

Vita

A. Dale Whittaker
Vice Provost for Undergraduate Academic Affairs
Professor of Agricultural and Biological Engineering
Purdue University

<i>Work:</i>	
Purdue University, Office of the Provost Hovde Hall, Room 100 610 Purdue Mall West Lafayette, IN 47907-2040 Work Phone: (765)494-0615 dwhittak@purdue.edu	

Summary of Experience

Academic Leadership:

Acting Vice President for Student Affairs, Purdue University	12/2013-present
Vice Provost for Undergraduate Academic Affairs, Purdue University	2010 - present
Associate Dean and Director of Academic Programs, College of Agriculture, Purdue University	2002-2010
Associate Head for Research and Graduate Education, Dept. of Agricultural Engineering, Texas A&M University	1999-2002
Interim Director, Institute of Food Sci. and Engr., Texas A&M University	1997-1999
Director, Center for Food Processing, Texas A&M University	1996-1999

Faculty:

Professor, Agricultural and Biological Engineering, Purdue University	2002-present
Visiting Professor, Institut Supérieur d'Agriculture de Lille , Lille, FR. (February)	1999-2001
Professor, Agricultural Engineering, Texas A&M University	1999-2002
Visiting Scientist, McCaulay Land Use Research Institute, Aberdeen, UK	1993-1994
Associate Professor, Agricultural Engineering, Texas A&M University	1993-1999
Assistant Professor, Agricultural Engineering, Texas A&M University	1987-1993

Education:

Ph.D. Agricultural Engineering, Purdue University	1987
Dissertation: Coupling symbolic and numeric computing for soil erosion modeling	
M.S. Agricultural Engineering, Purdue University	1984
Thesis: Circular Hough transform for locating tomatoes	
B.S. Agricultural Engineering, Texas A&M University	1983
Summa Cum Laude, Rudder Outstanding Undergraduate Award	

Leadership Development:

Food Systems Leadership Institute, Assoc. of Public Land Grant Universities	2008-2010
ESCOP/ACOP Leadership Development Program	1999-2000
W.K. Kellogg National Leadership Development Program	1995-1999
Gallup Leadership Institute	1997

Strengths:

Leadership development, change and change management, innovation, collaboration, higher education cost and productivity, access and excellence in higher education, evolving systems of higher education, student development and success, technology and learning.

Roles, Responsibilities and Outcomes

Vice Provost for Undergraduate Academic Affairs (Jul. 2010 – present, 3.5 years)

Responsibilities:

Responsible for providing the vision, leadership and strategic direction for undergraduate academic affairs at Purdue. This includes line management and budget supervision for 8 director-level reports (2 Associate Vice Provosts) who are collectively responsible for 228 FTE and \$56.2 MM in recurring funding. The VPUAA manages and is accountable for results from those resources and reports to the Provost.

Serve as academic liaison to Indiana Commission for Higher Education. Represent academic affairs on the University Capital Coordinating Committee. Co-represent Purdue at the University Innovation Alliance (A Lumina and Gates funded consortium of 11 universities that have a goal of increasing diverse and low income student degrees) and the Coalition for Online Learning and Teaching (now referred to as UniZin, the online learning ecosystem consortium). Update president, provost and trustees on academic affairs. Represent Provost when he is not available.

Areas of responsibility include:

- Excellent/Diverse Students - Enrollment management including: recruiting, admissions, financial aid, registrar, functional supervision of Honors College.
- Curricula - Core curriculum support and implementation; academic policy development and implementation; accreditation; learning assessment; instructional funding; Entrepreneurship and Innovation Certificate Program.
- Learning - Course Transformation (IMPACT); Center for Instructional Excellence; Office of Service Learning; Journal of Purdue Undergraduate Research; Undergraduate Research Symposium; Instructional Technology Fund; academic lead on classroom and laboratory improvement and development; dotted line to Purdue Extended Campus Distance Learning Division.
- Student success - Exploratory Studies Program; university-wide academic advising; Oral English Proficiency Program; Academic Success Center; Supplemental Instruction; Purdue Promise Program for first generation/low income students; Boiler Gold Rush orientation (BGR, BGRi); Summer Transition, Advising and Registration (STAR, Virtual STAR); Learning Communities, Veteran Affairs Office, Foundations of Excellence; English as a Second Language support – in development.

Outcomes:

Shape the Student Body for Excellence and Diversity:

- **Achieved record level of academic preparation and diversity in the entering class** - Collaborate with Deans to develop long-term targets of student body profile. Modified the admissions process to include holistic admission based on student success factors identified by Deans.* Aligned merit-based central scholarships (\$36 MM) with holistic success factors and empowered colleges to make selections.*
- **Planned and Launched Honors College Fall 2013** – Provided the vision and advocated for the establishment of a residential honors college at Purdue beginning Fall 2013. Supervised an interim Associate Vice Provost and design team to develop and initiate the concept. The intent is to attract students having the highest potential for positive impact by providing a diverse experience based on scholarship, leadership and engagement. A partnership with Housing and Food Services resulted in having Honors College and pre-existing honors learning communities in one residence. Dean and other staff positions were identified, funded and filled. Curriculum was developed by an intercollegiate team. First cohort was recruited and matriculated resulting in over 500 students in the inaugural class.

Enhance Learning:

- **Transforming the teaching and learning culture at Purdue*** – Initiated “Instruction Matters: Purdue Academic Course Transformation” (IMPACT) to change the culture of teaching based on research of how people learn. As of Spring 2013, 63 courses have been transformed impacting 25,000 students by Fall 2013. There are 60 more courses under transformation this academic year. 65% of the classes evaluated demonstrated increased course GPA with same or higher learning outcomes. 34% used active/collaborative techniques, 44% utilized some form of lecture capture. 33% were flipped. In the first cohort 7 of the 9 classes had the highest course GPA in over 4 years. The program and funding is in place to transform 60 courses per year for the next 3 years, then 30 courses per year indefinitely. The current focus is to enhance learning gains in foundation courses. IMPACT is a partnership of Teaching/Learning Technologies (ITaP), Discovery Learning Research Center, Center for Instructional Excellence, Libraries, and Purdue Extended Campus to develop and deliver this program. This is the broadest course transformation of its kind at a major university.
- **Transforming classrooms and learning spaces*** – Based on success of IMPACT and the demand for spaces that allow flexible approaches to learning, we have renovated existing library and computer lab spaces into active learning spaces. Over the next 5 years, approximately 2 spaces each year have been identified and funded for renovation. Also based on the success of IMPACT, Purdue’s top capital project in 2012, the Active Learning Center, received \$50MM from the general assembly develop a library/active learning facility in the center of campus. This project initiates with the demolition of Engineering Administration and the power plant during the summer of 2014. Design for the Active Learning Center is underway.
- **Purdue implemented its first core curriculum*** – Students who began in Fall 2013 will meet foundational outcomes to enhance preparation and mobility in the first year, then meet a series of embedded outcomes within the context of their disciplines to insure both the depth and breadth that define a Purdue graduate. Enacted and implemented by University Senate, over 120 courses have been approved for Fall 2013 to meet foundational outcomes.
<http://www.purdue.edu/provost/initiatives/curriculum/>

Improve Success:

- **Achieved record first-generation and low income student success** – Expanded scholarship/support program from 294 students to 893 students while achieving a remarkable first-year retention rate of 89%. This approaches the university average of 91%. First-generation, low-income students are typically retained at a level 10% below the average. The success of this program is based on a combination of both financial and wrap-around academic support. The program won the 2011 College Board College Keys Compact Midwestern Region Innovation Award for the “Getting Through” Category.
- **Insured a strong start for all students** - Led Purdue Foundations of Excellence* evidence-based, campus-wide action plan. Executive partners included Vice President for Student Affairs, the Vice President for Housing and Food Services, and the Vice Provost for Diversity and Inclusion. The three-year action plan (started Fall 2012) addresses all aspects of a first-year student’s experience. The evidence and writing teams included 200 diverse participants (including faculty, staff, students, administrators). The target for one-year retention in 4 years is 93% and 4-year graduation of 50%. Accomplishments include adoption of a statement of educational philosophy to guide all work, increasing credentials and reducing student ratio for advisors, on-line degree audit and planning, use of a math placement system to better prepare students, expanding a college-level academic success center with 65 walk-in’s per year to a university-level center with over 1,500 walk-in students this year, implementation of a course needs group to insure course availability, re-design of the student orientation week to increase academic preparation, more academic integration in housing units, and commencement of the equity scorecard – a project focused on identifying and removing gaps in success metrics experienced by underrepresented minority students.
- **Dramatically expanded learning communities to achieve the highest participation since their inception** - In the Fall of 2013, 72 learning communities had 1,981 students participating. 30% of freshmen participated in learning communities. Students who participated were retained at a higher level (92% first-year retention) than those who did not (90.6%). This is a 40% expansion since 2010.
- **Enhanced participation in undergraduate research and scholarship** – Initiated the Journal of Purdue Undergraduate Research* to publish undergraduate first-author papers and abstracts. The journal is student run from the editorial staff to the page layout. I serve as Journal Advisor. Two volumes have been published and the third annual volume will be published this summer. <http://docs.lib.purdue.edu/jpur/> Hosted the first university-wide Undergraduate Poster Session March 2013 branded DiscoverU. Coordinating undergraduate research opportunities across campus for first time. <http://www.purdue.edu/discoveru/>
- **Supported military veterans and non-traditional students*** - In the spring of 2012 a Student Veterans Advisory Team was convened. In October of 2012 Jamie Richards was appointed as the first Coordinator for Military Veteran and Nontraditional Student Programs. The program was initially focused on building a base for the military and veteran students with the following first steps:
 - Determine the military and veteran population;
 - Assess their needs; and
 - Synchronize existing services and develop programming based upon student needs, benchmarking, and best practices.

In the fall of 2012 space was identified in the Purdue Memorial Union. This will become available fall of 2014. The vision is to work towards a national benchmark for veterans services—a one-stop-shop, or Veterans Success Center (VSC).

Enhance Value:

- **Expanding summer enrollment on path to balanced tri-mesters*** – Led university-wide team to developed 10-year plan to increase summer enrollment from ca. 10,000 credit hours to 180,000. The goal is to decrease time-to degree, better utilize fixed assets in the summer, and make it easier for students to have experiences away from campus in the Fall and Spring. 100 new courses were offered for the Summer of 2013. Two thirds were courses with over 90% utilization during the Fall/Spring semesters. Established an incentive-based budget model to insure costs were covered by departments offering courses. Appointed an Associate Vice Provost for Undergraduate Academic Affairs to lead implementation. <http://www.purdue.edu/thinksummer/>
- **Successfully solicited over \$13 MM in gifts.** These included the lead gift (\$8 MM) to the Center for Student Excellence and Leadership facility, a recently announced \$5 MM anonymous donation for Indiana need-based scholarships to be matched to \$9.25 MM. \$500,000 for low-income students, and \$660,000 for the establishment of the College of Agriculture Center for Student Achievement and Leadership. Developed the concept for, and am the designated lead for a new 5-person development team to raise funds for central scholarships, cultural centers, student affairs, and housing.

Measure Value and Growth:

- **Measured academic productivity differently for the Purdue West Lafayette campus.** Served as the academic lead to collaborate with business office, institutional research and government affairs colleagues to develop and propose a campus-specific measure of academic productivity. This measure is now being used in the performance funding formula for the state. It captures the cost per degree successfully awarded. The cost has been going down for 3 years as more students successfully complete, as they complete faster, as costs are contained, and as philanthropic dollars are brought to the university in the form of scholarships.
- **Proposed a measure of student growth.** Co-chaired a presidential task force to propose a novel method for measuring intellectual and personal growth during a student's Purdue experience. Recommendations are made for assessing disciplinary, cognitive, personal and interpersonal growth from matriculation to graduation. The recommendations have been submitted to the president.

Acting Vice President for Student Affairs (Dec. 2013 – Feb. 2014, two months, appointed again 3/2014 to present)

Responsibilities:

As the Acting Vice President for Student Affairs (VPSA) provides direction and leadership for the following areas:

- Health and wellness - Student Health Center; Clinical and Psychological Services (CAPS); Student Wellness Office; Recreational Sports and Intramurals.
- Student Support and Community Standards - Dean of Students; Office of Student Rights and Responsibility; Student Assistance Center; Disability Resource Office; Horizons and SPAN Plan (first generation and adult student support services); Center for Career Opportunities.
- Leadership and Engagement - Air Force, Naval, Military Science ROTC; Student Activities Office; Boiler Volunteer Network; Greek and Cooperative living; and collaboration with Residential Life.
- Music and Culture - University Bands; Purdue Musical Organizations; Convocations.

Further, the VPSA is responsible for student leadership development, crisis and risk management, communications, financial management, resource management and development; the advancement of diversity and inclusion, and student advocacy.

The VPSA has line management and budget responsibility for 292 FTE and \$37 MM in recurring funding in addition to oversight for two current capital projects (Bailey Hall - \$8 MM, Center for Student Excellence and Leadership - \$30 MM). The VPSA reports to the Provost and serves as a member of the President's Cabinet.

Outcomes:

Led and supported the division through an on-campus shooting incident. In addition, the following occurred:

- **Stabilized Leadership*** - Appointed acting Associate Vice President (Bands, PMO, Rec Center, ROTC, capital projects) and acting Dean of Students (SAC, SAO, OSRR, Horizons, DRC, SPAN, BIT representation) until May 31, 2014.
- **Simplified Crisis Response** - A crisis hotline (495-HELP) was established for the campus community to call for assistance 24/7/365. Arranged for the Lafayette Crisis Center to provide advocacy response to victims of sexual assault and the Dean of Students On-Call Team will respond to all other calls.
- **Merged Parent and Family Programs*** – Student Affairs, Academic Affairs and Housing/Food Service jointly funded an Associate Dean of Students/Director of Parent and Family Programs to serve as a single point of communication with parents; mission to help parents support students' success.
- **Aligned student support programs for low-income students*** - The Horizons program and staff will transfer to Student Success at Purdue upon the next grant cycle to provide synergies and efficiencies that will benefit students.
- **Merged Military Veteran and Non-Traditional Student Programs*** - Military Veteran and Non-Traditional Student Programs and staff will transfer to the Office of the Dean of Students to provide synergies and efficiencies that will benefit students.

- **Announced Fraternity and Sorority Community Strategic Plan** – The 2014-2016 Fraternity and Sorority Community Strategic Plan was developed by a committed group of fraternity and sorority students, alumni, and staff. These stakeholders developed a plan that defines their mission and areas they want to be best at; guides decision-making and resource allocation; creates a greater sense of community and collaboration among stakeholders; and breeds new energy and passion into the Purdue University Fraternity and Sorority Community.
- **Added Sexual Assault Prevention Position** – Purdue University Student Health Center Director committed to funding a sexual assault prevention educator position.
- **Modified Student Assistance Center (SAC) Scope*** - The Student Assistance Center (SAC) staff began to refocus the work of the office. The goal is to shift away from ongoing therapy sessions to outreach and short-term support. SAC will continue to be promoted as the place to go when students don't know where to go for help. The office will focus more on outreach, not only to students, but also faculty and staff. For example, the SAC staff will educate the community on how to appropriately identify and assist students who are in distress. SAC will share valuable data about the student experience on campus and barriers for success. A stronger relationship with Residential Life and Academic Advisors will be a priority. Hours of operation and location (permanent and temporary) are being considered. This shift in focus was aided by a change in leadership.
- **Transitioned Title IX Student Cases to Office of Student Rights and Responsibilities (OSRR)** - Office of Institutional Equity is proposing that the responsibility for Title IX student-against-student cases be move from OIE to Dean of Students/OSRR Office. This is a system-wide recommendation that is supported by WL and the regional campuses.
- **Developed and funded CSEL operating budget*** – submitted recurring funding request to Provost for \$108,863. Received approval for nonrecurring funding from Provost for FY15. Committed \$110,000 recurring from VPSA toward operations. Awaiting MOU from HFS. HFS and Student Affairs will split the cost of the facility manager (job is posted).
- **Concluded Attrition Intervention Pilot** – The goals of this pilot were to learn why students leave Purdue, understand more fully where campus improvements can be made, impact student success and graduation rates, and gain understanding of the scale and complexity for organizing a broad intervention in the future. The core team developed communications, training, database, and phone scripts. Assessment of the data is underway, and we will present outcomes at a meeting with academic advisors and associate deans on February 12, 2014.
- **Identified the need for, funded and opened a certified testing center for professional certifications and licensure exams*** - Pearson VUE testing center was successfully installed for the Office of the Dean of Students.

Associate Dean for Academic Programs in the College of Agriculture (Jul. 2002 – Jul. 2010, 8 years)

Responsibilities:

Responsible for graduate and undergraduate academic program quality and administration for the College of Agriculture. Ten direct reports. Areas of emphasis included quality of undergraduate learning, enhanced access, increased diversity, and growth of the graduate programs. Responsible for providing college-level leadership for academic programs and student services in the College of Agriculture and for the day-to-day operations of the Office of Academic Programs. Responsibilities included faculty development and evaluation; curricular leadership; representation of the academic mission to stakeholders; and student programs including recruiting, scholarships, leadership development, career services, transfers, records and honors programs.

Outcomes:

- *Increased preparation, access and capacity for agricultural education statewide*
 - **Increase Preparation***: Beginning in 2003, partnered with the Indiana Department of Education and other State Supported Universities to develop 3 Advanced Life Science courses to introduce college-bound students to the science of agriculture. These courses are laboratory science, require a year of high school chemistry or biology, and count toward the Core 40 AHD. They now have learning standards and a state-wide assessment.
 - **Dual Credit***: The ALS courses are aligned with Purdue introductory courses in Animal Sciences, Food Science and Botany. Approximately 550 students registered in 2012-2013 to take these courses via dual credit. They are assigned a final grade using a college of Agriculture standardized test.
 - **2010 Indiana Teacher of the Year**: Byron Ernest (Lebanon High School) was the first agricultural science teacher to receive this award. He built his program on the ALS courses and collaboration with our Botany Department.
 - **Community College***: Collaborated with Ivy Tech, Vincennes University and the Commission for Higher Education to develop agriculture A.S. that articulate to Purdue College of Agriculture and A.A.S. programs that satisfy workforce needs. In 2012-2013, there are 7 Ivy Tech sites, one Vincennes University site and over 800 students enrolled.
 - **Co-enrollment Program***: A prototype program between Ivy Tech Lafayette and Purdue West Lafayette that began in the 2011-12 academic year. Approximately 40 students co-enroll and take general education courses at Ivy Tech and agriculture courses at Purdue while being integrated into student life at both institutions.

- *Attracted and yielded better prepared students*
 - **Dean's Scholars*** – In order to increase the number of top 10% students coming into the college and thereby the overall quality, we created an honors program focused on the needs and interests of academically talented students. They are provided access to faculty, research experiences, a first-year community, and exceptionally interesting classes. This program was initiated in the fall of 2005 and now has approximately 240 students.
 - **Developed departmental yield plans for well-prepared students.** Yield for in-state admitted students increased from 65% to 75% between 2009 and 2010 and from 16% to 24% for out-of-state students. Note that the 2009 cycle included a change in admission process that could have reduced yield.

- *Designed, funded and renovated a facility for College of Agriculture student achievement, activities, and leadership development*
 - **Steve and Sandra Hageman Center for Student Achievement and Leadership***: \$612,500 was raised from private contributions to renovate a wing of Agricultural Administration to house Academic Programs and a student center. The center now houses tutoring, career development, interview rooms, student meeting rooms, welcome center, scholarship services, Dean's scholars, agricultural ambassadors, FEELS: NSF program for first-generation and high-need students. The center averages 5 scheduled programs a week during the academic year.
- *Supported and insured transformational learning experiences*
 - **College of Agriculture Washington D.C. Public Policy Intern Program***: raised funds (\$15,000/yr), identified placements, selected and prepared students.
 - **Undergraduate Research**: approximately 60 students annually participate in undergraduate research funded by Academic Programs, the Research Office and SURF (in partnership with departments and faculty).
 - **Undergraduate Poster Symposium***: 50-60 students annually show scholarly work and compete for poster awards.
 - **Leadership Development Certificate Program***: In 2005, created a co-curricular leadership development program. Currently has over 200 students and 75 faculty/staff coaches. Results in a transcript entry. Sought by employers.
 - Strategic Plan Goal (2008-2014) of 100% of students involved in either research, study abroad, career internship, leadership development or service learning.
- *Improved programs based on outcome assessment*
 - **Initiated outcome-based program improvement** in 2005 at the graduate and undergraduate levels*. Each year, the college focuses on one major outcome. We are making cultural change intended to make curricular decisions based on collective decisions informed by evidence.
 - **Developed a college-wide assessment** for oral and written communications (2007).
 - **Developed a faculty learning community** (40) to define, develop activities, and assess critical thinking (2008-09).
 - **Graduate Professional Development** (research, engagement, learning) outcome being developed.
- *Developed a community of scholarship around teaching and learning*
 - **Supported heads in identifying and hiring scholars** of teaching/learning in 4 departments
 - **Helped adopt and institutionalize a definition of scholarship**
 - **Orient new faculty**, provide matching funds for grant applications
 - **Encourage and support sponsored program growth** from \$600,000 in 2003-04 to over a \$1,000,000 in 2008-09.
- *Conducted Academic Program Review*
 - **Plant Sciences (2009-10)**: 20 faculty from 4 departments consolidating 3 plant science majors into one

- **“Can Less Be More”*** (2009-10): College-wide review of 44 undergraduate majors and 19 minors for consolidation resulting in less confusion for students, greater mobility, teaching efficiency and greater critical mass.

Associate Head and Professor, Department of Agricultural Engineering, Texas A&M 1999-2002.

Responsibilities:

The Associate Head is responsible for growing and enhancing excellence in research and graduate education programs of the department. This includes partnering with other departments to develop new graduate programs, leading departmental recruiting and selection of graduate students, developing rationale and proposals to grow the faculty, changing the department name, increasing proposal productivity, building industrial partner relationships and leading the development of the department strategic plan. The associate head acts as head during his/her absence. During 2001-2002, the head was suffering from cancer and was absent approximately 50% of the year.

Outcomes:

- **Enhanced research collaboration and productivity within the department** - Developed monthly research and graduate education meetings of the faculty to focus on research productivity, collaboration, graduate student development and new research opportunities. Produced a monthly set of tables documenting productivity. This was published on the departmental web site for use in graduate recruiting and transparency. During 2001-2002, 37 proposals were submitted for \$14.5 MM of sponsored research funding by 13 faculty resulting in \$1.7 MM in funding. This was a 40% increase over the 1999-2000 year. Five of those proposals included new collaborations within the department.
- **Increased collaborations with successful, high-quality teams outside of the department** - Through commitment to relationships and participation, we built new, impactful research collaborations beyond the department and college including:
 - *College of Science/College of Education/College of Agriculture (Agricultural Engineering)* - Frequent sack lunch and planning meetings with leading faculty resulted in a \$10 MM, five year NSF K-12 systemic research education initiative (Teaching and learning center).
 - *Institute for Science, Teaching and Public Policy* - Linked leading Agricultural Engineering faculty with this center which was developing within the Bush School of Public Policy. Resulted in collaboration on watershed management and collaborative decision making (Matlock), and a new project modeling human impacts on the environment and environmental decision making (Whittaker). The relationship provided faculty with proposal development support, a link to environmental policy analysis, and a link to facilitating stakeholder input into environmental decisions.
 - *Spatial Sciences Laboratory* - Developed a formal partnership to provide departmental faculty with access to weather, hydrologic, land use, soils, elevation and other spatial datasets for modeling.
- **Moved department forward through strategic planning** - Led the department in developing a strategic plan that resulted in a departmental name change from Agricultural Engineering to *Biological and Agricultural Engineering*. Followed up with faculty governance to change the name of both undergraduate and graduate degrees at the college and university levels. Also worked with faculty

divisions to update graduate offerings based on the plan. This included a new sequence of courses in Environmental Engineering with a staffing plan and a new sequence of Food and Bioprocessing foundational graduate courses.

Acting Director, Institute of Food Science and Engineering, Texas A&M University, 1997-1999.

Responsibilities:

The director strategically develops and leads a system-wide initiative for food science and engineering. This includes managing a recurring budget of \$500,000 and overseeing 4 FTE. In addition, the director is responsible for the recruitment of core faculty (40), affiliate faculty (90) and member companies (7). They oversee the center directors for Food Safety, Food Processing and Technology, and Nutrition. The Institute is sponsored by the Colleges of Agriculture and Life Sciences, Engineering, Veterinary Medicine, and Business. The director coordinates research and outreach programs with each of those colleges. Responsible for developing and managing congressional initiatives for food and nutrition in addition to developing the industry training division and food information division.

Outcomes:

- **Expanded faculty participation** – Recruited faculty affiliates beyond the original focus of food safety to include food processing, technology and nutrition. In addition, expanded industry training contracts in Hazard Analysis and Critical Control Point processes.
- **Developed and successfully negotiated a novel indirect cost return plan** – This allowed extra-college units like the Institute to incentivize faculty collaboration across disciplines while maintaining departmental support.
- **Obtained new electron beam facility** – Developed and nurtured a corporate relationship that resulted in a major food processing facility being built for joint faculty/industry research in the Texas A&M University Research Park.
- **Developed an open and collaborative culture** – This resulted in growth of core and affiliate faculty while retaining support of 4 college deans.
- **Positioned the Institute** for a successful national search for a director.

Honors and Awards

Faculty

- Outstanding Campaign Award for United Way – Chair 2013 Campaign
- American Association for Engineering Education, Global Leadership Forum Member, 2012- present
- Purdue Mortar Board Honorary Advisor, 2011-2012
- Ivy Tech Community Lafayette Distinguished Service Award, 2008
- Iron Key Honorary Advisor, 2008
- FFA Honorary American Degree Awarded at the National FFA Convention October, 2007
- Indiana Association of Agricultural Educators – Purdue Honorary Member, 2005
- A.W. Farrell Outstanding Young Educator Award, December, 1994 by the American Society of Agricultural Engineers
- Texas A&M Former Students Distinguished Teaching Award, College of Engineering, 1991
- ASAE Paper Award, 1988

Student

- USDA National Needs Graduate Fellowship, 1984-1987
- Earl Rudder Award for outstanding graduate of Texas A&M University, 1983
- Gamma Sigma Delta outstanding senior in the College of Agriculture, 1983
- John G. Sutton Award for outstanding agricultural engineering undergraduate in the U.S.A., 1982

Honorary Societies

- Iron Key
- Golden Key International Honor Society
- Tau Beta Pi
- Alpha Epsilon
- Society of Sigma Xi
- Phi Kappa Phi
- Alpha Zeta
- Alpha Gamma Delta
- Gamma Sigma Delta

Research Interests - Non-linear process control in food manufacturing, machine vision, machine learning, pattern recognition, non-invasive measures of food quality, object-oriented spatial system models, environmental modeling.

Scholarly Activities

Book

1. Huang, Y., A.D. Whittaker and R.E. Lacey. Automation for Food Engineering: Food Quality Quantization and Process Control. ISBN: 0-8493-2230-8. CRC Press. May, 2001.

Book Chapters

1. Whittaker, A.D. 1993. The role of expert systems in decision support systems. In (eds. Stuth and Lyons), Emerging Issues for Decision Support Systems for Grazingland Management. UNESCO-MAB Book Series Volume 8. Parthenon Publishers. Paris.
2. Whittaker, A.D. 1990. Commissioned contributing author. In (Anonymous), Beneath the Bottom Line: Agrichemical Approaches to Reduce Agrichemical Contamination. U.S. Congress Office of Technology Assessment.
3. Engel, B., A.D. Whittaker, and R.H. Thieme. 1989. Knowledge representation and reasoning. In (ed. J.R. Barrett), Knowledge Engineering in Agriculture. Monograph of the ASAE. St. Joseph, MI.
4. Cross, H.R. and A.D. Whittaker. 1989. The objective measurement of value in meat animals. In (eds. Brownlie, Hall and Fabiansson), The Automated Measurement of Beef. Australian Meat and Livestock Corporation. Sydney, Australia. pp. 1-60.

Publications in Refereed Journals

Asterisk (*) indicates graduate students or employees supervised by Dr. Whittaker.

1. Narasimhan*, B., R. Srinivasan, and A. D. Whittaker. 2003. Estimation of potential evapotranspiration from NOAA-AVHRR satellite. Applied Engineering in Agriculture. 19(3): 309-318.
2. Classen*, J.J., C. R. Engler, C. M. Kenerley, and A. D. Whittaker. 2000. A logistical model of subsurface fungal growth with application to bioremediation. Journal of Environmental Science and Health. A35(4): 465-488.
3. Huang*, Y., A.D. Whittaker and R.E. Lacey. 1998. Internal model control for a continuous snack food frying process using neural networks. Transactions of the ASAE. 41(5): 1519-1525.
4. Huang*, Y., A.D. Whittaker and R.E. Lacey. 1998. Neural network prediction modeling for a continuous snack food frying process. Transactions of the ASAE. 41(5): 1511-1517.
5. Huang*, Y., A.D. Whittaker, and R.E. Lacey. 1998. Internal model control for a continuous snack food frying process using neural networks. Transactions of the ASAE. 41(5): 1519-1525.
6. Huang*, Y., A.D. Whittaker and R.E. Lacey. 1998. Neural network prediction modeling based on elastographic textural features for meat quality evaluation. Transactions of the ASAE. 41(4):1173-1179.
7. Huang*, Y., R.E. Lacey, A.D. Whittaker, R.K. Miller, L. Moore and J. Ophir. 1997. Wavelet textural features form ultrasonic elastograms for meat quality prediction. Transactions of the ASAE. 40(6):1741-1748.
8. Choi*, Y.S., A.D. Whittaker, and D.C. Bullock*. 1996. Predictive Neuro-fuzzy Controller for Multivariable Process Control. Transactions of the ASAE. 39(4):1535-1541.

9. Classen*, J.J., W. Liu, C.M. Kenerley, and A.D. Whittaker. 1996. Fractal Analysis of subsurface growth of a genetically modified and the parental strain of *Gliocladium virens*. *Transactions of the ASAE*. 39(6):2217-2276.
10. Sayeed*, M.S., A.D. Whittaker, and N.D. Kehtarnavaz. 1995. Snack Quality Evaluation Method Based on Image Features and Neural Network Prediction. *Transactions of the ASAE*. 38(4):1239-1245.
11. Freeman*, S.A. and A.D. Whittaker. 1994. Object-oriented methodology for analyzing and allocating resources for field operations. *Transactions of the ASAE*. 8(4):525-535.
12. McCauley*, J.D., B.R. Thane*, and A.D. Whittaker. 1994. Fat estimation in beef ultrasound images using texture and adaptive logic networks. *Transactions of the ASAE*. 37(3):997-1002.
13. Ophir, J., R.K. Miller, H. Ponnekanti, I. Cespedes and A.D. Whittaker. 1994. Elastography of beef muscle. *Meat Science*. 36(1994):239-250.
14. Park*, B., A.D. Whittaker, R.K. Miler and D.S. Hale. 1994. Ultrasonic spectral analysis for beef sensory attributes. *Journal of Food Science*. 59(4):697-701, 724.
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16. Park*, B. and A.D. Whittaker. 1994. Ultrasonic probe design for beef carcass scan. *Transactions of the ASAE*. 37(3):965-971.
17. Park*, B., A.D. Whittaker, R.K. Miller and D.S. Hale. 1994. Predicting intramuscular fat in beef longissimus muscle from speed of sound. *Journal of Animal Science*. 72:109-116
18. Park*, B., A.D. Whittaker, D.E. Bray and R. K. Miler. 1994. Measuring intramuscular fat in beef with ultrasonic frequency analysis. *Journal of Animal Science*. 72:117-125.
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20. Cook, D.F. and A.D. Whittaker. 1993. Neural Network Process Modeling of a Continuous Manufacturing Operation. *Engineering Applications of Artificial Intelligence*. 6(6):559-564.
21. McCauley*, J.D. and A.D. Whittaker. 1993. Index for describing spatial variability in prescription farming. *Transactions of the ASAE*. 36(3):691-693.
22. Whittaker, A.D., B. Park*, B.R. Thane*, R.K. Miller and J.W. Savell. 1992. Principles of ultrasound and measurement of intramuscular fat. *Journal of Animal Science*. 70:942-952.
23. Cross, H.R. and A.D. Whittaker. 1990. Instrument grading and a value-based marketing system. *Journal of Animal Science*. 70(3):984-989.
24. Folse, J., H. Mueller and A.D. Whittaker. 1990. Object oriented simulation and geographic information systems. *Artificial Intelligence in Natural Resources*. 4(2):41-47.
25. Whittaker, A.D. and R.H. Thieme. 1990. Integration of problem-solving techniques in agriculture. *Computers and Electronics in Agriculture*. 4(1990):271-273.
26. Whittaker, A.D., M.L. Wolfe, G.J. van Alem and R. Godbole. 1990. Object-oriented modeling using geographic information system data. *AI Applications* 5(4):49-58.
27. Whittaker, A.D., M.A. Tomaszewski, J.F. Taylor, R. Fourdraine, C.J. van Overveld and R.G. Schepers. 1989. Dairy herd nutritional analysis using knowledge systems techniques. *Agricultural Systems*. 31:83-96.
28. Cook, J., A.D. Whittaker, R.H. Thieme, O.R. Smith and G. Salvendy. 1988. Human intelligence models and their implications for expert system structure and research. *Behavior and Information Technology*. 7(4):417-430.
29. Cook, D. and A.D. Whittaker. 1988. Legal issues of expert system use. *Applied Artificial Intelligence*. 3:69-81.
30. Whittaker, A.D., E.J. Monke and G.R. Foster. 1988. ADAM: An Adaptive Assembler for Models.

Transactions of the ASAE, 32(1):343-347.

31. Whittaker, A.D., G.E. Miles, O.R. Mitchell and L.D. Gaultney. 1987. Fruit location in a partially occluded image. Transactions of the ASAE. 30(3):591-596.
32. Thieme, R.H., J.W. Uhrig, R.M. Peart, A.D. Whittaker and J.R. Barrett. 1987. Expert system techniques applied to grain marketing analysis. Computers and Electronics in Agriculture. 1:299-308.

Teaching

Teaching Awards:

- 1991 - College-level Teaching Excellence Award in the College of Engineering, sponsored by the Texas A&M Former Students Association. First time an agricultural engineer was presented an award through the College of Engineering. Nomination and voting was by colleagues and students.
- 1994 - A.W. Farrell Outstanding Young Educator Award sponsored by the American Society of Agricultural Engineers. This award is given by the discipline's professional society to one recipient each year nation-wide to recognize excellent contributions to education in the profession.

Courses Taught

Asterisk (*) indicates course is required of all engineering freshmen. It is taught as a service of the College of Engineering.

- 2007 Spr, AGR 201, Multicultural Communication in Agriculture – discussion leader
- 2006-09 Fall, AGR 101H, Introduction to the College of Agriculture and Purdue University – Honors (1 cr.)
- 2004-05 Fall, AGR 101, (1 semester credit hour), 3 Sections
- 2001 Spring - Agricultural Systems Management 489 (501). Information Systems for Agricultural Technology Companies (3 semester credit hours), 2 sections
Summer - Agricultural Engineering 689/Education Curriculum and Instruction 689. History of Information Technology in Science (2 semester credit hours), 2 sections; Agricultural Systems Management 489. Information Systems for Agricultural Technology Companies (3 semester credit hours), 1 section; College of Agriculture and Life Sciences 489. International Agriculture (3 semester credit hours), 1 section
- 2000 Spring - Agricultural Systems Management 489 (501). Information Systems for Agricultural Technology Companies (3 semester credit hours), 2 sections
- 1999 Spring - Agricultural Systems Management 489 (501). Information Systems for Agricultural Technology Companies (3 semester credit hours), 2 sections
- 1998 Spring - Administrative leave as Interim Director of the Institute of Food Science and Engineering
- 1997 Spring - Agricultural Systems Management 489. Information Systems for Technology Companies (3 semester credit hours)
Fall - Administrative Leave as Interim Director of the Institute of Food Science and Engineering.
- 1996 Spring Semester - Engineering 109*. Engineering Problem Solving and Computing (3 semester credit hours), 2 sections; Agricultural Engineering 370. Measurement and Control of Agricultural and Food Processes (3 semester credit hours), co-taught with Dr. Ron Lacey; Agricultural Engineering 615. Measurement Techniques in Agricultural Engineering (3 semester credit hours)

- 1995 Fall - Engineering 109*. Engineering Problem Solving and Computing (3 semester credit hours)
 Spring and Fall Semesters - Industry Experience Leave of Absence
- 1994 Fall Semester - Engineering 109*. Engineering Problem Solving and Computing (3 semester credit hours), 2 sections
 Agricultural Engineering 681. Graduate Student Seminar (1 semester credit hour)
- 1993 Spring and Fall Semesters - SABBATICAL
- 1992 Spring Semester - Agricultural Engineering 689. Machine Vision Applications in Biological Materials (3 semester credit hours); Agricultural Engineering 440. Senior Management Project (3 semester credit hours)
 Fall Semester -Agricultural Engineering 150. Introduction to Agricultural Engineering (2 semester credit hours)
 Agricultural Engineering 480. Design Problems in Agricultural Industries (3 semester credit hours), co-taught with Drs. Wayne LePori and Ron Lacey; Agricultural Engineering 681. Graduate Student Seminar (1 semester credit hour)
- 1991 Spring Semester - Agricultural Engineering 109. Engineering Problem Solving and Computing (3 semester credit hours); Agricultural Engineering 440. Management of Agricultural Systems (3 semester credit hours), faculty consultant; Agricultural Engineering 459. Agricultural Practices and Environmental Quality (3 semester credit hours)
 Agricultural Engineering 485. Expert Systems for Undergraduate Advising
 Fall Semester - Agricultural Engineering 150. Introduction to Agricultural Engineering (2 semester credit hours)
 Agricultural Engineering 480. Design Problems in Agricultural Industries (2 semester credit hours), co-taught with Drs. Wayne LePori and Stephen Searcy; Agricultural Engineering 485. Problems: Expert Systems in the Poultry Industry; Agricultural Engineering 681. Graduate Student Seminar (1 semester credit hour)
- 1990 Spring Semester - Agricultural Engineering/Engineering 109*. Engineering Problem Solving and Computing (3 semester credit hours), 2 sections; Agricultural Engineering 440. Management of Agricultural Systems (3 semester credit hours), faculty consultant; Agricultural Engineering 485. Problems: C++ Programming in GIS
 Agricultural Engineering 689. Knowledge Systems Applications in Agriculture (3 semester credit hours)
 Fall Semester - Agricultural Engineering 681. Graduate Student Seminar (1 semester credit hour)
- 1989 Spring Semester -Agricultural Engineering/Engineering 109*. Engineering Problem Solving and Computing (3 semester credit hours), 2 sections; Agricultural Engineering 689. Knowledge Systems Applications in Agriculture (3 semester credit hours)
 Fall Semester -Engineering 109*. Engineering Problem Solving and Computing (3 semester credit hours)
 Agricultural Engineering 681. Graduate Student Seminar (1 semester credit hour)
- 1988 Spring Semester -Agricultural Engineering 689. Knowledge Systems Applications in Agriculture (3 semester credit hours)
 Summer Semester - Agricultural Engineering 485. Problems: C Language Programming in Agriculture
 Fall Semester - Engineering 109*. Engineering Problem Solving and Computing (3 semester credit hours); Agricultural Engineering 480. Design Problems in Agricultural Industries (3 semester credit hours), co-taught with Drs. C.B. Parnell and Wayne LePori
- 1987 Fall Semester - Agricultural Engineering 102. Design Concepts (2 semester credit hours) co-taught with Dr. Vince Sweat; Agricultural Engineering 480. Design Problems in Agricultural Industries (3 semester credit hours), co-taught with Drs. C.B. Parnell and Stephen Searcy

Graduate Committee Chair

- M.Agr. Michael Hamilton, Agricultural Systems Management, 2001
- M.Agr. Jason Schickedanz, Agricultural Systems Management, 2000
- Ph.D. Balaji Narasimhan, Agricultural Engineering, 2003 (Co-chair with R. Srinivasan)
- Ph.D. John Jacob Classen, 1995
Dissertation: A fungal growth model with application for soil bioremediation
- Ph.D. Yanbo Huang, 1995
Dissertation: Snack food frying process input-output modeling and control through artificial neural networks
- Ph.D. Bo Soon Park, 1991
Dissertation: Non-invasive measurement of intramuscular fat in beef through ultrasonic a-mode and frequency analysis
- M.S. David Cole Bullock, 1995
Thesis: Modeling of a continuous food process with neural networks
- M.S. Steven Andrew Freeman, 1990
Thesis: Object-oriented methodology for analyzing and allocating resources for field operations
- M.S. Kenneth Ray Klanika, 1994
Thesis: Distributed parameter hydrologic modeling using object-oriented simulation
- M.S. Narasimhan S. Kumar
Successfully defended 1994
- M.S. James Darrell McCauley, 1993
Thesis: Knowledge-based modeling using GIS: nonpoint source pollution application
- M.S. Leslie Leitzzy Richburg, 1989
Thesis: Modeling and control of a twin-screw extruder
- M.S. Brian Ray Thane, 1992
Thesis: Prediction of intramuscular fat in live and slaughtered beef animals through processing of ultrasonic images

Sponsored Programs

Title	Role	Funding Agency	Amount	Dates
Partnership for Recruiting and Retaining High Need, High Potential Students to Food, Environmental, Engineering, and Life Sciences (FEELS)	Co-PI	NSF	\$59,742 of \$597,423	9/2007 - 08/2012
Electronic Field Trips in Comparative Biology	Co-PI	Howard Hughes Medical Institute	\$187,439 of \$749,754	7/2007 - 6/ 2012
Strategies to Extend the Integration and Assessment of International Education in the College of Agriculture	Co-PI	USDA-CSREES	\$9,967 of \$99,670	4/2006 – 3/2009
Tri-state Leadership Development program	Co-PI, Managed by Janet Ayres	USDA-HEC	\$34,204 of \$97,476	8/2006 – 8/2008
2000-IRI-12, Advanced Digital Diagnostics and Control Technology for Enhanced Product Quality in the Food Processing Industry	Co-PI	TAMU/IFSC	\$50,000	2000
Genosensor Based Approaches for Characterizing Microbial Populations and Identifying Horizontal Gene Transfer Events in Natural and Man-Made Environments	Co-PI	TAMU: TWRI	\$15,000	2000
Center for Applications of Information Technology in Teaching and Learning Science	Co-PI	NSF/Centers for Teaching and Learning	\$10,000,000 \$15,000/yr	2001-2006
Land Heritage Institute of the Americas Program Planning	Co-PI	San Antonio Water Supply System	\$100,000	1999
Low Energy Food Irradiation Facility	PI	TAMU: TAES/AEES	\$50,000	2000-2001
MRE Foil Barrier Replacement	Co-PI	Office of Naval Research	\$499,000	1997 - 1999
Raw Potato Characterization to Identify Micro and/or Macrostructural Components Associated with De-Oiling and Scorching of Potato Chips	Co-PI	Frito-Lay	\$144,444	1997-1998
Foods for Health	PI	TAMU: TAES Faculty Research Development Program	\$70,000	1997-1998
Evaluation of High Barrier Non-Foil Films for MRE Packaging Applications	Co-PI	United States Army Soldier Systems Command	\$255,388 (\$499,109 total)	1997 - 2000
Combat Rations Network	PI	Defense Logistics Agency	\$125,000	1996 - 2001

Title	Role	Funding Agency	Amount	Dates
Combat Rations Network (CORANET) Partnership	PI	Defense Logistics Agency	\$75,000	1996 - 1999
National Leadership Program Fellowship	PI	W.K. Kellogg Foundation	\$65,000	1995 - 1998
Network Distributed Spatial Soil and Water Quality Modeling	PI	USDA/FAS/ MSD	\$3,050	1995 - 1996
Computer Innovation Proposal for Ethernet Connections	PI	TAMU: Associate Provost for Computing and Information Systems	\$4,430	1995
Graduate Assistant Non-Teaching to Develop Electronic Help desk for Engineering 109	PI	TAMU: Associate Dean of the Engineering Program	\$2,500	1995
Nondestructive Evaluation of Biological Materials for Product Quality and Process Enhancement	Co-PI	Texas Agricultural Experiment Station Research Enhancement Program	\$25,000	1994-1995
Development of Elastography Method and Apparatus for Meat Quality Assessment	Co-PI	Advanced Technology Program, State of Texas Coordinating Board	\$70,000	1994-1997
Neural Network Based Process Identification and Control	PI	Frito-Lay, Inc.	\$110,000	1994-1995
Advanced Extrusion Control Technology	Co-PI	Advanced Research Program, State of Texas Coordinating Board	\$45,000	1994-1996
Computer Technology Program for Virtual Classroom Support System	PI	TAMU: Associate Provost for Computing and Information Systems	\$7,180	1994
Characterization of Snack Quality Using Machine Vision and Neural Networks	PI	Frito-Lay, Inc.	\$80,000	1993-1995
Neural Network Control of Snack Food Unit Operations	Co-PI	Frito-Lay, Inc.	\$183,000	1992-1994
PSE Detection in Pork	Co-PI	Eli Lilly	\$13,435	1992-1993
Supercomputer Resources for Neural	PI	TAMU: TAES Super	\$15,000	1992

Title	Role	Funding Agency	Amount	Dates
Networks		Computer Fund		
Pesticide Degradation by the Genetically Engineered Fungus	Co-PI	United States Department of Agriculture	\$34,352	1991-1993
Automatic Image Analysis – A Technological Solution for High-Speed Characterization of Texas Wool Mohair and Cashmere	Co-PI	State of Texas Coordinating Board Advanced Technology Program	\$28,000	1991-1992
A New Control Technology for High Quality Food Extrusion	PI	State of Texas Coordinating Board Advanced Technology Program	\$209,000	10/ 1991 – 8/ 1992
Speed of Sound Measurement in Porcine Tissue	PI	Eli Lilly, Inc.	\$13,272	1991
Implementing Value Based Marketing of Beef	Co-PI	TAMU: TAES Research Enhancement Program	\$17,500	1991
Management of Agricultural Production Spatially (MAPS)	Co-PI	TAMU: TAES Expanded Research Allocation	\$46,288	1990-1991
Counterpropagation Modeling of Preformed Product Frying	PI	Frito-Lay, Inc.	\$5,000	1990
Management of Agricultural Production Spatially (MAPS)	Co-PI	State of Texas Coordinating Board Advanced Technology Program	\$46,288	10/ 1989 – 8/1991
Optimization of quality characteristics in extruded products	PI	Frito-Lay, Inc.	\$15,693	1989-1990
Engineered Instrumentation for Objective Instrument Grading of Beef and Pork	PI	TAMU: TAES Program Development Fund	\$17,300	1989-1990
International Development	PI	TAMU: TAMU Office for International Coordination	\$1,500	1989
Modeling Spatially Heterogeneous Processes: Coupling Object-Oriented Simulation with Geographic Information Systems	Co-PI	TAMU: TAES Expanded Research Allocation	\$31,290	1989
Objective Determination of Intramuscular Fat in Beef: Technology Development	PI	TAMU: TAES Expanded Research	\$51,330	1989

Title	Role	Funding Agency	Amount	Dates
		Allocation		
PC Imaging System	Co-PI	TAMU: TAES Program Development Funds	\$10,000	1989
Regenerative Concepts Modeling	Co-PI	Space Research Center (NASA Project)	\$2,328	Sept. 1988 to Aug. 1989
Integration of Expert Systems with Conventional Problem Solving Techniques in Agriculture	PI	American Association for Artificial Intelligence Workshop Series	\$5,000	1988
Process Control Strategy for a Twin-Screw Extruder	PI	Frito-Lay, Inc.	\$17,896	1988
Geographic Information System/Artificial Intelligence System Integration	PI	TAMU: TAES Program Development Funds	\$22,000	1988
Integrated Decision Support Systems to Evaluate Alternative Managerial Practices Based on Profitability	Co-PI	TAMU: TAES Expanded Research Allocation	\$12,000	1988