Mehlhorn.* Apple's Intel-based MacBook Pro: Have Your Cake and Eat It Too! 2007 Best Practices: Integration of Technology into Instruction Conference, Tuscaloosa, AL. February 22, 2007. (P)

*Smartt, P.L., J.E. Mehlhorn, and T.N. Burcham.* Enhancing Student Learning through Video Technology. 2007 Best Practices: Integration of Technology into Instruction Conference, Tuscaloosa, AL. February 22, 2007. (I)

*Mehlhorn, J.E., T.N. Burcham, and P. Smartt.* Using Apresso to Deliver Video Lectures on Demand. Southeast Decision Science Institute Annual Meeting. Savannah GA. February 21-23, 2007. (P)

*Burcham, T.N., and R. Shadden.* Basics of On-farm Biodiesel Production. Tennessee Grain and Soybean Producers Conference. Dyer County Fair Grounds. Dyersburg, TN. February 1, 2007. (I)

*Darroch, B.A., C.S. Darroch, P.M. Gale, R.E. Joost, and T.N. Burcham, and J.E. Mehlhorn.* The Versatility of Using Blackboard as an Instructional Tool. American Society of Agronomy and Crop Science Society of America Annual Meetings. Indianapolis, IN. November 13, 2006. (I)

*Smartt, P., T.N. Burcham, and J.E. Mehlhorn.* Creating An Interactive Environment for Software and Hardware Simulation. Instructional Technology Conference, "Fostering Successful Learning" Middle Tennessee State University, Murfreesboro, TN April 2-4, 2006. (I)

*Mehlhorn, J.E., T.N. Burcham, and P. Smartt.* Using Voice Annotation to Enhance Successful Student Learning in Online Courses. Instructional Technology Conference, "Fostering Successful Learning" Middle Tennessee State University, Murfreesboro, TN April 2-4, 2006. (I)

*Burcham, T.N., J.E. Mehlhorn, and P. Smartt.* Tablet PCs: The Perfect Tool for Enhanced In-Class and Online Learning. Instructional Technology Conference, "Fostering Successful Learning" Middle Tennessee State University, Murfreesboro, TN April 2-4, 2006. (I)



**Burcham, T.N., P. Smartt, and J.E. Mehlhorn.** Tablet PCs and PodCasting for Enhanced Learning. Instructor Workshop University of Tennessee Allied Health Sciences, Memphis Tennessee August 29, 2006. (I)

**Burcham, T.N., J.E. Mehlhorn, and P. Smartt.** Tablet PCs: The Perfect Tool for Enhanced In-Class and Online Learning. Innovative Professor Conference, Austin Peay State University August 16-17, 2006. (I)

**Burcham, T.N., J.E. Mehlhorn, B. Darroch, T.V. Greer, and P. Smartt.** Master of Science in Agricultural Operations Management: An Online MS Degree Program at UT Martin. World Congress on Computers in Agriculture, *American Society of Agricultural and Biological Engineers*, Orlando, FL July 24-26, 2006. (I)

**Mehlhorn, J.E., T.N. Burcham, and P. Smartt.** Using Voice Annotation to Enhance Successful Student Learning in Online Courses. Instructional Technology Conference, "Fostering Successful Learning" Middle Tennessee State University, Murfreesboro, TN April 2-4, 2006. (I)

**Burcham, T.N., J.E. Mehlhorn, and P. Smartt.** Tablet PCs: The Perfect Tool for Enhanced In-Class and Online Learning Instructional Technology Conference, "Fostering Successful Learning" Middle Tennessee State University, Murfreesboro, TN April 2-4, 2006. (I)

**Smartt, P., T.N. Burcham, and J.E. Mehlhorn.** Creating An Interactive Environment for Software and Hardware Simulation. Instructional Technology Conference, "Fostering Successful Learning" Middle Tennessee State University, Murfreesboro, TN April 2-4, 2006. (I)

**J.E. Mehlhorn, and T.N. Burcham.** Teaching Agribusiness Courses Online is Now a Breeze. 2006 Southeast Decision Science Meetings, Wilmington, NC. February 24-27, 2006. (P)

**Mehlhorn, J.E., T.N. Burcham, R. Joost, B. Darroch, and M. Lowery.** An Economic Comparison of the Efficacy of Defoliation Recommendations. 2006 Southern Agricultural Economics Association meetings. Orlando, FL. February 4-8, 2006. (P)

**Burcham, T.N., P. Smartt, J.E. Mehlhorn, and R. Joost.** Generation Y: Can We Teach Them? 2006 Best Practices Conference : Integration of Technology into Instruction, Stillman College, Tuscaloosa, AL. February 17, 2006. (I)

**Mehlhorn, J.E., T.N. Burcham, P. Smartt, and R. Joost.** Technology in the Classroom: Past, Present, and Future. 2006 Best Practices Conference : Integration of Technology into Instruction, Stillman College, Tuscaloosa, AL February 17, 2006. (I)

- Joost, R., J.E. Mehlhorn, T.N. Burcham, P. Smartt, and B. Darroch. Pitfalls and Promises of Tablet PC Integration in Introductory Courses. 2006 Best Practices Conference: Integration of Technology into Instruction, Stillman College, Tuscaloosa, AL February 17, 2006. (I)*
- Smartt, P., T.N. Burcham, R. Joost, and J.E. Mehlhorn. Creating An Interactive Environment For Software And Hardware Simulation. 2006 Best Practices Conference : Integration of Technology into Instruction, Stillman College, Tuscaloosa, AL February 17, 2006. (I)*
- Smart, P., T.N. Burcham, and J.E. Mehlhorn. Software Simulation Using Macromedia Captivate in the Blackboard Environment. Blackboard Southeastern Users Group (BbSEUG) Annual Meeting, September 28-30, 2005. (I)*
- Mehlhorn, J.E., T.N. Burcham, P. Smartt, and R. Joost. Using Blackboard in a Wireless PC Environment. Blackboard Southeastern Users Group (BbSEUG) Annual Meeting, September 28-30, 2005. (I)*
- Burcham, T.N., J.E. Mehlhorn, and P. Smartt. Alpha Session: Using Tablet PC's to Enhance Online Instruction. Pre-Conference Workshop (3 hours). 10<sup>th</sup> Annual Instructional Technology Conference, Middle Tennessee State University Murfreesboro, TN. April 3, 2005. (I)*
- Mehlhorn, J.E., T.N. Burcham, and P. Smartt. Beta Session: Using Tablet PC's to Enhance Online Instruction. Pre-Conference Workshop (3 hours). 10<sup>th</sup> Annual Instructional Technology Conference, Middle Tennessee State University Murfreesboro, TN. April 3, 2005. (I)*
- Smartt, P., J.E. Mehlhorn, and T.N. Burcham. Gamma Session: Using Tablet PC's to Enhance Online Instruction. Pre-Conference Workshop (3 hours). 10<sup>th</sup> Annual Instructional Technology Conference, Middle Tennessee State University Murfreesboro, TN. April 3, 2005. (I)*
- Burcham, T.N., and J.E. Mehlhorn. 2004 Tennessee Governor's School for the Agricultural Sciences. Annual meeting of Tennessee Association of Colleges and Teachers of Agriculture. Montgomery Bell State Park, Burns, TN. March 27-28, 2005. (I)*
- Burcham, T.N. Camtasia Studio and Tablet PCs: The Freedom to Express Yourself. 2005 UT Martin Technology Showcase, UT Martin University Center. March 1, 2005. (I)*
- Burcham, T.N., J.E. Mehlhorn, P. Smartt, and R. Joost. Integrating Tablet PCs for Enhanced Online Education. Stillman College Technology Conference, Best Practices: Integration of Technology into Instruction. Tuscaloosa, AL. February 18-19, 2005. (I)*

*Smartt, P., T.N. Burcham, J.E. Mehlhorn, and R. Joost. Incorporating Video in the Blackboard Environment. Stillman College Technology Conference, Best Practices: Integration of Technology into Instruction. Tuscaloosa, AL. February 18-19, 2005. (I)*

*Mehlhorn, J.E., T.N. Burcham, P. Smartt, and R. Joost. Using AV Technology to Enhance Course Material. Stillman College Technology Conference, Best Practices: Integration of Technology into Instruction. Tuscaloosa, AL. February 18-19, 2005. (I)*

*Joost, R., J.E. Mehlhorn, P. Smartt, and T.N. Burcham. Using Blackboard to Enhance Student Learning and Encourage Discussion. Stillman College Technology Conference, Best Practices: Integration of Technology into Instruction. Tuscaloosa, AL. February 18-19, 2005. (I)*

*Burcham, T.N., P. Smartt, and J.E. Mehlhorn. Using Tablet PCs to Enhance Online Instruction. Online Facilitator Summit; Brenau University, Gainesville, GA. January 13-15, 2005. (I)*

*Burcham, T.N., J.E. Mehlhorn, and P. Smartt. Using Tablet PC's to Enhance Teaching. 2004 Blackboard Southeast Users Group Conference; Duke University, Durham, NC. September 24-25, 2004. (I)*

*Smartt, P., T.N. Burcham, and J.E. Mehlhorn. Using Video in a Blackboard Environment. 2004 Blackboard Southeast Users Group Conference, Duke University, Durham, NC. September 23-25, 2004. (I)*

*Mehlhorn, J.E., T.N. Burcham, and P. Smartt. Using Blackboard to Enhance Teaching: Roundtable Forum. 2004 Blackboard Southeast Users Group Conference, Duke University, Durham, NC. September 23-25, 2004. (I)*

*Burcham, T.N., B. Darroch, R. Shadden, J. Mehlhorn, and T. Greer. Incorporating Camtasia Studio for Advanced Online Course Delivery – Reflections of Ag & NR Faculty at UTM. Legislative Conference Room, University Center, UT Martin. March 10, 2004.*

*Burcham, T.N. Agriculture – Economic Impact on Tipton County. Economic Development Program, Dyersburg State Community College, Covington, TN. February 18, 2004.*

*Burcham, T.N., and J.E. Mehlhorn. Using Camtasia Studio to enhance online courses. Southern Educational Technology Conference, Fayetteville, AR, January 8-9, 2004. (I)*

*Burcham, T.N. Making Your Blackboard Lectures Talk! Blackboard Southeast Users Group Conference. Rollins College. Winter Park, FL. October 3, 2003. (I)*

- Burcham, T.N.*** Biological Treatment of Animal Wastes. Agricultural and Biological Engineering Alumni Career and Research Day. Mississippi State University. September 26, 2003.
- Burcham, T. N.*** SORBS Update. Farm Bureau University Research Update. MAFES Conference Center, Mississippi State University. August 7, 2003.
- Burcham, T.N.*** Developing Audio/Video Materials for Enhanced Web-Based Instruction. 2003 West Tennessee Agriculture Teachers Workshop. Brehm Hall, UT Martin. July 2003.
- Burcham, T.N.*** Developing Audio/Video Materials for Enhanced Web-Based Instruction. TN-GA ASAE Section Meetings and Southern Region Extension Engineers & Housing Specialists Biennial Workshop. Chattanooga Marriott at the Convention Center. Chattanooga, TN. June 10, 2003. (I)
- Burcham, T.N.*** Making Your Blackboard Courses Talk! Middle Tennessee State University, Murfreesboro, TN. April 1, 2003. (I)
- Burcham, T.N.*** Making Your Blackboard Courses Talk! Creating Audio-Enhanced Lectures for Online Courses. Tennessee Agriculture and Natural Resources University Consortium. Marriott Hotel, Nashville, TN. March 6-7, 2003. (I)
- Burcham, T.N.*** Master of Science in Agricultural Operations Management. A presentation for the Martin Rotary Club. University Center, UT Martin. February 27, 2003.
- Burcham, T.N.*** Overview of Agricultural Environmental Research. 11<sup>th</sup> Southern States Annual Environmental Conference and Exhibition. Mississippi Coast Coliseum & Convention Center, Biloxi, MS. September 25-27, 2001. (I)
- Burcham, T.N.*** Management of Odors Emitted by Swine Raising Operations. 10<sup>th</sup> Southern State Environmental Conference and Exhibition. Mississippi Gulf Coast Coliseum and Convention Center, Biloxi, MS. September 26-28, 2000. (I)
- Burcham, T.N., J.M. Jones, and K. Cadwallader.*** Odor Control Management. Animal By-Product Management in Mississippi. A Training Session Developed for the Natural Resources Conservation Service, USDA and the MSU Extension Service in cooperation with the MAFES and the Mississippi DEQ. Phase II Training. November 9, 1999. (I)
- Jeffery M. Jones, T.N. Burcham, K.R. Cadwallader, and M.E. Zappi.*** Odor Reduction Bioreactor System. 1999 ASAE/CASAE-SCGR Annual International Meeting. Sheraton, Toronto Centre, Toronto; Ontario, Canada. July 18-21, 1999. Paper No. 994044. (I)

**Burcham, T.N., A. Thomasson, F.S. To, and M. Cox.** Phase II-GPS Wastewater Tracking System (GWTS) for Commercial Swine Production Facilities. 1999 ASTA/RSTC Tour. July 15, 1999.

**Burcham, T.N., M.R. Raven, and T. Green.** Multimedia Instruction for CALS Faculty. A Project Presentation for the 1999 William White Awards Banquet. November 15, 1999.

**Burcham, T.N., and T. Chamblee.** Emerging Technologies in Animal Waste Management. Animal By-Product Management in Mississippi. A Training Session Developed for the Natural Resources Conservation Service, USDA and the MSU Extension Service in cooperation with the MAFES and the Mississippi DEQ. Phase I Training. June 30, 1999.

**Burcham, T.N.** On-going Research Developments of MSU Concerning Pollution Control at Animal Raising Facilities. 42<sup>nd</sup> Annual Mississippi Water Environment Association. June 11, 1999. (I)

**Jones, J.M., and T.N. Burcham.** Treatment of Swine Wastewaters Using an Attached Growth Bioreactor. 42<sup>nd</sup> Annual Mississippi Water Environment Association. June 9, 1999. (I)

**Burcham, T.N., and J.A. Gilbert.** Update of Gin Management & Technology Program at MSU. 1999 Southern Cotton Ginners Association Annual Meeting. Peabody Hotel, Memphis, TN. March 4, 1999. (I)

**Burcham, T.N., J. Jones, E.P. Columbus, and H. Borazgani.** Bast Medium Bioreactor Treatment System. Second Annual Conference of the American Kenaf Society, San Antonio, TX. February 25-27, 1999. (I)

**Moore, R.B., and T.N. Burcham.** Evaluation of Kenaf as a Bedding Material in Dairy Free Stalls. Second Annual Conference of the American Kenaf Society, San Antonio, TX. February 25-27, 1999. (I)

**Gilbert, J.A., and T.N. Burcham.** Update of Gin Management & Technology Program at MSU. 1999 Southern Cotton Ginners Association Annual Meeting. Peabody Hotel, Memphis, TN. March 4, 1999. (I)

**Burcham, T.N.** 1998. Draft Strategy for Animal Feeding Operations. Mississippi-Louisiana Dairy Conference, Percy Quinn State Park, McComb, MS. November 12, 1998. (I)

**Burcham, T.N.** 1998. Machinery Management Principles. Seminar to the Mississippi Turf Grass Association. Hattiesburg, MS. November 9, 1998. (I)

- Burcham, T.N., and J. Wooten.** Computers & Usage. A seminar given at the Cotton Ginning Systems Technology and Management course. Ag. & Bio. Eng. Dept., Mississippi State University, Starkville, MS. May 11-15, 1998.
- Burcham, T.N., and D. Smothers.** Off-Site Movement in Runoff from Research Plots Receiving Swine Lagoon Effluent. Mississippi Water Resources Conference, Eagle Ridge Conference Center, Raymond, MS. April 7-8, 1998. (I)
- Gilbert, J.A., and T.N. Burcham.** Update of Gin Management & Technology Program at MSU. 1998 Southern Cotton Ginners Association Annual Meeting. Peabody Hotel, Memphis, TN. February 26, 1998. (I)
- Burcham, T.N., and M.R. Raven.** Machinery Management Principles. Seminar to the Associated Landscape Contractors of America. ALCA University and Landscape Expo, Hinds Community College, Raymond, MS. February 12, 1998. (I)
- Burcham, T.N.** Environmental Stewardship. MSU Short Course. Ballew Hall, Room 119, Mississippi State University. Starkville, MS. August 15, 1997.
- Burcham, T.N.** Environmental Stewardship. MSU Short Course. Ballew Hall, Room 119, Mississippi State University, Starkville, MS. August 16, 1996.
- Burcham, T.N.** Nutrient and Sand Removal Technologies Utilized in Dairy Manure Solids Separation. 27<sup>th</sup> Annual Mississippi Water Resources Conference, Jackson, MS. Jackson, MS. March, 1997. (I)
- Burcham, T.N.** Design and Construction of a Research Facility to Compare Mechanical and Gravity Settling for Dairy Manure Separation. 26<sup>th</sup> Annual Mississippi Water Resources Conference, Holiday Inn, Jackson, MS. April 2-3, 1996. (I)
- Burcham, T.N.** A Progress Report on the Off-Site Movement of Nutrients from Runoff Plots Treated with Swine Lagoon Effluent. 26<sup>th</sup> Annual Mississippi Water Resources Conference, Holiday Inn, Jackson, MS. April 2-3, 1996. (I)
- Burcham, T.N.** Building Your Own Home Page. Society of Women Engineers, Mississippi Section. Computer Teaching Laboratory, Agricultural and Biological Engineering Building. Starkville, MS. March 26, 1996. (I)
- Burcham T.N.** Waste/Nutrient Management. Tennessee Pork Producers Association Third Annual Mid-South Pork Exposition, Jackson, TN. August 5, 1992. (I)
- Burcham, T.N.** What Has Well Testing Taught Us? 70<sup>th</sup> Annual Meeting of the Tennessee Farm Bureau Federation, Stouffer Hotel, Nashville, TN. December 8-11, 1991. (I)

- Burcham, T.N.*** Practical Engineering Aspects of Protecting Water. 24<sup>th</sup> International Professional Plant Growers Association Conference and Trade Show. Opryland Hotel, Nashville, TN. September 26-29, 1991. (I)
- Burcham, T.N.*** Irrigation and Water Quality. 24<sup>th</sup> Annual Tennessee Nursery Short Course, “Back to Basics II.” Convention Center, Gatlinburg, TN. February 9, 1991. (I)
- Burcham, T.N.*** Grounds Management and Water Quality. Landscaping, Turf, and Grounds Management Short Course. Ellington Plant Science Building. February 25-27, 1991. (I)
- Burcham, T.N.*** What You Need to Know About Water Quality and Greenhouse Production. Middle Tennessee Ornamental Horticulture Exposition. Spring hill, TN. January 29, 1991. (I)
- Burcham, T.N.*** Water Quality and Waste Management. Middle Tennessee Market Hog Seminar. Belvidere Community Center, Fayetteville, TN. February 19, 1991. (I)
- Burcham, T.N.*** Agricultural Animal Waste Demonstrations. Joint Extension/Experiment Station Leadership Meeting. Ag. Campus – University of Tennessee. Knoxville TN. February 12, 1991. (I)
- Burcham, T.N.*** Irrigation – A Production Tool for Nursery. Grundy County Farm Tour. American Tree, Inc., Coalmont, TN. September 4, 1991. (I)
- Burcham, T.N.*** Designing Innovative Animal Waste Management Systems. Water Quality Planning for the Year 2000. Paris Landing Inn, Buchanan, TN. September 22-24, 1991. (I)
- Burcham, T.N.*** Quality of Ground Water on Tennessee Poultry Farms. Fourth Annual Tennessee Water Resources Symposium. University of Tennessee. Conference Center, Knoxville, TN. September 24-26, 1991. (I)
- Burcham, T.N.*** Matching Swine Effluent to Crop Needs. Henderson County Swine Field Day, “Waste Management.” Lexington, TN. October 17, 1991. (I)
- Burcham, T.N.*** Managing Agricultural Waste Treatment Systems. State Section Meeting for the Mississippi Chapter of the ASAE. Starkville, MS. October 10, 1991. (I)
- Burcham, T.N.*** Animal Waste Management Systems. Soil Conservation Service – Water Quality Training Sessions (Jackson, TN, January 23; Columbia, TN, February 5; Johnson City, TN, March 5; Chattanooga, TN, March 19, 1991. (I)

***Burcham, T.N.*** Dairy Waste Management. Bob Garner Farm Tour. Lawrenceburg, TN. March 12, 1991. (I)

***Burcham, T.N.*** Animal Waste Management Using Various Irrigation. Conference on Environmentally Sound Agriculture. Orlando, FL, April 16-19, 1991. (I)

***Burcham, T.N.*** Ground Water Quality in Tennessee. Knox County Agricultural Exposition. Knoxville, TN. August 5, 1991. (I)

***Burcham, T.N.*** Ground Water Contamination: What You Don't Know Can Hurt You. Tennessee Flower Growers Short Course and Trade Show. Holiday Inn, Gatlinburg, TN. October 28-30, 1990. (I)

***Burcham, T.N.*** Drinking Water Quality in Tennessee. Tennessee Society of Farm Managers and Rural Appraisers, Knoxville, TN. October 12, 1990. (I)

***Burcham, T.N.*** Status of Water Quality as Impacted by Agriculture. 69<sup>th</sup> Annual Meeting of the Tennessee Farm Bureau Federation. Stouffer Nashville Hotel, Nashville, TN. December 2-5, 1990. (I)

## **Short Courses**

***Burcham, T.N.*** Incident at Morales: A Study of Engineering Ethics. A three-hour engineering ethics attendees at the 15th Annual Tennessee Onsite Wastewater Association Conference. Embassy Suites Conference Center, Murfreesboro, TN. January 24-25, 2011 (I).

***Burcham, T.N.*** Biofuels. Workshop for Middle Tennessee Agriculture Extension Agents, Murfreesboro, TN. November 10-11, 2008. (I)

***Burcham, T.N., J. Mehlhorn, and P. Smartt.*** Podcasting Made Simple. A hands-on workshop for creating and distributing enhanced podcasts using an Apple MacBook. 2008 Instructional Technology Conference, Middle Tennessee State University. Murfreesboro, TN. April 6, 2008. (I)

***Burcham, T.N.*** Incident at Morales. A engineering ethics short course presented by **Timothy N. Burcham**. Sponsored by the Tennessee Onsite Wastewater Association. Middle Tennessee Research and Education Center, Spring Hill, TN. February 5<sup>th</sup>, 2007. (I)

***Burcham, T.N.*** Biodiesel Basics – An Agricultural Teacher Workshop. Workshop introduced attendees to the fundamentals associated with biodiesel production from oil crops. The lab portion of the workshop allowed attendees to make 1-liter mini-batches of biodiesel from Waste Vegetable Oil (WVO). University of Tennessee at Martin. Martin, TN. June 21, 2006. (I)



**Burcham, T.N.** Camtasia Studio for Online Graduate Course Delivery. A seminar presented to the Agricultural Economics Faculty at UT-Knoxville. Knoxville, TN. May 12, 2003.

**Burcham, T.N.** ITC Faculty Training Workshop. Making Blackboard Talk! University Center, UT-Martin, Martin, TN. May 6, 13, and 20, 2004, and June 3, 2004. (I)

**Burcham, T.N.** Global Positioning System (GPS) Training for High School Agriculture Teachers. Ag. Teachers Workshop. University of Tennessee at Martin, Martin TN. June 2004. (I)

**Burcham, T.N.** Environmental Stewardship. MSU Swine Short Course. Mississippi State University. Starkville, MS. August 16, 1996. (I)

**Burcham, T.N.** On-Site Domestic Wastewater Treatment In-Service Training. Chaired In-Service Training. The University of Tennessee Agricultural Extension Service and The University of Tennessee Experiment Station. Ellington Agricultural Center, Nashville, TN. October 21, 1992. (I)

**Burcham, T.N.** Managing Animal Wastes into the 21<sup>st</sup> Century. Grasses, Manures, and Nutrient Management Field Day. Martin Experiment Station. Martin, TN. June 21, 1991. (I)

## C. Grants

\*First author is the PI

### UT Martin

**Investigators:** Mehlhorn, J.E., **T.N. Burcham**, and B. Darroch

**Title:** Faculty Perceptions of Using Tablet PCs to Enhance Classroom Teaching at Tier II Universities.

**Sponsor:** Microsoft

**Funding:** \$102,699

**Duration:** July 2006 – June 2008

**Status:** *(Not Funded)*

**Investigator:** **T.N. Burcham**

**Title:** Faculty Perceptions of Using Tablet PCs to Enhance Classroom Teaching at Tier II Universities.

**Sponsor:** Microsoft

**Funding:** \$102,699

**Duration:** July 2006 – June 2008

**Status:** *(Not Funded)*

**Investigator:** Philip Smartt

**Consultant:** T.N. Burcham

**Title:** Strengthening an Existing Precision Agricultural Technology program through the Creation of a Related Natural Resource Technology Associate of Applied Science Degree.

**Sponsor:** National Science Foundation - Advanced Technical Education Grant

**Funding:** \$92,253

**Duration:** Jan. 2006 – May 2007

**Salary:** 3.8 percent

**Status:** *Funded*

**Investigators:** Timothy N. Burcham, M.E. Zappi, and E.P. Columbus

**Title:** Farm-Level Implementation of the Swine Odor Reduction Bioreactor System (SORBS)

**Sponsor:** North Carolina Animal & Poultry Waste Management Center

**Funding:** \$35,000

**Duration:** December 2001 – December 2005

### Mississippi State University

**Investigators:** T.N. Burcham, M.E. Zappi, and E.P. Columbus

**Title:** Farm-Level Implementation of the Swine Odor Reduction Bioreactor System (SORBS)

**Sponsor:** MAFES, 1994 Mississippi Legislature Special Initiatives / Water Quality

**Funding:** \$80,668

**Duration:** January 1, 2002 – June 20, 2004

**Investigators:** T.N. Burcham, S. Diehl, R. Evans, B. Macoon, and F. Withers

**Sponsor:** MAFES, 1994 Mississippi Legislature Special Initiatives / Water Quality

**Title:** Determination of Bacteria and Nutrients in Runoff from Beef Cattle Grazing Operations

**Funding:** \$158,219

**Duration:** January 1, 2002 – June 30, 2004

**Investigators:** T.N. Burcham, W.A. Frank, A. Dorazjani, K. Cadwallader, and D. Hudson

**Title:** Kenaf-based Biofiltration System for Odor Suppression and Nutrient Cycling in Confined Animal Feeding Operations

**Sponsor:** 1994 Mississippi Legislature Special Initiatives / Water Quality

**Funding:** 3.5-year funding: ~ \$200,000

**Duration:** 7/1/98 – 12/30/01

**Investigators:** T.N. Burcham, A. Thomasson, F.S. To, M. Cox  
**Title:** GPS Wastewater Tracking System (GWTS) for Commercial Swine Production Facilities  
**Sponsor:** USDA/CREES Special Grant  
**Funding:** 3-year funding: ~\$54,375  
**Duration:** March 1998 - February 2001

**Investigator:** T.N. Burcham  
**Title:** Scentometers for Quantifying Odor from Animal Production Facilities  
**Sponsor:** William M. White Special Project Award  
**Funding:** 1-year funding: \$501  
**Duration:** January 2001 - December 2001

**Investigators:** T.N. Burcham and E.P. Columbus.  
**Sponsor:** USDA, ARS  
**Title:** Agronomic and Economic Evaluation of Kenaf as a Pulp Crop in Mississippi  
**Funding:** 3-year funding: ~ \$95,000  
**Duration:** March 1998 - February. 2001

**Investigators:** T.N. Burcham, and J. Bonner  
**Contract:** Bioreactor Wastewater Monitoring Project  
**Funding:** 1-year: \$67,819  
**Duration:** July 1999 – December 2000

**Investigator:** T.N. Burcham  
**Title:** Runoff from Bermuda Grass Plots Receiving Swine Lagoon Effluent  
**Sponsor:** 1994 Mississippi Legislature Special Initiatives / Water Quality  
**Funding:** 2-year funding: ~ \$40,000/yr.  
**Duration:** 7/1/98 – 6/30/00

**Investigators:** Michael Newman, T.N. Burcham, and M.R. Raven  
**Title:** A Model for Hypermedia-Based Instructional Material Development in Agriculture  
**Sponsor:** USDA  
**Funding:** 2-year funding: USDA \$79,651  
MSU Match \$79,671  
**Duration:** 10/1/96 – 10/1/98

**Investigators:** T.N. Burcham, T. Cathcart, B. Herndon, R. Moore, and F. Withers  
**Title:** Land Application of Treated Dairy Wastewater  
**Sponsor:** MAFES, 1994, Mississippi Legislature Special Initiatives / Water Quality  
**Funding:** 3-year funding: \$106,900  
**Duration:** July 1, 1994 – June 30, 1997 (Extended June 30, 1997 – July 1, 1998)  
Salary: 15 percent

**Investigators:** Howard Miller, **T.N. Burcham**, J. Pote, and T. Shipp  
**Title:** Reduced P-Based Land Required by Incorporating Dephytinized Corn in Swine Diets  
**Sponsor:** MAFES, 1994 Mississippi Legislature Special Initiatives / Water Quality  
**Funding:** 3-year funding: \$103,210  
**Duration:** July 1, 1994 – June 30, 1997  
Extended June 30, 1997 – July 1, 1998  
Salary: 5 percent

**Investigators:** Jac Varco, **T.N. Burcham**, R. Little, F. Whistler, and J. Tomlinson  
**Title:** Economic and Environmental sustainability of Forage Production Utilizing Swine Lagoon Effluent  
**Sponsor:** MAFES, 1994 Mississippi Legislature Special Initiatives / Water Quality  
**Funding:** \$181,570  
**Duration:** July 1, 1994 – June 30, 1998  
Salary: 10 percent

**Investigators:** **T.N. Burcham**, J. Pote, J. Varco, and R. Little  
**Title:** Development of Design Criteria for Swine Waste Treatment Facilities  
**Sponsor:** Appalachian Regional Commission  
**Funding:** \$210,555  
**Duration:** July 1, 1993 – June 30, 1995  
Project completed

## **V. Faculty/Teaching Development Activities**

### **Teaching Improvement**

#### ***University of Tennessee at Martin***

West Tennessee Technology Symposium. University Center, UT Martin. Nov. 2, 2011.

Blackboard 9.1 Training. Training in the Use of Blackboard 9.1 (6 hours). Instructional Technology Center, UT Martin, Martin TN. January 14, 2011.

West Tennessee Technology Symposium. University Center, UT Martin. Nov. 3, 2010.

West Tennessee Technology Symposium. University Center, UT Martin. Nov. 18, 2009.

Blackboard Southeastern Users Group (BbSEUG) Annual Meeting, Jacksonville, FL. Feb. 28 – Mar. 2, 2007.

Attended Fall Teaching workshops at UT Martin 2002 – 2005.

Blackboard Southeastern Users Group (BbSEUG) Annual Meeting, Savannah, GA. Sept. 28-30, 2005.

10<sup>th</sup> Annual Instructional Technology Conference, Middle Tennessee State University Murfreesboro, TN. April 3, 2005.

Annual meeting of Tennessee Association of Colleges and Teachers of Agriculture. Montgomery Bell State Park, Burns, TN. March 27-28, 2005.

UT Martin Technology Showcase, UT Martin University Center. March 1, 2005.

Stillman College Technology Conference, Best Practices: Integration of Technology into Instruction. Tuscaloosa, AL. February 18-19, 2005.

Online Facilitator Summit; Brenau University, Gainesville, GA. January 13-15, 2005.

Blackboard Southeast Users Group Conference; Duke University, Durham, NC. September 24-25, 2004.

Economic Development Program, Dyersburg State Community College, Covington, TN. February 18, 2004.

Southern Educational Technology Conference, Fayetteville, AR. January 8-9, 2004.

Blackboard Southeast Users Group Conference. Rollins College. Winter Park, FL. October 3, 2003.

TN-GA ASAE Section Meetings and Southern Region Extension Engineers & Housing Specialists Biennial Workshop. Chattanooga Marriott at the Convention Center. Chattanooga, TN. June 10, 2003.

Tennessee Agriculture and Natural Resources University Consortium. Marriott Hotel, Nashville, TN. March 6-7, 2003.

ASAE Annual International Meeting/CIGR World Congress, World Congress Center, Chicago, IL, July 28-31, 2002.

### ***Mississippi State University***

11<sup>th</sup> Southern States Annual Environmental Conference and Exhibition. Mississippi Coast Coliseum & Convention Center, Biloxi, MS. Sept. 25-27, 2001.

1999 ASAE/CASAE-SCGR Annual International Meeting. Sheraton, Toronto Centre, Toronto; Ontario, Canada. July 18-21, 1999. Paper No. 994044.

ESCOP/ACOP Leadership Development Program Participant, September 1997.

Teaching Related Research Grant: *Pilot Program: Mandatory Computer Possession by ABE Freshmen in Fall 1998*. Hearing Computational Initiative. \$168,953. (Miss. State Univ.)

Teaching Related Research Grant: *A model for hypermedia-based instructional material development in agriculture*. United States Department of Agriculture (Higher Education Challenge Grant). \$159,332. (Miss. State Univ.)

### **Developmental Conferences and Workshops**

17<sup>th</sup> Annual Tennessee Onsite Wastewater Conference. Montgomery Bell State Park, Burns, TN. Feb 12-13, 2013.

Managers Guide to Sexual Harassment. 206 Gooch Hall, University of Tennessee at Martin. November 26, 2012.

11<sup>th</sup> Annual Mid-South Agricultural Finance Conference. University of Tennessee at Martin. Martin, TN. August 1, 2012.

10<sup>th</sup> Annual Sigma Xi Banquet and Research Symposium. University Center, University of Tennessee at Martin, April 3, 2012.

16<sup>th</sup> Annual Tennessee Onsite Wastewater Conference. Montgomery Bell State Park, Burns, TN. Feb 13-14, 2012.

10<sup>th</sup> Annual Mid-South Agricultural Finance Conference. University of Tennessee at Martin. Martin, TN. August 3, 2011.

Precision Agriculture Conference. West Tennessee Research and Education Center, Jackson, TN. February 10, 2011.

9<sup>th</sup> Annual Sigma Xi Joint Research Symposium. Research symposium by UT Martin and Murray State University faculty. 107 Brehm Hall, UT Martin, Martin TN. March 5, 2011.

15<sup>th</sup> Annual Tennessee Onsite Wastewater Association Conference. Murfreesboro, TN. January 24-25, 2011.

Innovative Professor Conference 2010. Mobile Technology in the Classroom. Austin Peay State University. Clarksville, TN. November 8 - 9, 2010.

9<sup>th</sup> Annual Mid-South Agricultural Finance Conference. University of Tennessee at Martin. Martin, TN. August 4, 2010.

Tennessee Renewable Energy Economic Council. Jackson, TN. April 13, 2010.

8<sup>th</sup> Biennial Conference in University Education in Natural Resources and National Resources Distance Learning Consortium Annual Business Meeting. Virginia Tech. Blacksburg, VA. March 25 – 27, 2010.

14<sup>th</sup> Annual Tennessee Onsite Wastewater Association Conference and Exhibit Murfreesboro, TN. March 22-23, 2010.

8<sup>th</sup> Annual Joint Research Symposium. Murray State University and the University of Tennessee at Martin, Sigma Xi Chapters. University of Tennessee at Martin. March 6, 2010.

Biodiesel 301 Workshop. University of Tennessee, Knoxville and the Institute for a Secure and Sustainable Environment. Knoxville, TN. August 26, 2009.

Mid-South Agricultural Finance Conference. University of Tennessee at Martin. Martin, TN. August 5, 2009.

American Society of Agricultural and Biological Engineers annual meeting. Reno, NV. June 21 -24, 2009.

National Resources Distance Learning Consortium. Phoenix, AZ. April 13 – 16, 2009.

Tennessee Onsite Wastewater Association. 2009 Annual Conference and Product Expo. Murfreesboro, TN. March 23-24, 2009.

The Business of Southern Energy. Presentation by the Southern Growth Policies Board. University of Tennessee at Martin. Martin, TN. March 5, 2009.

North American Colleges and Teachers of Agriculture Annual Conference. University of Illinois at Urbana-Champaign. June 20-22, 2008.

Tennessee Alliance of Continuing Higher Education. Nashville, TN, November 14 – 16, 2007.

National Resources Distance Learning Consortium. Tucson, AZ. October 29 –31, 2007.

Tennessee Bioenergy Strategic Summit. Knoxville, TN. October 24, 2007.

National Science Foundation/Advanced Technological Education/National Principal Investigators Conference. Washington, D.C. October 18-20, 2007.

Governor's Conference on Biofuels, Montgomery Bell State Park. Burns, TN. May 31, 2007.

Blackboard Southeast Users Group Conference, Atlantic Beach, FL February 28 – March 2, 2007.

Mid-South Agricultural Finance Annual Conference, University of Tennessee at Martin. Martin, TN. August 4, 2005.

Professional Engineering Continuing Education Course (2 hours): An Incident at Morales. Engineering Ethics CEU. International Meeting of the ASAE, Tampa FL. July 17-21, 2005.

Professional Engineering Continuing Education Course (4 hours): . Application of Watershed Models. Engineering CEU. International Meeting of the ASAE, Tampa FL. July 17-21, 2005.

Professional Engineering Continuing Education (4 hours): Question Development for the Agricultural Engineering Fundamentals of Engineering Exam. Engineering CEU. International Meeting of the ASAE, Tampa FL. July 17-21, 2005.

Time Management Seminar (8 hours): The University of Tennessee at Martin. Martin, TN. May 19, 2005.

Fall UT Martin Teaching Improvement Workshop. UT Martin. 2005.

Mid-South Agricultural Finance Annual Conference, University of Tennessee at Martin. Martin, TN. August 5, 2004.

Fall UT Martin Teaching Improvement Workshop. UT Martin. 2003.

Agriculture Business Conference. Arkansas State University, Jonesboro, Arkansas. February 19, 2003.

CNMP Development Course (20 hours): Nashville, TN. February 12, 13, & 14, 2003.

TN-GA ASAE Section Meetings and Southern Region Extension Engineers & Housing Specialists Biennial Workshop, Chattanooga, TN. June 10, 2003.

Fall UT Martin Teaching Improvement Workshop. UT Martin. 2003.

Fall UT Martin Teaching Improvement Workshop. UT Martin. 2002.

ASAE. Annual International Meeting, Chicago, IL. July 28 – 31, 2002.

ASAE. 9th National Symposium on Individual and Small Community Sewage Systems. Fort Worth, Texas. March 11-14, 2001.



## **Engineering Consulting**

Mast Dairy Farm (Mississippi), Sand Separator Design. 2008.

Engineering consultation. Onsite wastewater distribution systems. PSA, Inc., Hilliard, OH. July 16 – 22, 2004.

Engineering consultation. Developed 16 fact sheets on solids separation technologies associated with livestock waste. Zapco Environmental Consulting, Inc. May 3 – 29, 2004.

Reviewed the Southern Sewage systems “ Pressure Cell System” (PCS) for Mississippi Department of Health. June 14, 2003.

## **VI. Service Activities**

### **A. Service to the Profession**

Reviewer for *NACTA*. 2011-Present.

Reviewer for the *Journal of Water, Air, and Soil Pollution*. 2011-Present.

Reviewer for the *Journal of Computers and Electronics in Agriculture*. 2009 - Present.

Assisted Agricultural Engineering Students in making application and successfully organized an Agricultural Mechanization Student Branch of the American Society of Agricultural and Biological Engineers. University of Tennessee at Martin. Martin, TN. May 2009.

Governor’s Alternative Fuels Working Group. Task Force meeting , Ellington Agricultural Center, Nashville, TN. July 11-12, 2007.

Tennessee Onsite Wastewater Association (TOWA). Annual Conference, Spring Hill, TN. February 6, 2007.

Tennessee Geographic Information Council (TNGIC) Annual Conference, Marriot Hotel, Franklin, TN. March 22-23, 2005.

Consultant - Zapco Environmental Consulting, Inc. Engineering consultation for comprehensive assessment of technologies for alternative treatment of swine waste. March, 2004.

External Reviewer – Dr. Dana Porter Promotion and Tenure Committee, Texas A&M University, 2004.

Penn State Governor's School. Training Tennessee Governor's School for the Agricultural Sciences. State College, PA. July 14-17, 2003.

Online Learning Conference and Expo. Hyatt Regency Hotel. Los Angeles, CA. September 21-24, 2003.

Consultant - Mississippi State Department of Health. Engineering consultant for Onsite Wastewater Committee. 2002-2003.

Brazilian-American Negotiations. A role-playing exercise with Brazilian group visiting UT Martin, Martin, TN. 2003.

Animal Waste Management Systems: Comprehensive Nutrient Management Plan Development. Hilton Suites, Nashville, TN. February 12-14, 2003.

## **B. Service to The University of Tennessee**

Trustee – Sick Leave Bank, University of Tennessee at Martin (2010 – Present)

Tennessee Farm Bureau Federation Annual Meeting. Represented the University of Tennessee at Martin at meetings and Master of Science in Agriculture and Natural Resources display. T.N. Burcham and J. Mehlhorn. Franklin, TN. Dec. 2012.

Tennessee Farm Bureau Federation Annual Meeting. Represented the University of Tennessee at Martin at meetings and Master of Science in Agriculture and Natural Resources display. T.N. Burcham and J. Mehlhorn. Franklin, TN. Dec. 2011.

Hosted tour of AGN Department for UTM Golden Graduation Class. Presented overview of the current AGN curricula and programs. University of Tennessee at Martin, Martin, TN. 2009 - 2011.

FFA Blue & Gold Banquet Featured Speaker. *Fueling Tomorrow*. February 2, 2011.

Leadership Obion County – Hosted group of 24 adults. Presentation on the AGN Department and Farm Tour. February 2011.

WestStar Leadership Program. Presentation on Production of Renewable Fuels. 2008 - 2010.

Tennessee Farm Bureau Federation Annual Meeting. Represented the University of Tennessee at Martin at meetings and Master of Science in Agriculture and Natural Resources display. T.N. Burcham and J. Mehlhorn. Franklin, TN. December 5-8, 2009.

UT Martin Talking About Teaching Series. Online Assessment: Best Practices and Not-So-Best Practices. S. Holt and T.N. Burcham. University of Tennessee at Martin, Martin TN. October 6, 2009.

Understanding the Use of Online Learning. Invited lecture for students enrolled in the College of Business and Public Affairs online MBA class. Discussed online methodologies for teaching and learning. University of Tennessee at Martin, Martin TN. April, 4, 2009.

Served as Master of Ceremonies for Department of Agriculture, Geosciences, and Natural Resources graduation breakfast for BS and MSANR students, their families, and guests. University of Tennessee at Martin, Martin TN. 2006 - Present.

Served as Judge for Agricultural Engineering Electric Project competition. University of Tennessee at Martin, Martin, TN. 2008 – 2011.

Developed successful proposal requesting that the Campus Safety committee consider the use of hanging tags instead of bumper-mounted stickers on automobiles belonging to UTM faculty, staff, and students. The hanging tags provide flexibility in allowing these individuals to move the tag from one vehicle to another without the inconvenience of going to campus security to temporarily register another vehicle. University of Tennessee at Martin, Martin TN. 2008-09 (Adopted).

Served on tenure committee for Dr. Philip Smartt, Associate Professor of Agriculture. AGN Dept. University of Tennessee at Martin, Martin TN. 2009.

Ag and NRM Department Chairman for UT Campaign for Tennessee. University of Tennessee at Martin, Martin TN. 2008.

UT Capital Campaign Kick-Off Event. Knoxville, TN. April 15 – 17, 2008.

Served on tenure committee for Dr. Gregory Nail, Associate Professor of Engineering. UTM Department of Engineering. University of Tennessee at Martin, Martin TN. 2008.

Developed successful nomination for Dr. Joey Mehlhorn to receive the Hardy Graham Distinguished Professor Award. University of Tennessee at Martin, Martin TN. 2008.

Chairman of Institutional animal Care and Use Committee at the University of Tennessee at Martin, Martin, TN. 2007-2010.

Chairman of search committee Grant Coordinator/Writer for the College of Agriculture and Applied Sciences. University of Tennessee at Martin, Martin TN. 2007 – 2008.

Reviewed Papers for the Interdisciplinary Student Writing Conference, University of Tennessee at Martin, Martin, TN. April 2005.

Presented MSAOM Progress to Western Region Agriculture Extension Directors Tour. UT Martin, Martin, TN. October 21, 2004.

Served as a judge in the 4-H Petroleum Power project at 4-H Roundup, University of Tennessee at Martin, Martin, TN. July 23, 2002.

## **Recruiting (MSANR/MSAOM Graduate Program, UT-Martin)**

Represented the University of Tennessee at Martin at Tennessee Farm Bureau Federation Annual Meeting. Attended meetings and participated in recruiting at Master of Science in Agriculture and Natural Resources display. Franklin, TN, December 5-7, 2010.

Represented the University of Tennessee at Martin at Tennessee Farmers Coop Annual Meeting. Attended meetings and participated in recruiting at Master of Science in Agriculture and Natural Resources display. Nashville, TN, November 29-30, 2010.

MSANR Recruiting at Milan No-Till Field Day. Ag Research and Education Center at Milan, Milan, TN. July 22, 2010.

Represented the University of Tennessee at Martin at Tennessee Farm Bureau Federation Annual Meeting. Attended meetings and participated in recruiting at Master of Science in Agriculture and Natural Resources display. Franklin, TN, December 5-8, 2009.

MSANR Recruiting at Milan No-Till Field Day. Ag Research and Education Center at Milan, Milan, TN. July 24, 2008.

MSANR Recruiting at Milan No-Till Field Day. Ag Research and Education Center at Milan, Milan, TN. July 2006

MSAOM Recruiting at Southeast Missouri State University. Graduate Fair, SEMO University Center, Cape Girardeau, MO. September 20, 2005.

MSAOM Recruiting at Southeast Missouri State University. Formal presentation to the SEMO Horticulture Club. Contact: Dr. Indi Braden. Southeast Missouri State University. Cape Girardeau, MO. April 6, 2005.

Mid-South Farm and Gin Supply Exhibit, Memphis Convention Center, Memphis, TN. March 4-5, 2005.

Northwest TN College Fair, UT Martin, Martin TN. October 26, 2005.

Norfolk Aggie High School. MSAOM Presentation. Sharon, MA. November 17-19, 2004.

MSAOM Program Advertisement. Southeast Farm Press. Vol. 31, No. 25, pg. 25, Wednesday, Nov. 3, 2004.

MSAOM Recruiting at the Southeast Missouri Delta Center, Dr. Ray Nabors, Portageville, MO. October 7, 2004.

Tennessee Farmers Cooperative. MSAOM Recruiting for Tennessee Farmers Coop. Met with Morris Williams. LaVergne, TN. May 10, 2004.

Milan No-Till Field Day. MSAOM Display/Recruiting, Milan, TN. July 22, 2004.

Tennessee State University Research and Demonstration Farm. MSAOM Recruiting Display. Ashland City, TN. July 20, 2004.

Young Leaders Conference, Tennessee Council of Cooperatives and Tennessee Young Farmers and Ranchers, Music City Sheraton, Nashville, TN. January 30-31, 2004.

Mid-South Farm and Gin Supply Exhibit, Memphis Convention Center, Memphis, TN. February 27-28, 2004.

MSAOM Recruiting at Market Place For Ideas, UT Martin. Martin, TN, 2004.

Tennessee Technology Center, Cookeville, TN. MSAOM recruiting. October 30, 2003.

Middle Tennessee State University, Murfreesboro, TN. MSAOM recruiting. October 28, 2003.

Jackson Northside School – Agriculture Teachers Meeting. Jackson, TN. March 3, 2003.

Austin-Peay University, Clarksville, TN. MSAOM recruiting. October 28, 2003.

Agriculture Educators Meeting, Middle Tennessee State University, Murfreesboro, TN. July 28, 2003.

Fall Career Fair, Murray State University, Murray, KY, October 16, 2002.

Mid-South Ag Lending Conference, Jackson, TN, October 1, 2002.

## **Committees**

### ***University of Tennessee at Martin***

Chair – University of Tennessee at Martin Honors and Ceremonies Committee. 2010 – 2012.

Chair – University of Tennessee at Martin Institutional Animal Care and Use Committee (IACUC). 2007 – 2010.

Chair – Agriculture, Geosciences, and Natural Resources Fellows Research Program. 2008- Present.

Chair – Ag & NR Grant Writer Search Committee. 2008.

Area Captain – UT Martin Family Campaign. 2008.

Chair – ANR Faculty Staffing Assessment Committee (ad hoc). 2007.

Chair – Department of Agriculture and Natural Resources General Organic and Biochemistry (GOB) Curriculum Development Committee. 2005.

Chair – AGN GIS Certificate Committee. This committee was composed of Agriculture/Natural Resources and Geography Faculty. 2005.

Member – ASAE P-120, ASAE Student Organization Committee. 2002 – 2004.

Member – International Education and Activities Committee. 2005 – 2006.

Chair – CPR Committee for Richard Shadden. Committee members included: Dr. William Sliger and Dr. David Pitts. UT Martin. 2005.

Chair – Jackson State Community College-UT Martin Agriculture and Natural Resources Articulation Agreement. 2005.

Chair – Search Committee for Women’s Division I Equestrian Coach. December 2004 – 2005.

Chair – Academic Curriculum Development Committee for the Tennessee Governor’s School for the Agricultural Sciences. 2004 – Present.

Member – Search Committee for Director of Online University Studies, 2004.

Chair – University Scholars Research for Amanda Tutt. 2004 – 2005.

Member – CAAS Academic Reinstatement Committee. 2003 – 2006.

Chair – CAAS Website Coordinators Committee. 2003 – 2004.

Member – Technology Fee Utilization Committee. 2003 – 2004.

Member – UTM Graduate Council. 2002 – Present

Member – Graduate Coordinators Committee. 2002 – Present.

Member – Academic Computing Advisory Committee. UT Martin. 2002.

Member – CAAS Academic Advisory Committee. 2002 – Present

## **Service to the Public Involving Professional Skills**

UT Martin Agriculture, Geosciences, and Natural Resources Update. Martin Kiwanis Club. Nov. 8, 2012.

Fulton/South Fulton Rotary Club. Fueling Tomorrow. July 5, 2011.

Green Energy: How Realistic? A presentation to the Martin Rotary Club, Martin, TN. 2010.

Agriculture's Vital Role in Production of Biorenewal Fuels. A presentation to WestStar Leadership Development Program. Paris, TN. 2009.

Biofuels and Automotive Technology. A presentation to Ameriprise Financial Group. Union City. 2008.

Biofuels and Automotive Technology. A presentation to the Martin Kiwanis Club. Martin, TN. 2008.

Biofuels and Automotive Technology. A presentation to WestStar leadership class. Buchanan, TN. 2008.

Biofuels and Automotive Technology. A presentation to Leadership Weakley County. Martin, TN. 2008.

Biofuels and Automotive Technology. A presentation to Leadership Carroll County. Huntingdon, TN. 2008.

Biofuels and Automotive Technology. A presentation to Weakley County Young Farmers Association. Dresden, TN. 2008.

Biofuels Update. A presentation to the Martin Kiwanis Club. Martin, TN. 2007.

Biofuels Update. A presentation made to the Trenton Farm Bureau. Trenton, TN. 2007.

Biofuels Presentation to South Fulton, TN Rotary Club. South Fulton, TN. 2007.

Biodiesel and Ethanol Basics. A presentation to the South Fulton Lions Club. South Fulton, TN. 2006.

Served as a category judge for the FFA skills contest. Martin, TN. 2005.

Served as a category judge for the FFA skills contest. Martin, TN. 2004.

Served as category judge in the 4-H State Competition. Internal Combustion Engines. Martin, TN. 2004.

West TN. FFA Ag Educators GPS and GIS Training Presentation. Martin, TN. 2004.

Presentation for Young Leaders Group (HS students): Agriculture - Economic Impact on Tipton County. Dyersburg State Community College, Covington, TN. February 18, 2004.

## **D. Volunteer Public Service**

Deacon – Martin First Baptist Church, Martin, TN.

Sunday School Teacher – Martin First Baptist Church, Martin TN.

Praise Team Vocalist – Martin First Baptist Church, Martin, TN.

Choir Member - Martin First Baptist Church, Martin, TN.

### **Bluegrass Band Performances**

A Very Merry Martin Christmas. Dec. 15, 2012.

Milan Fall Folklore Jamboree, Oct. 20, 2012.

2nd Annual Rotary Sing-a-Like. April 21, 2012.

West Tennessee Technology Symposium. Hampton Inn, Martin, TN. November 3, 2011.

First Annual Rotary Sing-a-Like. April 8, 2011.

West Tennessee Technology Symposium. Hampton Inn, Martin, TN. November 2, 2010.

James Byford Retirement Dinner. Martin, TN. December 12, 2009.

Lake County Correctional Institution, Tiptonville, TN. December 8, 2009.

Old Timey Days - Milan Fall Fest. Milan, TN. October 17, 2009.

Greenbrier Assisted Living Home, Martin, TN. October 9, 2009.

Casey Jones Days - Jackson Plectral Society, Jackson, TN. September 12, 2009.

First Baptist Church Women's Ministry, Martin, TN. August 21, 2009.

Greenbrier Assisted Living Home, Martin, TN. August 19, 2009.

Obion County Fair Workers. Union City, TN. August 11, 2009.

Wade Benefit Festival, Sharon, TN. August 1, 2009.

2009 Governor's School for the Agricultural Sciences. University of Tennessee at Martin, Martin TN. June 8, 2009.

Northwest Alabama Retired Teachers Association. Phil Campbell, AL. May 20, 2009.



Dyersburg Bluegrass Festival, Dyersburg, TN. May 16, 2009.  
Spring Heritage Days. Union City Fairgrounds, Union City, TN. April 25, 2009.  
Hosted out-of-town youth participating in the Cal Ripkin World series baseball tournament for two weeks. Martin, TN. Summer 2008  
Lead Wednesday night devotional at Martin First Baptist Church. Martin, TN. 2008.  
Served as photographer for Westview High School Academic Banquet and provided photos to students electronically. Martin, TN. 2008.

## **VII. Professional Societies, Awards, and Honors**

### **Professional Associations**

President – Tennessee Onsite Wastewater Association. 2012-13.  
Registered Professional Engineer, State of Mississippi, License #14034. 1999-Present.  
American Society of Agricultural Engineers, Member #164503.  
NACTA – Member 2009 - Present.  
West Tennessee Board Rep. - Tennessee Onsite Wastewater Association. 2006 - 2011.  
Certification as EIT, S.C. Board of Reg., Certification #8743, January 7, 1987.  
ASAE P-120, K.K. Barnes Student paper Competition. Past Chair.  
ASAE SE-04, Countryside Engineering Paper Awards Committee. Past Chair.  
ASAE P-206 - Undergraduate Education. Past Chair.  
Miss. Chapter of Gamma Sigma Delta. Past Secretary.

### **Awards**

**2010 - 11 UT Martin Graduate Online Teacher of the Year.** University of Tennessee at Martin. Sponsored by the UT Martin Extended Campus and Online Studies.  
**1<sup>st</sup> Place, SAEA Poster Competition.** Southern Agricultural Economics Association – Distinguished Professional Contribution Award. 2007.  
**2004 - UT Martin Featured Scholar** – University of Tennessee at Martin. Biographical sketch and selected pieces of the honoree's scholastic work is prominently displayed in the atrium of the UT Martin Library.  
**Nominee and Honoree** - Grisham Master Teacher Award. 2002. University wide Master Teacher Award. 2002.  
**Nominee** - Food and Agricultural Science Excellence in Teaching Award. 2001.  
**ASAE ¼-Scale Rookie Team of the Year Award** (Team Advisor) 2000.

**2<sup>nd</sup> Place Southern Region American Association for Agricultural Education Poster Session.** 1998.

**Teacher of the Year.** College of Agriculture and Life Sciences, Mississippi State University. 1997.

**Finalist** - Southeastern Division of ASAE Student Design Competition. 1997.

**BF Goodrich Collegiate Inventors Program** – Distinguished Contribution to the 1997 National Colligate Invention Competition. 1997.

**Young Engineer of the Year Award.** Mississippi Section American Society of Agricultural Engineers. 1996.

**USDA Extra Effort Award.** Cotton Gin Management and Technology Training Team. 1996.

**Most Outstanding Alumni Award.** Northwest – Shoals Community College. 1993 - 94.

**Merit Award,** Lincoln Arc Welding Design Competition. 1983.

**Creativity Award,** Society for the Advancement of Women in Science. 1983.

### **Honors and Scholastic Honor Societies**

Sigma Xi, The National Honor Society for Scientists and Engineers

Phi Kappa Phi, Scholastic Honor Society

Tau Beta Pi, Engineering Honor Society

Gamma Sigma Delta, Honor Society of Agriculture

Gamma Beta Phi, Scholastic Honor Society

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