

APPENDIX A

Faculty and Administrative/Professional Programmatic Leaders Vitae

Name	Rank
Anderson, Joseph M.	Adjunct Associate Professor (USDA/ARS)
Beyrouty, Craig	Professor
Bigelow, Cale A.	Associate Professor
Bowling, Laura	Assistant Professor
Brouder, Sylvie M.	Professor
Camberato, James J.	Associate Professor
Crawford, Melba M.	Professor
Devillez, Philip	Administrative/Professional
Doerge, Rebecca W.	Professor
Ejeta, Gebisa	Distinguished Professor
Gerber, Corey	Administrative/Professional
Grant, Richard H.	Professor
Graveel, John G.	Professor
Gurney, Kevin	Assistant Professor
Heathman, Gary	Adjunct Assistant Professor (USDA/ARS)
Housley, Thomas L.	Professor
Huang, Chi-Hua	Adjunct Professor (USDA/ARS)
Hudson, Karen	Adjunct Assistant Professor (USDA/ARS)
Jackson, Scott A.	Professor
Jiang, Yiwei	Assistant Professor
Joern, Brad C.	Professor
Johnson, Keith D.	Professor
Johnston, Cliff T.	Professor
Kladivko, Eileen J.	Professor
Lee, Brad D.	Associate Professor
Lee, Linda S.	Professor
LeRoy, Allen	Administrative/Professional
Ma, Jianxin	Assistant Professor
Mansfield, Charles	Administrative/Professional
Nakatsu, Cindy H.	Professor
Nielsen, Robert L.	Professor

Niyogi, Dev	Assistant Professor
Norton, L. Darrell	Adjunct Professor (USDA-ARS)
Ohm, Herbert W.	Distinguished Professor
Owens, Phillip	Assistant Professor
Pappas, Elizabeth	Adjunct Assistant Professor (USDA/ARS)
Rao, P. Suresh C.	Distinguished Professor
Reicher, Zachary J.	Professor
Rocheford, Torbert	Professor
Schulze, Darrell G.	Professor
Schwab, A. Paul	Professor
Schweitzer, Lee E.	Professor
Scofield, Steven	Adjunct Assistant Professor (USDA/ARS)
Smith, Douglas	Adjunct Associate Professor (USDA/ARS)
Snyder, Lori U.	Assistant Professor
Steinhardt, Gary C.	Professor
Stott, Diane E.	Adjunct Professor (USDA/ARS)
Szymanski, Daniel B.	Associate Professor
Tuinstra, Mitchell	Professor
Turco, Ronald F.	Professor
Van Scoyoc, George E.	Professor
Volenec, Jeffrey J.	Professor
Vorst, James J.	Professor
Vyn, Tony J.	Professor
Weil, Clifford F.	Associate Professor
Zhuang, Qianlai	Assistant Professor

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



JOSEPH M. ANDERSON

RANK: Associate Professor

DATE OF APPOINTMENT AT PURDUE: 1994

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Disease Resistance in Small Grains

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1980	St. Bonaventure University
M.S.	1983	Iowa State University
PH.D.	1987	Iowa State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Postdoctoral Research Associate, Inst. of Biol. Chemistry, Washington State University, 1987-1990
Postdoctoral Research Associate, Department of Plant Pathology, Cornell University 1990-1992.
Research Geneticist, USDA-ARS & Adj. Asst. Prof., Dept. Plant/Soil Sci., MSU, Bozeman MT, 1992-1993
Adjunct Asst. Professor, Depts. of Agronomy and Botany Plant Pathology, Purdue University, 1994-2003
Research Molecular Biologist, USDA-ARS, W. Lafayette, IN, 1994-2000.
Lead Scientist and Research Molecular Biologist, USDA-ARS, W. Lafayette, IN, 2000-Present.
Adjunct Associate Prof. in Depts. Agronomy and Botany Plant Pathology, Purdue Univ., 2003-present.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

USDA-ARS Certificate of Merit: Contributions as part of a team working to successfully discover and develop low Phytic acid mutants in barley and corn. 1995
Inducted into Gamma Sigma Delta, Agriculture Honor Society. 1997
Team Award, Purdue University, School of Agriculture. For excellence in interdisciplinary research and education. 2000
USDA-ARS Certificate of Merit: For superb performance as duties as Research Molecular Biologist and leadership in forging the direction of research in viral disease of small grains. 2002
USDA-ARS Certificate of Merit: For superior leadership of the wheat genomics group and for research contributions that advanced our understanding of virus resistance in wheat. 2004
USDA-ARS Certificate of Merit: For outstanding leadership of the ARS wheat genomics team and contributions that advanced the knowledge of virus disease resistance. 2005
USDA-ARS Certificate of Merit: For superior leadership in planning and execution of research on diseases of small grains. 2006
USDA-ARS Certificate of Merit: Recognition of outstanding leadership advancing virus disease resistance in small grains. 2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
696	Graduate Seminar	1	15

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

2006-present PULSe Plant Biology Training group
2006-present PULSe Plant Virology Training group

1995-2006 Executive Committee - Plant Biology Program
1994-2006 Purdue Genetics Program

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Discovered that wheatgrass-derived CYDV resistance is due to blocked movement of the virus through the vascular tissue of the plant.
- Developed the first rapid, specific, and sensitive multiplex PCR that allows an unambiguous simultaneous diagnosis of eight viruses

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 2 PhD: 2 / 3 PostDocs: 0 / 7

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

North Carolina, Christina Cowger, epidemiology of wheat viruses
Ottawa Canada, Nick Tinker, Development of oat DArT marker platform

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 4
Total funding received: \$260,000
Funding agencies: USDA-NRI, US Scab Initiative

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0
Book chapters: 1/3
Refereed Journal Articles: 13/31
Non-refereed Papers: 6/15
Engagement publications: 6/12
Teaching publications: 0/0
Invited seminars, lectures and presentations: 19/31
Patents/Copyrights: 0/2

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- Wiangjun, H., and J.M. Anderson. The basis for Thinopyrum-derived resistance to Cereal yellow dwarf virus. *Phytopathology* 94:1102-1106. 2004.
- Deb, M. and J.M. Anderson. Development of a multiplexed PCR detection method for Barley and Cereal yellow dwarf viruses, Wheat spindle streak virus, Wheat streak mosaic virus and Soil-borne wheat mosaic virus. *J. Virol. Meth.* 148:17-24. 2008.
- Tinker, N.A., A. Kilian, C.P. Wight, K. Uszynska-Heller, P. Wenzl, H.W. Rines, Å. Bjørnstad, C.J. Howarth, J-L. Jannink, J.M. Anderson, B.G. Rosnagel, et al., and 15 additional authors. New DArT markers for oat provide enhanced map coverage and global germplasm characterization. *BMC Genomics* (Accepted pending minor revisions December 4, 2008)

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

1) identify genes that are correlated with viral and/or fungal resistance and determine their role in disease resistance, 2) integrate disease resistance genes from related species into cultivated wheat and oats as they have become effective sources of disease resistance, 3) develop molecular markers for oat and identify DNA markers linked to the wheatgrass-derived Fusarium head blight (FHB) resistance and Bdv3 Yellow Dwarf Virus (YDV) resistance loci for use in marker-assisted selection, and 4) investigate the epidemiology of viral diseases in small grain production areas in the United States and world-wide, where they cause significant yield losses.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



CRAIG BEYROUTHY

RANK: Professor and Department Head

DATE OF APPOINTMENT AT PURDUE: 2001

EFFORT DISTRIBUTION: 33% I, 34% R, 33% E

AREA(S) OF EXPERTISE: Soil Chemistry and Plant Nutrition

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1977	Cal Poly State University
M.S.	1980	Purdue University
PH.D.	1984	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor and Head, Department of Agronomy, Purdue University, 2001-present
Visiting Scientist, U.C. Davis, 2000
Interim Dean Enrollment Services, University of Arkansas, 1998-1999
Interim Head, Department of Agronomy, University of Arkansas, 1997-1998
Professor of Agronomy, University of Arkansas, Fayetteville, 1993-2000
Associate Professor of Agronomy, University of Arkansas, 1989-1993
Visiting Scientist, Los Banos, Philippines, 1989
Assistant Professor of Agronomy, University of Arkansas, 1984-1989
Research Scientist, Castle and Cooke Foods, Valmeyer, Illinois, 1977-1978
Soil Scientist Trainee, Soil Conservation Service, Medford, Oregon, 1975-1977

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Potash and Phosphate Institute Fellowship Award, 1982; Sigma Xi Physical Sciences Research Award, 1983; George Scarseth Research Award, 1983; Gamma Sigma Delta Teaching Award of Merit, 1989; Alpha Zeta Outstanding Teacher Award, 1989; CIBA-GEIGY Award for Teaching and Service, 1990; John W. White College of Agriculture Outstanding Teaching Award, 1991; Chair, U of A Campus Faculty, 1991-1992; Chair of U of A Campus Council, 1992-1993; ESCOP Leadership Participant, 1991-1992; Chancellor's Scholar, 1992; President, U of A Teaching Academy, 1995-1996; Director, Teaching and Faculty Support Center, 1997-2000; Jack G. Justus Award for Teaching Excellence, 1999; Fellow ASA, 2000; Fellow SSSA, 2006; Fellow Food Systems Leadership Institute, 2005-2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGR 101	Agronomy Freshman Orientation	6	34
AGRY 255	Soil Science	1	30
AGRY 270	Forest Soils	1	60
AGRY 515	Plant Mineral Nutrition	1	12

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Developed the Freshman Orientation course in the department and teach it each fall semester. In addition, I teach or assist with other courses as needed. I provide departmental resources to support our students and teaching program and support and guide assessment and modification of our graduate and undergraduate curricula.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

To foster relations with our clientele, I serve on several advisory boards including the Indiana Crop Improvement Association and the Indiana Agriculture Business Council and use these settings to communicate the Agronomy message. I maintain a strong presence with several other organizations such as the Indiana Soybean Alliance, the Indiana Corn Growers Association, and the Midwest Regional Turf Foundation and formed an Agronomy advisory council to seek stakeholder feedback. Have added faculty FTE in Soil Fertility Extension and helped propose and seek funding for new outreach building.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

I have co-advised graduate students and help assist with their research programs. I support our research efforts through departmental funding for acquisition of advanced technical equipment, facility renovation, and aggressive faculty hiring. We have hired 14 new faculty since 2002 which has established new signature areas in the department.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 2 PhD: 1 / 1 PostDocs: 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Godollo, Hungary, 2002; Catie, Costa Rica, 2002; Ethiopia, Africa, 2003; Kenya, Africa 2003; Champagne, France, 2005; Earth University, Costa Rica, 2007; Santiago, Dominican Republic, 2008

EXTRAMURAL FUNDING SINCE 2002:

Number of grants:

Total funding received: \$1,015,450

Funding agencies: Variety of industry and private donors, USDA

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/2

Book chapters: 0/4

Refereed Journal Articles: 2/38

Non-refereed Papers: 0/4

Engagement publications: 1/2

Teaching publications: 0/30

Invited seminars, lectures and presentations: 11/40

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Smith, K., C. Beyrouy, B. Boggess, M. Bryan, S. Ernst, J. Floros, L. Martin, R. Miller, and S. Sumner. 2008. Land Grant Colleges' Response to a Changing Food System. Jointly published and funded through NASULGC and The Kellogg Foundation.

Krutz, L.J., C.A. Beyrouy, T.J. Gentry, D.C. Wolf, and C.M. Reynolds. 2005. Selective enrichment of a pyrene degrader population and enhanced pyrene degradation in Bermuda grass rhizosphere. *Biology and Fertility of Soils*. 41: 359-364.

Fernandez, F, S. Brouder, C.A. Beyrouy, J. Volenec, and R. Hoyum. 2008. Assessment of Plant-Available Potassium for No-till, Rainfed Soybean. *SSSAJ*. 72: 1085-1095.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Develop an environment that encourages, supports, and rewards collaborative efforts among our faculty and staff to address the grand challenges articulated in our review document.
- Improve our system to recognize the accomplishments of our faculty and staff.
- Develop and implement a strategy that places our faculty and staff among the decision-makers nationally and internationally.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



CALE A. BIGELOW

RANK: Associate Professor

DATE OF APPOINTMENT AT PURDUE: 2002

EFFORT DISTRIBUTION: 60% I, 15% R, 25% E

AREA(S) OF EXPERTISE: Agronomy - Turfgrass Science

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1993	Virginia Tech
M.S.	1995	Virginia Tech
PH.D.	2000	North Carolina State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Associate Professor, Purdue University-Agronomy Department, West Lafayette, 2008-present
Assistant Professor, Purdue University-Agronomy Department, West Lafayette, 2002-2008
Post-Doctoral Researcher, University of Maryland-Plant Science, College Park, 2002
Adjunct Instructor, Turf Management, Northern Virginia Community College, 2001

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

College of Agriculture Team Award, 2004, Purdue University
Outstanding Undergraduate Counselor, 2006: Purdue University, Agronomy Department
Outstanding Undergraduate Counselor, 2007: Purdue University, Agronomy Department
Outstanding Undergraduate Teacher, 2007: Purdue University, Agronomy Department
College of Agriculture nominee to the Purdue University Teaching Academy, 2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 110	Survey of Turfgrass Management	Fall	20
AGRY 210	Fundamentals of Turfgrass Culture	Fall	45
AGRY 210Y	Fund. of Turf Culture [Online]	Spring/Summer	10
AGRY 211	Fundamentals of Turfgrass Culture Laboratory	Spring	20
AGRY 311	Turfgrass Diagnostics	Fall-Spring	20
AGRY 510	Turfgrass Science	Fall	20

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic Advisor to 20-25 undergraduate Turfgrass Science majors, Faculty Advisor to Turf Club

TEACHING ACCOMPLISHMENTS SINCE 2002:

Revised, updated and improved the course content and offerings for the Turfgrass Science option to better reflect current industry trends. Developed two new one-credit courses; AGRY 211 (Fundamentals of Turfgrass Culture Laboratory) and AGRY 311 (Turfgrass Diagnostics), both of which stress problem solving and practical skills. Authored formal laboratory manuals for both laboratories in AGRY 211 and 510, two textbook chapters in a widely used textbook and two peer-reviewed teaching publications.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Became a highly sought state/regional/national presenter at Turfgrass Conferences, Workshops and Field Days: A summary of presentations and attendance at Conferences, Workshops, and Field Days

	National	Regional	State	Total
Programs (number)	17	7	43	67
Attendance	1895	630	3995	6520

Co-authored 11 Extension (AY) publications

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Established and externally funded a Nationally recognized research program in the area of turfgrass soil and nutrient management. Authored or co-authored 13 peer-reviewed research publications.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 3 PhD: 0 / 1 PostDocs: 0 / 0

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

National Soil Erosion Research Laboratory, Dr. Douglas R. Smith (Nutrient Management)
 Purdue University, Dr. Douglas S. Richmond - Turfgrass Management (Entomology)
 University of Maryland, Dr. Peter Dernoeden - Turfgrass Management (Pathology)
 Virginia Tech, Drs. Erik Ervin, Xunzhong Zhang, Michael Goatley - Turfgrass Management
 University of Connecticut, Dr. John Kaminski - Turfgrass Management (Pathology)

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: many small (< \$5,000) grants

Total funding received: \$531,869

Funding agencies: Primarily Industry Funding, however, organizations like the United States Environmental Protection Agency, United States Golf Association, O.J. Noer Foundation and the Mid-West Regional Turf Foundation have all been major contributors

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 2/2

Refereed Journal Articles: 13/19

Non-refereed Papers: 6/12

Engagement publications: 11/18

Teaching publications: 2/2

Invited seminars, lectures and presentations:

Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Bigelow, C.A., D.C. Bowman, and D.K. Cassel. 2004. Physical properties of three sand size classes amended with inorganic materials or sphagnum peat moss for putting green rootzones. *Crop Science*. 44:900-907.

Walker, K.S., C.A. Bigelow, D.R. Smith, G.E. VanScoyoc, and Z.J. Reicher. 2007. Aboveground responses of cool-season lawn species to nitrogen rates and application timings. *Crop Sci*. 47:1225-1236.

Moeller, A.C., C.A. Bigelow, J.R. Nemitz and G.A. Hardebeck. 2008. Bentgrass Cultivar and Annual Nitrogen Regime Affects Seasonal Shoot Density. *Online Journ. Applied Turfgrass Sci*. <http://www.plantmanagementnetwork.org/sub/ats/research/2008/shoot/>

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Continue to sustain and build on the excellence of the interdisciplinary Turfgrass Science program and provide outstanding educational and practically oriented research for the industry stake-holders and citizens of Indiana. Bring National and International recognition to the Agronomy Department.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



LAURA C. BOWLING

RANK: Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2004

EFFORT DISTRIBUTION: 30% I, 70% R

AREA(S) OF EXPERTISE: watershed hydrology, hydroclimatology, land surface modeling

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1993	Princeton University
M.S.	1997	University of Washington
PH.D.	2002	University of Washington

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assist. Prof., Purdue University, West Lafayette, IN, Jan. 2004 to present
Research Scientist, U. of Washington, Seattle, WA, Aug. 2002 to Apr. 2003
Graduate Research Asst./NASA Fellow, U. of Washington, Seattle, WA, Aug. 1997 to July 2002
Graduate Research Asst./Valle Fellow, U. of Washington, Seattle, WA, Aug. 1995 to July 1997

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

New Hot Paper, Essential Science Indicators, 2004
Honorable Mention, Seventh Annual ARCUS Award for Arctic Research Excellence, 2003
Earth System Science Fellowship, NASA, 1997 – 2000
Valle Graduate Fellowship, Valle Foundation, 1995

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 399W	Environmental Hydrology	3	17
AGRY 337	Environmental Hydrology	1	17
AGRY 598W	Graduate Environmental Hydrology	1	12
AGRY 598W	Adv. Topics in Hydrology	3	8
FNR 370	Natural Resources Practicum	4	45
AGRY 599	Hydrologic Data Analysis	1	3

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic advising; undergraduate research mento for the SURF program

TEACHING ACCOMPLISHMENTS SINCE 2002:

- Taught 4 courses new courses with no prior curriculum; developed complete course curriculum for two of those courses, including statements of course learning objectives, over 40 pages of lecture outlines, power point lecture materials, and in-class demonstrations.
- Provided guest lectures for 5 additional courses.
- Strove to improve teaching skills through attendance at CIE seminars and participation in the teaching academy mentoring program.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

- Served on 7 departmental service committees and 5 committees outside the department
- Co-authored 3 extension bulletins
- Participated as a lecturer in 6 educational outreach events

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Authored or co-authored 15 peer-reviewed journal articles and three peer-reviewed book chapters.
- Actively including graduate students in the research process, including co-authoring 21 student-led presentations at national meetings and eight publications primarily authored by students.
- Involved in graduate research through advising 27 graduate students (9 as major or co-major professor).

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 4 **PhD:** 5 / 5 **PostDocs:** 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Princeton University, Eric Wood, Active collaboration with Russian scientists for improved understanding of permafrost and wetlands in northern eurasia
- NC State University, Mohammed Youssef, Simulation of drainage water quality
- Arizona State University, John Sabo, Verification of hydrologic predictions in the Cadillac Desert

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 15

Total funding received: \$1,335,550.00

Funding agencies: NASA, PRF, Ind. Dept. Environ. Mgt., USDA

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 0/3

Refereed Journal Articles: 13/15

Non-refereed Papers: 7/8

Engagement publications: 3/3

Teaching publications: 0/0

Invited seminars, lectures and presentations: 2/3

Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Ale, S., Bowling, L. C., Brouder, S. M., Frankenberger, J.R., and M. Youssef, 2008, Simulated operation strategy for drainage water management. *Ag. Water Mngmnt.*

Bowling, L.C., D.L. Kane, R.E. Gieck, L.D. Hinzman and D.P. Lettenmaier, 2003, The role of surface storage in a low-gradient arctic watershed, *Water Resources Research*, vol.39, NO.4, 1087-1099, doi:10.1029/2002WR001466.

Bowling, L.C., D.P. Lettenmaier, B. Nijssen, L.P. Graham, D.B. Clark, M. El Maayar, R. Essery, S. Goers, Y.M. Gusev, F. Habets, B. van den Hurk, J. Jin, D. Kahan, D. Lohmann, X. Ma, S. Mahanama, D. Mocko, O. Nasonova, G.Y. Niu, P. Samuelsson, A.B. Shmakin, K. Takata, D. Verseghy, P. Viterbo, Y. Xia, Y. Xue, Z.L. Yang, 2003, Simulation of high latitude hydrological processes in the Torne-Kalix basin, PILPS Phase 2e, 1: Experiment description and summary intercomparisons, *Journal of Global and Planetary Change*, 38(1-2), 1-30.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Continue developing research program with an emphasis on how regional land management decisions influence surface water quantity and quality, and how they are in turn influenced by external drivers such as climate variability. Continue to enhance the field component of the undergraduate hydrology class, and work with hydrology colleagues on campus to better refine the needs of the graduate curriculum.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



SYLVIE M. BROUDER

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1995

EFFORT DISTRIBUTION: 5% I, 35% R, 60% E

AREA(S) OF EXPERTISE: Nutrient (C, N, K) cycling, nutrient use efficiency, air and water quality, agro-ecosystem management and environmental stewardship

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1985	Harvard (B.A. in Biology)
M.S.		
PH.D.	1993	University of CA - Davis in Ecology

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor, Agronomy Dept., 1995 - 2000
Associate Professor, Agronomy Dept., 2000 - 2005
Professor, Agronomy Dept., 2005 - present
Director, Water Quality Field Station, 1998 - present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Educational Materials Award: Long Publications Category, American Society of Agronomy, 2001; CropLife Magazine SiteLiner Award for Educational Publications, 2001; Fellow, Experiment Station Committee on Organization and Policy (ESCOP), 2001; Educational Materials Award: Short Publications Category, American Society of Agronomy, 2002; Educational Materials Award: Audio Visual Category, American Society of Agronomy, 2004; Faculty Fellow, Study in a Second Discipline, Dept. of Statistics, Purdue University, 2004 - 05; Fellow, American Society of Agronomy, 2005; Educational Materials Award: Publications Category, 2 Awards, American Society of Agronomy, 2006; 2007 Entomology Educational Project Award, 2007; 2008 Team Award, College of Agriculture, Purdue University, 2008.

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 515	Plant Mineral Nutrition	Even falls	12
AGRY 696	Graduate Seminar	1 semester	7

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Diagnostic Training Center (Operations Committee 2003-2007); K Team Chair (2002; 2006); Search committees for Patterson Chair, Soil Fertility, Soybean Specialist and Spatial Statistics positions; Director of IN Cert. Program for commercial soil testing labs, IN rep. to NC Regional Com. on Soil Testing and Plant Analysis and program planner for associated, biennial Plant and Soil Analysts Conf. (1998-pres.); IN Director of annual Kentuckiana Crop Production Sem. (1998-2003); IN rep to NC Regional Com. on Nontraditional Soil additives (1998-2005); SSSAJ Assoc. Editor.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Collaborated with colleagues to bring significant, long-term support to Agronomy Dept. graduate programs (K Team Fellowship).

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Developed / delivered outreach programming based on research results and integrating soil, plant, and ecological sciences to enhance productivity and environmental quality including workshops for certificate programs and field days focused on in-field diagnostics. Provided leadership in agenda planning for major, recurring extension conferences including the North Central Industry Extension Soil Fertility Conference, the Plant and Soil Analysts Workshop and the Kentuckiana Crop Production Conference and Workshops. Authored / co-authored numerous technical bulletins, proceedings and numbered extension publications in support of outreach programming.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Quantification of 1) reduction in tile drainage nitrate loading associated with improved management, 2) drainage water dissolved organic C losses, previously undocumented in midwestern soils, and 3) greenhouse gas losses in common agro-ecosystems. Characterization of 1) flow volume as key driver in tile drainage water solute losses identifying limitations to reducing nitrate losses via fertilizer rate reductions, 2) spatial variability in plant nutrient availability in typical farm fields, 3) common mapping protocol accuracies for soil-specific nutrient management and 4) spatio-temporal variability in plant-available K and soybean K accumulation patterns in no-till soils.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 6 PhD: 1 / 6 PostDocs: 0 / 2

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

Consortium for Ag. Soils Mitigation of Greenhouse Gases: PU representative to Tasks 2 (agricultural practices) and 5 (outreach). IN representative to regional research committees NC-218 (Characterizing N mineralization) and NC1032 (Characterizing active SOM pools).

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 34

Total funding received: \$5,078,121.00

Funding agencies: USDA/EPA-NSF Water & Watersheds Prgm, USEPA, Potash & Phosphate Inst., United Soybean Board, Indiana Soybean Board, Potash Corporation of Saskatchewan, Mosaic Co., National Pork Producers Council, Kansas State Univ. and USDA Consortium for Agricultural Soils Mitigation of Greenhouse Gases, Agrium, USDA NRI Water & Watersheds Prgm and Managed Ecosystem Prgm, CSREES National Integrated Water Quality Prgm, The Boeing Co.

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 1/6

Refereed Journal Articles: 23/32

Non-refereed Papers: 28/40

Engagement publications: 15/28

Teaching publications: 0/0

Invited seminars, lectures and presentations: 21/44

Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Brouder, S.M. and J.J. Volenec. 2008. Impact of climate change on crop nutrient and water use efficiencies. *Physiologia Plantarum*. 133:705-724.

Hernandez-Ramirez, G., S.M. Brouder, D.R. Smith, and G.E. Van Scoyoc. Greenhouse gas fluxes in an Eastern Corn Belt soil: Weather, N source and rotation. *J. Environ. Qual.* In Press.

Ruark, M., S.M. Brouder, and R.F. Turco. Dissolved organic carbon from tile drained agro-ecosystems. *J. Environ. Qual.* In Press.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Continue to pursue funding and develop research and educational programming addressing relevant questions of nutrient cycling in agro-ecosystems.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



JAMES J. CAMBERATO

RANK: Associate Professor

DATE OF APPOINTMENT AT PURDUE: 2006

EFFORT DISTRIBUTION: 35% R, 65% E

AREA(S) OF EXPERTISE: Soil Fertility and Plant Nutrition

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1980	Univ. of Massachusetts
M.S.	1982	North Carolina State Univ.
PH.D.	1987	North Carolina State Univ.

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor and Extension specialist, Clemson University, 2003 - 2005
Associate Professor and Extension specialist, Clemson University, 1995 - 2003
Assistant Professor and Extension specialist, Clemson University, 1989 - 1995
Tennessee Valley Authority, National Fertilizer Development Center - Research Chemist, 1987-1989.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

2008 Purdue Agriculture Team Award: Purdue Crop Diagnostic Training and Research Center. 1 of many contributors to the program.

2007 Entomology Educational Project Award for the Extension Publication: Corn & Soybean Field Guide, 2007 Edition. Board Certified Entomologists of Mid-America. 1 of 17 contributors to the Guide.

American Society of Agronomy 2006 Educational Materials Contest Certificate of Excellence. Publications. 2006 Corn and Soybean Field Guide. 1 of 17 contributors to the Guide.

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

- Increased the seeding and sale of rough bluegrass cultivar mixes for overseeding warm-season grasses.
- Improved soil and turfgrass management in coastal regions using saline and alkaline water for irrigation.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Determined variability in germination among seed lots of the same cultivar when stressed by salinity or cold.
- Established linkage between rapid blight disease of cool-season grasses and level of salinity and salinity tolerance of cool-season grasses.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 5 / 5 PhD: 1 / 1 PostDocs: _____ / _____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Clemson University, S. Bruce Martin, disease/salinity interactions of cool-season grasses

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 10

Total funding received: \$77,960

Funding agencies: Monsanto, Wolf Trax, Mary Rice, Zinpro Corp.

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 5/10

Refereed Journal Articles: 12/33

Non-refereed Papers: 0/3

Engagement publications: 55/96

Teaching publications:

Invited seminars, lectures and presentations:

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Camberato*, J.J., P.D. Peterson, and S.B. Martin. 2006. Salinity and salinity tolerance alter rapid blight disease occurrence. *Applied Turfgrass Sci.* doi:10.1094/ATS-2006-0213-01-RS.

Peterson*, P. D., S. B. Martin, and J. J. Camberato. 2005. Tolerance of cool-season turfgrasses to rapid blight disease. *Applied Turfgrass Science* doi:10.1094/ATS-2005-0328-01-RS.

Camberato*, J.J., and S. B. Martin. 2004. Salinity slows germination of rough bluegrass. *HortScience* 39(2)394-397.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Develop a series of 1-2 credit modules that can be taught over several semesters that will constitute an upper-level course in soil fertility.
- Develop management strategies for more efficient nitrogen management based on soil and crop measurements.
- Educate and encourage farmers, consultants, and the fertilizer industry to adopt the most efficient fertilizer management strategies available.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



MELBA M. CRAWFORD

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 2006

EFFORT DISTRIBUTION: 15% I, 40% R

AREA(S) OF EXPERTISE: Remote sensing, GIS, statistical analysis

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1970	University of Illinois
M.S.	1973	University of Illinois
PH.D.	1981	Ohio State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor, Purdue University, 2006 - current
Professor, The University of Texas, Austin, 1991 - 2005
Associate Professor, The University of Texas, Austin, 1986 - 1991
Assistant Professor, The University of Texas, Austin, 1980 - 1986
Instructor, The University of Texas, Dallas, 1977 - 1980

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Jefferson Senior Science Fellow, U.S. State Department, 2004-2005
Meritorious Honor Award, Delegation to World Conference on Disaster Reduction, U.S. State Department, 2005
Purdue Chair of Excellence in Earth Observation, 2006 - present
Fellow, Institute for Electrical and Electronics Engineers, 2007
Fellow, Academic Leadership Program, Committee on Institutional Cooperation, 2007-8

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 545	Remote Sensing of Land Resources	Fall 06, 07, 08	15
AGRY 548	Earth Observation Seminar	Fall 06	5

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Reorganized and updated AGRY 545. Currently engaged in campus-wide review of remote sensing and GIS course content and curriculum development.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Engaged with state and federal agencies in applications of remote sensing for disaster response; developed collaboration with the Conservation Tillage Information Center for monitoring conservation tillage practices via remote sensing.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Submitted over \$3 million in research proposals; received an NSF grant (~560k) focused on developing advanced methods for land cover monitoring; initiated new program with Cropping Systems faculty in remote sensing of conservation tillage.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: _____ / 35 PhD: 7 / 23 PostDocs: _____ / 4

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Center for Space Research, UT Austin, Ellen Rathje, Amy Neuenschwander. Applications of LIDAR and optical remote sensing
- Harry Oppenheimer Okavango Research Center, Mau, Botswana, Susan Ringrose. Studies of the hydrology and vegetation of the Okavango Delta
- USDA, Beltsville, Craig Daughtry, Hyperspectral sensing of conservation tillage
- Dept of Electrical and Computer Engineering, UT Austin, Joydeep Ghosh. Collaborative algorithm development for analysis of remotely sensed data.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 1
Total funding received: ~300,000
Funding agencies: NSF

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:
Book chapters: 1/1
Refereed Journal Articles: 12/76
Non-refereed Papers: 41
Engagement publications:
Teaching publications:
Invited seminars, lectures and presentations: 5/28
Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Rajan, S., J. Ghosh, and M.M. Crawford. 2008. An active learning approach to hyperspectral data classification. IEEE Trans. Geoscience and Remote Sensing, 46:1231-1242.

Lee, S. and M.M. Crawford. 2005. Unsupervised multistage image classification using hierarchical clustering with a Bayesian similarity measure. IEEE Trans. on Image Processing, 14:312-320.

Neuenschwander, A.L., M.M. Crawford, and S. Ringrose. 2005. Results of the EO-1 experiment - use of Earth Observing-1 Advanced Land Imager (ALI) data to assess the vegetational response to flooding in the Okavango Delta, Botswana. International J. Remote Sensing, 26: 4321-4337.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

To develop the Earth System undergraduate and graduate program within Agronomy and the University-wide Division of Geospatial Science and Engineering. To develop an airborne remote sensing research facility, and sustained international research and education initiative in remote sensing and climate change science.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



PHILIP DEVILLEZ

RANK: Administrative Professional

DATE OF APPOINTMENT AT PURDUE: 1998

EFFORT DISTRIBUTION: 100% E

AREA(S) OF EXPERTISE: Corn & Soybean testing

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1985	Purdue University
M.S.		
PH.D.		

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: ____ / ____ **PhD:** ____ / ____ **PostDocs:** ____ / ____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 2

Total funding received: \$11,465 -- \$3,200

Funding agencies: Rice Grant, Indiana Soybean Alliance

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters:

Refereed Journal Articles:

Non-refereed Papers:

Engagement publications: 5/10

Teaching publications:

Invited seminars, lectures and presentations:

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Expand the scope of the Purdue Crop Performance Program by increasing test locations and double the impact through web innovations, media exposure and cooperative work with Indiana Corn & Soybean Alliance.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



REBECCA W. DOERGE

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1995

EFFORT DISTRIBUTION: 25% R

AREA(S) OF EXPERTISE: Statistical Bioinformatics

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1986	University of Utah
M.S.	1988	University of Utah
PH.D.	1993	North Carolina State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Chair of Advisory Committee for Purdue University Genomics Facility, Purdue, 1997-2003
Director of the Statistical Bioinformatics Center, Purdue, 2004-present
Executive Board Discovery Park Bindley Biosciences, 2008-present
Interim Head, Department of Statistics, Purdue, 2008-present
Associate Editor, Statistical Applications in Genetics and Molecular Biology, 2002-present
Associate Editor, GENETICS, 2003-present
Associate Editor, The Plant Cell, 2003-2008
Associate Editor, Genetics Research, 2008-present
University of Florida Genomics Institute Advisory, 2006-present
American Association for Cancer Research Epigenomics Task Force, 2006-present
Samuel S. Wilks Memorial Medal Committee of the American Statistical Association, 2007-present
Cold Spring Harbor Laboratory Advisory Board on Quantitative Biology, 2007-present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Teaching for Tomorrow Award, Purdue, 1996
Outstanding Asst Prof. for Excellence in Teaching and Research, Science, Purdue, 1997
Outstanding Teacher of Undergrads, School of Science Purdue, 1998
University Scholar, Purdue, 2001-2006
College of Science Graduate Student Mentoring Award, Purdue, 2007
Elected Fellow of the American Statistical Association, 2007
Elected Fellow of the American Association for the Advancement of Science, (AAAS) 2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
STAT 525	Applied Regression	Fall 1995-2005	30-40
STAT 598	App Intr to QTL Mapping in Exp Populations	Spring 1999-present	20-25
STAT 598B	Bioinformatics Seminar	F/S 1999-present	20-30

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

6-10 Ph.D. Statistics students at all times in research group; 1-2 Visitors in Statistics (RWD research group); Serve on many graduate student committees in Agronomy

TEACHING ACCOMPLISHMENTS SINCE 2002:

Summer Institute in Statistical Genetics, QTL module, 1995-present, taught 20+ times, 600+ students

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

I give a lot of general public talks for Purdue donors

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Many research grants funded by USDA, NIH, NSF, and private industry

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 50+ / _____ PhD: 18 / _____ PostDocs: 2 / 5 visitors

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

France, Vincent Colot: epigenomics of Arabidopsis

Davis, CA, Luca Comi: polyploidy in plants

Davis, CA, Dina St. Clair: expression QTL exploration

Tucson, AZ: Richard Jorgensen: iPlant Collaborative

Cold Spring Harbor, NY, Rob Martienssen: epigenomics

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 16

Total funding received: \$3M

Funding agencies: NIH, NSF, USDA, Komen

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 1/1

Book chapters: 4/6

Refereed Journal Articles: 56/88

Non-refereed Papers: 0

Engagement publications: 0

Teaching publications: 0

Invited seminars, lectures and presentations: 83/162

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

R.W. Doerge. 2002. Mapping and analysis of quantitative trait loci in experimental populations. *Nature Reviews Genetics*. 3:43-52.

T.C. Osborn, J.C. Pires, J.A. Birchler, Z.J. Chen, L. Comai, R.W. Doerge, and R.A. Martienssen. 2003. Understanding the causes of novel variation in polyploids. *Trends in Genetics*. 19(3):141-147.

Z. Lippman, A.-V. Gendrel, M. Black, M. Vaughn, N. Dedhia, W.R. McCombie, K. Lavine, V. Mittal, B. May, K. Kasschau, J.C. Carrington, R.W. Doerge, V. Colot, and R. Martienssen 2004. Transposable elements mediate heterochromatin and epigenetic control. *Nature*. 430:471-476.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Stop being Interim Department Head, Statistics
- Get the Statistical Bioinformatics Center funded by a federal grant
- Publish meaningful and fundable science with collaborators both at Purdue and elsewhere

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



GEBISA EJETA

RANK: Distinguished Professor

DATE OF APPOINTMENT AT PURDUE: 1984

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Plant Breeding & Genetics; International Agriculture

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1973	Alemaya University, Ethiopia
M.S.	1976	Purdue University, USA
PH.D.	1978	Purdue University, USA

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Distinguished Professor, Purdue University, West Lafayette, IN, USA, 2007- Present
 Professor, Purdue University, West Lafayette, IN, USA, 1992-2007
 Associate Professor, Purdue University, IN, USA, 1988-1992
 Assistant Professor, Purdue University, IN, USA, 1984-1988
 Principal Plant Breeder, ICRISAT, Sudan, 1979-1983

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Member, Science Council, CGIAR, 2008-2010
 Distinguished Professor, Purdue University, 2007
 Certificate of Recognition, Government of Ethiopia for combating *Striga* in Ethiopia, 2007
 Fellow, American Association for the Advancement of Sciences (AAAS), 2005
 Outstanding Research Paper of the Year on Plant Genetic Resources, Crop Science, 2004
 Distinguished Career Achievement Award, INTSORMIL, 2002
 Purdue School of Agriculture Dean's Interdisciplinary Team Member Award, 1998
 Distinguished Scientific Career Award, African Crop Science Congress, 1997
 International Service in Agronomy Award, American Society of Agronomy Award, 1997
 International Service in Crop Science Award, Crop Science Society of Agronomy, 1994
 Fellow of American Society of Agronomy, 1995
 Fellow of Crop Science Society, 1994
 Recognition for Outstanding Contribution to Agriculture of the Sudan, Govt. of Sudan, 1983
 Graduated with Great Distinction and Special Award as Outstanding Graduate, Alemaya College, 1973

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY520	Principles and Methods of Plant Breeding	7	8
AGRY692	Graduate Seminar	2	10

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Annually give lectures in several classes in the College of Agriculture with request from professors

TEACHING ACCOMPLISHMENTS SINCE 2002:

Regular updating of class. Created more engagement of students in class presentations with assigned topical concepts.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Established and implemented for wide adoption an Integrated *Striga* Management project in three African countries focused on delivering to farmers a technology package (*Striga* resistant cultivars, Inorganic Fertilizers, and a Water Conservation measure) with a value chain approach targeting sustainable production and profitability of poor subsistence farmers. Assisted the Rockefeller Foundation and the Bill & Mellinda Gates Foundation in program design of the Alliance for Green Revolution in Africa, 2006-2007. Undertook an assessment of current state of seed enterprises in Africa for the Rockefeller Foundation.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Deployed stacked resistant genes in sorghum cultivars against *Striga*. Elucidated *Striga* resistance in maize derived from a wild progenitor source. Identified and validated marker assisted selection for cold tolerance in sorghum. Developed and deployed 20 new inbred lines of sorghum through a licensing arrangement with 10 seed companies from several countries.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 4 PhD: 3 / 6 PostDocs: 1 / 3

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- The Alliance for Green Revolution in Africa, Joseph Devries and Akin Adesina, collaborators.
- Science Council of the Consultative Group on International Agricultural Research (CGIAR)
- International Institute for Tropical Agriculture (IITA), Ibadan, Nigeria, Dr. Abebe Menkir, collaborator.
- International Crop Research Institute for the Semi Arid Tropics (ICRISAT), Dr. M. Mgonja, collaborator.
- Wageningen University, Dreijenlaan, The Netherlands, Haro Bouwmeester, collaborator.
- Stanford University, Palo Alto, California, Roz Naylor, collaborator.
- Ohio State University, Columbus, Ohio, Allison Snow, collaborator.
- University of Nebraska, Lincoln, Nebraska, Jeff Pedersen, collaborator.
- Kansas State University, Manhattan, Kansas, Tesfaye Tesso, collaborator.
- Collaborate with several National Agricultural Research Services (NARS) of several African nations.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 18

Total funding received: \$4,045,730

Funding agencies: 10

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 1

Book chapters: 15

Refereed Journal Articles: 27

Non-refereed Papers: 8

Invited seminars, lectures and presentations: 41

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Rich, P. J., C. Grenier, and G. Ejeta. 2004. *Striga* resistance in the wild relatives of sorghum. *Crop Sci.* 44:2221-2229.

Ejeta, G. and J. Gressel. 2007. Integrating New Technologies for *Striga* Control: Towards Ending the Witch Hunt. World Scientific Publishing Co., Singapore.

Knoll, J. E. and G. Ejeta. 2008. Marker assisted selection for early season cold tolerance in sorghum: QTL validation across populations and environments. *Theor. Appl. Genet.* 116:541-553.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Teaching: Update content and devise ways to increase enrollment of AGRY 520; Considering to develop a graduate level course on International Agriculture, Food, and the Environment. Research: Increase understanding of host-parasite biology in *Striga* resistance, drought tolerance, and nutritional quality in sorghum; improve breeding methodologies including increased efficiency of selection through robust molecular markers; and develop sorghum cultivars with enhanced resistance to *Striga*, tolerance to drought, and enhanced nutritional quality. Engagement: Assist in enhancing global scientific collaboration to improve the quality, relevance, and impact of international agricultural research to generate badly needed impact.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



COREY GERBER

RANK: Administrative Professional

DATE OF APPOINTMENT AT PURDUE: 2003

EFFORT DISTRIBUTION: 100% E

AREA(S) OF EXPERTISE: Agronomy, Entomology in Field Crops

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1993	Purdue University
M.S.	1995	Purdue University
PH.D.	2003	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Areawide IPM Specialist, Entomology Department, Purdue University, 1998-2003

Director, Diagnostic Training and Research Center, Agronomy Department, Purdue University 2003-2008

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Purdue Agriculture 2008 TEAM Award, 2008

Entomology Educational Project Award, 2007

ACE – Association for Communication Excellence – Silver Award for the 2007 Corn and Soybean Field Guide, 2007

PUCESA Soybean Rust Team Award, 2005

ASA Educational Materials Awards Program – Certificate of Excellence for the Forage Field Guide, 2005

ACE – Gold Award for the 2005 Corn and Soybean Field Guide, 2005

ACE – Gold Award for the Forage Field Guide, 2004

ASA Educational Materials Awards Program – Certificate of Excellence for the 2004 Corn and Soybean CD Field Guide, 2004

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Since 2003, nearly 4,700 individuals, representing primarily Indiana and adjoining states, but also from the southeastern and eastern U.S., as well as from Canada, have been trained at just over 105 Diagnostic Training and Research Center (DTC) workshop sessions. Based on survey data from the past couple of years, DTC participants impact nearly 35,000,000 acres of crop land in the Midwest. From 2003 through 2008, nearly 600 presentations have been given by more than 85 different presenters.

Along with the DTC workshops, the Center has also developed two widely distributed Extension publications; the Corn and Soybean Field Guide (first published 1988) and the Forage Field Guide (first published 2004). In the last six years, nearly 191,000 Corn and Soybean Field Guides have been sold. Since the introduction of the Forage Field Guide the DTC has sold nearly 9,000 copies. The Corn and Soybean Field Guide and Forage Field Guide have been distributed across North America, from Canada to Mexico, reaching at least 20 U.S. states. We have tracked our guides to other continents as well: Africa, Europe, South America, and Australia.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: ____ / ____ **PhD:** ____ / ____ **PostDocs:** ____ / ____

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 12

Total funding received: \$220,595

Funding agencies: Ind. Crop Advisors, Royster-Clark, multi-sponsors, societies.

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 2

Refereed Journal Articles: 3

Non-refereed Papers:

Engagement publications: 8

Teaching publications:

Invited seminars, lectures and presentations: 30

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Westhoven, A. M., G. R. Kruger, C. K. Gerber, J. M. Stachler, M. M. Loux, and W. G. Johnson. 2008. Characterization of Selected Common Lambsquarters (*Chenopodium album*) Biotypes with Tolerance to Glyphosate. *Weed Science*. 56:685-691.

Ott, E. J., C. K. Gerber, D. B. Harder, C. L. Sprague, and W. G. Johnson. 2007. Prevalence and Influence of Stalk Boring Insects on Glyphosate Activity on Indiana and Michigan Giant Ragweed (*Ambrosia trifida*). *Weed Technol*. 21:526-531.

Edwards, C. R., C. K. Gerber, and G. J. Hunt. 2003. A Laboratory Study to Evaluate the Toxicity of the Mediterranean Fruit Fly, *Ceratitidis capitata*, Bait, Success 0.02 CB, to the Honey Bee, *Apis mellifera*. *Apidologie* 34: 171-180.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

The DTC's primary goal is to continually provide our clientele with relevant and unbiased information to make economically and environmentally sound crop production and management input decisions for future sustainability of crop land, which will enhance the competitive ability of Indiana crop producers and Indiana agriculture.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



RICHARD H. GRANT

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1985

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Agro-micrometeorology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1977	Duke University
M.S.	1979	Yale University
PH.D.	1982	State University of New York, Syracuse

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Chair, National Atmospheric Deposition Program (USA), 1995-1996, 2002-2003.
American Meteorological Society Comm. on Biometeorol. and Aerobiol., 1986-1988.
Editorial Board of the International Journal of Biometeorology , 1994-2004.
Chair, Agriculture, Forest, and Climate Study Group, Int. Society of Biometeorology, 1990-1999.
Chair, UVB Effects Study Group, Int. Society of Biometeorology, 1999-2002.
Centennial Cooperative Weather Station Comm. organized jointly by the National Oceanic and Atmospheric Admin. and the USDA Cooperative States Research Service, 1989-1990.
Curriculum and Student Relations Committee, College of Agriculture, 2003-2006
Executive Committee, Purdue Climate Change Research Center, 2004-present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

2001 Certificate of Excellence, Educational Materials Award, American Society of Agronomy
2004 Dean's Team Award, "Agricultural Air Quality Team", Purdue University, College of Agriculture
2007 Bronze Acorn Award, Purdue University
2007 Millionaires Club, Purdue University, College of Agriculture

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 536	Environmental Biophysics	Spring	2
AGRY 635	Micrometeorology	Spring	1
AGRY 335	Weather and Climate	Spring	30

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic advisor to all Applied Meteorology majors: currently 20 students, typically 10-12 students per year.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Assist in the development of a new graduate concentration entitled "Earth Systems Science"

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

None

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Investigated the transport and viability during transport of Asian soybean rust spores.
- Developed and currently conducting a large National-scale research project involving the measurement of gaseous emissions from animal waste lagoons and dairy corrals funded by the Animal Agriculture Industry.
- Developed capability and proven ability in conducting gas exchange research for greenhouse gases.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 1 PhD: 0 / 0 PostDocs: 2 / 4

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- UVB Monitoring and Research Program, Colorado State Univ., J. Slusser and W. Gao. Extensive collaborations in the development of research into the agricultural impact of changing solar ultraviolet radiation climate.
- Agric and Biological Engineering, Purdue University., A. Heber, J. Ni, T. Lim. Extensive collaborations in the study air emissions from animal agricultural operations.
- Geography Department, Noukchott University, Mauritania. Developing research and instruction opportunities including the development of an Honors undergraduate experience in research in the country.
- US Environmental Protection Agency, Research Triangle Park., E. Thoma. Collaboration in the development of open path tuneable diode laser technology for gaseous concentration measurements.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 18

Total funding received: \$4,463,530

Funding agencies: USDA CSREES, Animal Agriculture Industry, Mactec, Purdue Lilly Endowment

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0

Book chapters: 1

Refereed Journal Articles: 19

Non-refereed Papers: 34

Engagement publications: 0

Teaching publications: 0

Invited seminars, lectures and presentations: 4

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Grant, R.H. and W. Gao. 2003. Diffuse fraction of UV radiation under partly cloudy skies. J. Geophysical Research 108, D2, doi: 10.1029/2002JD002201

Bawhey, C.I. and R.H. Grant. 2003. Approaches to estimating soybean cultivar exposure to ambient radiation. Agric. Forest Meteorol. 120: 161-175

Grant, R.H. and G.M. Heisler. 2006. Effect of cloud cover on UVB exposure under tree canopies: will climate change affect UVB exposure? Photochem. Photobiol. 82: 487-494.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Further development of a graduate training program in Earth Systems Science.
- Continued development of gaseous emissions research area involving agriculturally-important emissions relative to regulations and global climate change.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



JOHN G. GRAVEEL

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1992

EFFORT DISTRIBUTION: 35% I, 15% R

AREA(S) OF EXPERTISE: Environmental Soil Science

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1977	Purdue University
M.S.	1979	Purdue University
PH.D.	1984	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor of Plant and Soil Science, University of Tennessee, 1984-1989
Associate Professor of Plant and Soil Science, University of Tennessee, 1989-1992
Visiting Associate Professor, Department of Soil Science, University of Florida, 1992
Associate Professor of Agronomy, Purdue University, 1992-1997
Director of the Natural Resources and Environmental Science Program, Purdue Univ., 1995-2008
Professor of Agronomy, Purdue University, 1997-present
Sabbatical, Department of Soil and Crop Science, Colorado State University, 2008
Assistant Dean, Purdue University, 2008

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

David Ross Research Fellowship recipient, Purdue University, 1982-1983
Outstanding Teacher, College of Agriculture, University of Tennessee, 1987
Gamma Sigma Delta Teaching Merit Award, University of Tennessee, 1988
Outstanding Teacher, College of Agriculture, University of Tennessee, 1990
National Alumni Outstanding Teaching Award, University of Tennessee, 1991
Outstanding Counselor, School of Agriculture, Purdue University, 1998
American Society of Agronomy, Agronomic Resident Education Award, 1998
American Society of Agronomy, Fellow, 2000
Member of the Purdue University Teaching Academy, 2000
Outstanding Teacher, School of Agriculture, Purdue University, 2000
Charles B. Murphy Outstanding Teacher Award, Purdue University, 2000
Soil Science Society of America, Education Award, 2001
Teaching for Tomorrow Award, Purdue University, 2001
Soil Science Society of America, Fellow, 2003
Book of Great Teachers, Purdue University, 2003

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 255/270	Soil Science/Forest Soils	12	170
AGRY 349	Soil Ecology	6	24
NRES 200	Environmental Careers	6	20

NRES 290	Introduction to Environmental Science	6	70
NRES 498/ AGRY	Carbon Neutrality at Purdue	1	32

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)
Advise 60 NRES and 15 Agronomy students, Environmental Science Club Faculty Advisor

TEACHING ACCOMPLISHMENTS SINCE 2002:

Co-authored with Steve Thein from Kansas State University a Laboratory Manual for Introductory Soil Science. Director of the Natural Resources and Environmental Science (NRES) program, 1995-2008. Computerization of the multimedia soils resource center using macromedia Breeze software. Employ the use of personal response devices "clickers". Developed a course entitled, "Carbon Neutrality at Purdue".

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Chair, Student Affairs Committee, Purdue University; Editor, Journal of Natural Resources and Life Sciences Education; Member of the Athletic Affairs Committee; Member of Faculty Senate; Chair, Curriculum and Student Relations Committee; CSREES Review Committee, University of Florida

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Basic and applied research program in environmental soil science and soil management with a focus on land application of biosolids.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 6 / 15 PhD: 0 / 0 PostDocs: 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

England, Wales, and The Netherlands, Maymester course, 2003
Ireland, International Programs in Agriculture, Study Abroad, 2005
Mexico Yucatan, Brigham Young University, Rich Terry, Soil sampling, 2008

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 7
Total funding received: \$101,128
Funding agencies: Purdue University, ITaP, GCSAA, Eli Lilly, USDA

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 2/4
Book chapters: 0/0
Refereed Journal Articles: 5/29
Non-refereed Papers: 9/36
Engagement publications: 14/53
Teaching publications: 9/22
Invited seminars, lectures and presentations: 3/23
Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Thein, S.J., and J.G. Graveel, 2008. Laboratory Manual for Soil Science: Agricultural & Environmental Principles. 8th edition. Kendall/Hunt Publishers, Dubuque, IA.
Graveel, J. G., and J.J. Vorst. 2007. Using alumni input as a reality check of agronomy teaching and advising. J. Nat. Resour. Life Sci. Educ. 36:76-86.
Graveel, J.G., D.D. Tyler, J.R. Jones and W.W. McFee. 2002. Crop yield and rooting as affected by fragipan depth in loess soils in the Southeast USA. Soil Tillage Res. 68:153-161.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- To improve my understanding and ability to use problem-based teaching and learning as an alternative to traditional lecture based techniques.
- Facilitate student-centered, active learning which develops critical, creative, and reflective thinking.
- Continue to incorporate the use of technology and case studies in the classroom.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



KEVIN GURNEY

RANK: Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2005

EFFORT DISTRIBUTION: 25% R

AREA(S) OF EXPERTISE: Biogeochemistry

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1986	University of California, Berkeley
M.S.	1990	Massachusetts Institute of Technology
PH.D.	2004	Colorado State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor, Department of Earth and Atmospheric Sciences and Department of Agronomy, Purdue University, Aug 2005 - present
 Associate Director, Purdue Climate Change Research Center, Purdue University, Aug 2005 - Aug 2008
 Research Scientist I, Dept. of Atmospheric Science, Colorado State University, July 1998 - Aug 2005
 Staff Research Associate, Bren School of Environmental Science and Management, University of California, Santa Barbara, April 1997 - June 1998
 Senior Scientist, Institute for Energy and Environmental Research, Sept 1992 - Jan 1997
 Research Associate, Atmospheric and Environmental Research, Inc., Feb 1992 - Sept 1992
 Research Associate, Tellus Institute, Feb 1990 - Oct 1991
 Research Assistant, National Oceanic and Atmospheric Administration, Summer 1988
 Research Intern, Environmental Sciences Division, Lawrence Livermore National Laboratory, Nov 1986 - Sept 1987
 Student Assistant, Atmospheric Aerosol Research Group, Lawrence Berkeley National Laboratory, Feb 1985 - Oct 1986

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Nobel Peace Prize, (1/2,500 international climate scientists) Al Gore/Intergovernmental Panel on Climate Change, 2007
 "Air Conservationist of the Year", Indiana Wildlife Federation, 2007
 Showalter Award, 2007
 Fellow, Purdue Envision Center, 2007 - present

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
EAS 113 / AGRY 290 / NRES 290	Introduction to Environmental Science (co-taught 50%)	Spring 2006, 2007, 2008; Fall 2008	58
EAS 591T / AGRY 598T	Principles of Terrestrial Ecosystem Ecology (co-taught 50%)	Fall 2006, 2007, 2008	9
EAS 591G	Carbon Neutrality at Purdue (team-taught 20%)	Spring 2007	31
EAS 591A	Topics in Climate Change	Fall 2008	15

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 1 PhD: 3 / 3 PostDocs: 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 4

Total funding received: \$107,426.08

Funding agencies: NASA, DOE, Showalter Foundation, Knauf, Lily Foundation, Inc., Ross Fellowship

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters:

Refereed Journal Articles:

Non-refereed Papers:

Engagement publications:

Teaching publications:


Invited seminars, lectures and presentations:

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL

	GARY C. HEATHMAN
	RANK: Soil Scientist-USDA, Adjunct Assist. Prof. Purdue
	DATE OF APPOINTMENT AT PURDUE: 2004
	EFFORT DISTRIBUTION: 100% R
AREA(S) OF EXPERTISE: Soil Physics, Hydrology, Modeling	

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1977	Texas A&M University
M.S.	1981	Texas A&M University
PH.D.	2001	University of Oklahoma

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

- 2003-2007 USDA Certificate of Merit for Superior Performance in Watershed Research
- 2002 USDA Certificate of Merit for Superior Performance in Numerical Modeling
- 1997 Collaborator of the Year Award, Natural Resources Institute, USDA

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
None			

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Research advisor for 1 PhD student (Agronomy), 1 PhD student (CE) and 1 MS (ABE) student at Purdue University.

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Location coordinator in planning, designing, and implementing successfully the collection of ground truth data required in large-scale hydrologic/remote sensing field experiments to develop and utilize remote sensing techniques in water resources research.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 2 PhD: 2 / 2 PostDocs: _____ / _____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Ft Collins, CO USDA-ARS Lajpat R. Ahuja, Liwang Ma, Jim Ascough - Modeling chemical transport and processes at the field and watershed scales.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants:

Total funding received:

Funding agencies:

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 2/2

Refereed Journal Articles: 10/25

Non-refereed Papers: 9/22

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations:

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Larose, M., Heathman, G.C., Norton, D.L., and Engle, B. Hydrologic and atrazine simulation in the cedar creek watershed using the SWAT model. *J. of Environ. Qual.* 36:521-531. 2007

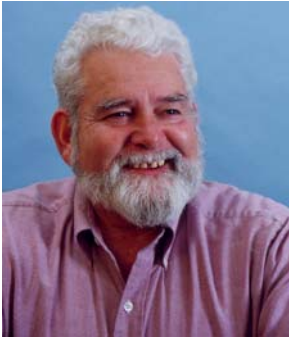
Heathman, G.C., and Larose, M., and Ascough II, J.C. SWAT model evaluation of soil and land use GIS data sets on simulated stream flow. *Journal of Soil and Water Conservation.* [Accepted 12/03/07]

Heathman, G.C., Flanagan, D.C., Larose, M., and Zuercher, B.W. Application of SWAT and AnnAGNPS in the St. Joseph River Watershed. *Journal of Soil and Water Conservation. Special Issue.* [Accepted 03/09/08].

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Conducting research to integrate remote sensing estimates of surface soil water content with other spatial data sets to estimate root zone soil water content and soil moisture availability at watershed and regional scales to more effectively manage water resources and improve crop production.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL

	THOMAS HOUSLEY
	RANK: Professor
	DATE OF APPOINTMENT AT PURDUE: 1975
	EFFORT DISTRIBUTION: 80% I, 20% R
	AREA(S) OF EXPERTISE: Plant Physiology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1964	Taylor University
M.S.	1968	University of Connecticut
PH.D.	1974	University of Georgia

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Postdoctoral Fellow, Agronomy, University of Wisconsin 1974-1975
 Assistant Professor, Crop Physiology, Agronomy, Purdue University 1976-1982
 Associate Professor, Crop Physiology, Agronomy, Purdue University 1983-1991
 Professor, Crop Physiology, Agronomy, Purdue University 1992-present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

David C Pfendler Agriculture Outstanding Counselor Award, 1997
 Selected Chair SS-ASA Student Manuscript Committee, 1998
 Selected as a member of Gamma Sigma Delta Honor Society
 Selected Chair ASA-AC424, Crops Judging Committee 1999
 Awarded Outstanding, Scientist Educator and Mentor, 2001, Future Black Scientist of America
 Treasurer Gamma Sigma Delta Honor Society 2001-2003
 Vice President Coaches Committee Collegiate Crops Judging Contest 2003
 Chosen for Agronomy Service to Students Award
 President Coaches Committee Collegiate Crops Judging Contest 2004.
 President Elect Gamma Sigma Delta 2004-2005
 Crop Science Society of America 2007 National Teacher of the Year
 American Society of Agronomy 2007 Resident Educator of the Year

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 105	Introduction to Crop Production	3	45
AGRY/BTNY 204	Crop and Weed Identification	~12-15	15
AGRY 285	World Crop Adaptation and Distribution	~15	75
AGRY 305	Seed Analysis and Grain Grading	~12-15	6
AGRY 398	Sophomore Seminar	~5	40

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Agronomy Club Advisor 1992-2008

Academic Undergraduate Advisor 1992-2008

TEACHING ACCOMPLISHMENTS SINCE 2002:

Increased class attendance by revising materials in AGRY 285, AGRY 204, AGRY 305, Crop Science Society of America 2007 National Teacher of the Year, American Society of Agronomy 2007 Resident Educator of the Year

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Increased visibility of Purdue Agronomy to High School Ag teachers by preparing State FFA Agronomy Exam, proofing County Identification Kits, and aiding High Schools in beginning Crops Teams.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

We have developed resistance in sorghum and maize to the parasitic weed *Striga*. We have discovered the fructan genes which are first turned on in wheat when subjected to cold.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 0 PhD: 0 / 1 PostDocs: 0 / 0

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

Purdue Joe Anderson, Herb Ohm, Steve Scofield, Nick Carpita

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 0

Total funding received: \$0

Funding agencies: 0

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0

Book chapters: 0/4

Refereed Journal Articles: 2/42

Non-refereed Papers: 0/11

Engagement publications: 0

Teaching publications: 0

Invited seminars, lectures and presentations: 0/6

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Idris O.A., P.J. Rich. A. Menkir, T. Housley, and G. Ejeta. 2008. Resistance to *Striga hermonthica* in a maize inbred line derived from *Zea diploperennis*. *New Phytol.* 178:157-166.

Mohamed, A. A. Ellicott, T. L. Housley, G. Ejeta. 2003. Hypersensitive response to *Striga* parasitism in Sorghum. *Crop Science* 43:1320-1324

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- I hope to introduce a new program leading to certification as a seed technologist.
- I want to improve the utilization of wheat straw for the biofuel or the food industry by manipulating the genes of fructan synthesis and degradation.
- I want to help High Schools adopt Crops Judging as a part of the Agriculture curriculum.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



CHI-HUA HUANG

RANK: Adjunct Professor

DATE OF APPOINTMENT AT PURDUE: 1998

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Soil Erosion, Soil Water Conservation

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1973	National Chung-Hsing University TAIWAN
M.S.	1977	Washington State University
PH.D.	1982	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Post-Doctoral Research Associate, Univ. of Arizona. Tucson, AZ., 1982-1984.

Research Scientist, CSIRO, Canberra, Australia, 1984-1987.

Soil Scientist and Project Leader, Purdue Univ., West Lafayette, IN. 1988-1998.

Soil Scientist, USDA-ARS National Soil Erosion Research Lab, West Lafayette, IN, 1998-present,

Adjunct Professor, Purdue Univ., West Lafayette, IN, 1998-present.

Research Leader, USDA-ARS National Soil Erosion Research Lab, West Lafayette, IN, 2004-present.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Best Paper Award, International Symposium on Soil Crusting: Chemical and Processes. University of Georgia, Athens, GA. 1991.

Special Achievement Award for team effort in developing the crop residue meter. USDA-ARS-Natural Resources Institute, Beltsville, MD, 1993.

Editor's Citation in Excellence in Manuscript Review, Soil Science Society of America, 1994 and 1995.

Outstanding Reviewer for the Soil and Water Division, American Society of Agricultural Engineers, 1996 and 1998.

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Quantified how soil surface roughness affects runoff and sediment production.
- Quantified effects of atesian seepage on soil erodibility and chemical transport to runoff water.
- Developed a reactor to quantify the soil redox effects on aggregate stability and soil solution chemistry.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 1 PhD: 1 / 2 PostDocs: 0 / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- USDA-ARS National Sedimentation Lab, Oxford, MS. Drs. Glenn Wilson and Matt Romkens. Quantify subsurface hydrology and how it affects soil erosion and ephemeral gully development.
- Institute of Soil and Water Conservation, Yangling, CHINA. Prof. Rui Li. Cooperative research on soil erosion, gully development and conservation practices at steep loess slopes.
- Beijing Normal University, CHINA. Prof. Baoyuan Liu. Develop a research program to quantify soil degradation and gully erosion at the Chinese Northeast Black Soil Region.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants:

Total funding received:

Funding agencies:

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 0/6

Refereed Journal Articles: 17/42

Non-refereed Papers: 7/20

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 12/28

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- Zheng, F., C. Huang, and L.D. Norton. 2004. Effects of near-surface hydraulic gradients on nitrate and phosphorus losses in surface runoff, *Journal of Environmental Quality*. 33:2174-2182.
- Darboux, F., and C. Huang. 2005. Does soil surface roughness increase or decrease water and particle transport? *Soil Sci. Soc. Am. Journal*. 69(3): 748-756.
- De Campos, A.B., A. Mamedov, and C. Huang. 2008. Short term reducing condition decreases soil aggregation. *Soil Science Society of America Journal* (In press).

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Research: Complete the quantification of soil surface boundary effects on soil erodibility and chemical transport and to develop process-based soil erodibility parameter and chemical loading function to be used in assessing soil erosion and water quality.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



KAREN A. HUDSON (NEE KACZOROWSKI)

RANK: Adjunct Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2007

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Plant Genetics, Molecular Biology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1997	University of Maryland, Baltimore County
M.S.		
PH.D.	2004	University of California, Berkeley

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Research Molecular Biologist, USDA-ARS Crop Production and Pest Control Research Unit, West Lafayette, IN, 2007-present
Postdoctoral Fellow, University of Illinois, Urbana-Champaign, 2006-2007
Post Doctoral Fellow, University of Chicago, 2004-2006

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

My PhD thesis research investigated the study of how Arabidopsis seedlings respond to light. My project involved a genetic screen to isolate new components of phytochrome signal transduction. I identified two mutants that contained lesions in the PSEUDO-RESPONSE REGULATOR7 (PRR7) gene, a member of the TOC1/PRR1 gene family. Genes in this family are implicated in the function of the plant circadian clock. I showed that initial light-induced expression of the central circadian oscillator component transcripts CCA1 and LHY are altered during early stages of seedling de-etiolation in prr7 mutants, and the phase of expression of clock transcripts is advanced in prr7 plants entrained to light-dark cycles. This indicated that PRR7 had a role in the initiation of the circadian oscillator. I worked in collaboration with other members of the laboratory to examine circadian-clock controlled gene expression in other mutants impaired in photomorphogenesis.

For my first postdoctoral training period, my work was on epigenetics and gene expression in Arabidopsis centromeres, specifically the role of DNA methylation on gene expression. For my second postdoctoral training period my work was focused on generation of markers for genetic mapping of a major locus conferring resistance to soybean aphid. I streamlined methods for preparation and labelling of soybean genomic DNA for microarray hybridization which allowed the use of an expression microarray to discover sequence polymorphisms linked to the aphid resistance gene. This allowed us to narrow the map interval and get closer to identification of the Rag1 gene responsible for aphid resistance.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 0 **PhD:** 0 / 0 **PostDocs:** 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 0
Total funding received:
Funding agencies:

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0
Book chapters: 0/0
Refereed Journal Articles: 3/3
Non-refereed Papers: 0/0
Engagement publications: 0/0
Teaching publications: 0/0
Invited seminars, lectures and presentations: 2/2
Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- Kaczorowski, K., Kim, K.S., Diers, B.W., and Hudson, M.E. 2008. Microarray-based genetic mapping using soybean Near-Isogenic Lines and generation of SNP markers in the Rag1 aphid resistance interval. *The Plant Genome*. (in press).
- Monte, E., Tepperman, J.M., Al-Sady, B. Kaczorowski, K., Alonso, J.M., Ecker, J.R., Li, X., Zhang, Y., and Quail, P.H. 2004. The phytochrome-interacting factor, PIF3, acts early, selectively, and positively in light-induced chloroplast development. *PNAS* 101:16091-16098.
- Kaczorowski, Karen and Quail, P.H. 2003. Arabidopsis PSEUDO-RESPONSE REGULATOR7 (PRR7) is a signaling intermediate in phytochrome-mediated seedling de-etiolation and phasing of the circadian clock. *Plant Cell* 15, 2654-2665.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

For the next 5 years I will focus on establishing a research program in soybean genetics and genomics that applies knowledge from model plant systems to soybean improvement, especially in the areas of seed composition and the dynamics of seed filling. My research program has two distinct components. The first is to develop and maintain a soybean TILLInG (Targeting Induced Local Lesions in Genomes) population, which I hope to make available as a functional genomics resource to the soybean research community. My interests in soybean molecular genetics include the control of gene expression during seed development and as plants respond to environmental signals, especially light and photoperiod.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



SCOTT A. JACKSON

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 2001

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Soybean and rice genetics/genomics and cytogenetics

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1994	Bob Jones University
M.S.	1996	Univ. of Wisconsin-Madison
PH.D.	1999	Univ. of Wisconsin-Madison

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor, Purdue University, 2008-present
Visiting Faculty, University of Perpignan, Perpignan France, 2008
Review and Advisory Panel, Generation Challenge Program, Mexico, 2008-present
Chair, International Soybean Genome Consortium, 2006-2008
Soybean Genetics Executive Committee, 2006-present
Assoc. Professor, Purdue University, 2005-2008
Assist. Professor, Purdue University, 2001-2005
Research Associate, University of Minnesota, 1999-2001
Research Assistant, University of Wisconsin-Madison, 1994-1999

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Wickersham Chair of Excellence in Agricultural Research, 2005-present
University Faculty Scholar, Purdue University, 2008-present

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
572	Molecular Cytogenetics	3	
573	Molecular Cytogenetics Lab	3	
600	Genomics	2	
480	Plant Genetics	3	
530	Advanced Plant Genetics	1	

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Development of curricula for Cytogenetics, Genomics and Plant Genetics courses.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002: NA

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Worked extensively on the sequencing and now analyses of the soybean genome.
- Developed tools to accelerate genetics in *Phaseolus vulgaris* (common bean)--physical map with associated DNA sequences for marker development and eventual sequencing.

- Worked with an international group to develop a set of wild rice stocks to understand genome evolution and domestication in rice.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 1 PhD: 4 / 6 PostDocs: 4 / 9

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

- International Rice Research Institute (IRRI), Los Baños, The Philippines. With Drs. H. Leung and D. Brar. Establishing a set of rice lines to be used for comparative and evolutionary studies.
- Iowa State University, Department of Agronomy, USDA-ARS, Ames, IA. With Dr. R. Shoemaker. Defining the gene space of soybean utilizing a variety of molecular and bioinformatics approaches.
- National Institutes of Health, Bethesda, MD. With Dr. E. Green. Development, evaluation and streamlining of bioinformatics tools to integrate related genomes to a sequenced genome.
- National Institute of Genetics, Japan and Trinity College Dublin, Ireland, Arizona Genome Institute and Shanghai Genomics Institute. We are analyzing genome evolution in the Genus *Oryza*.
- USAID Challenge program with the International Rice Research Institute, Drs. D. Brar and D. Mackill. Cloning and sequencing introgressed segments from wild rice genomes into cultivated rice.
- International Soybean Genome Initiative (USA, China, Japan, Korea, EU, Australia). Organization for sequencing and subsequent characterization of the soybean genome.
- Seoul National Univ. (Korea.) Dr. Chang-Hyu Bae. Visiting scientist from Korea, worked on effects of radiation on chromosome structure in lily populations.
- University of Perpignan, France. Dr. Olivier Panaud on genome evolution in the *Oryzaeae*.
- Seoul National University, Seoul Korea. Dr. SuKha Lee on sequencing of the soybean genome and marker development.
- Universidad Nacional Autonomous of Mexico. Cuernavaca, Mexico. Dr. Frederico Sanches and Georgina Hernandez on sequencing of *Phaseolus vulgaris*.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 20

Total funding received: \$18 Million

Funding agencies: 6

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0

Book chapters: 10

Refereed Journal Articles: 20

Non-refereed Papers: 2

Engagement publications: 0

Teaching publications: 1

Invited seminars, lectures and presentations: 52

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Walling, J.G., R. Shoemaker, N.D. Young, J. Mudge and S.A. Jackson. 2006. Intragenomic, chromosome level homeology in paleopolyploid soybean (*Glycine max*) revealed through integration of genetic and chromosome maps. *Genetics* 172: 1893-1900.

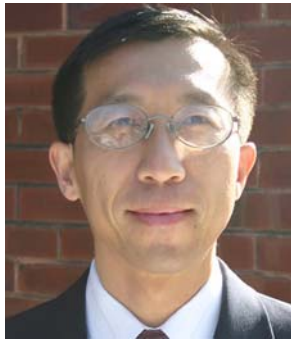
Ma, J and S.A. Jackson. 2006. Retrotransposon accumulation and satellite amplification mediated by segmental duplication facilitate centromere expansion in rice. *Genome Res.* 16: 251-259.

Lin, J-Y., B. Hass-Jacobus, P. SanMiguel, J.G. Walling†, Y. Yuan, J. Doyle, R.C. Shoemaker, N.D. Young and S.A. Jackson. 2005. Molecular and cytogenetic characterization of gene-poor, heterochromatic regions of *Glycine max* L. Merr. *Genetics* 170: 1221-1230.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Research goals: comprehensive analysis of paleopolyploidy in soybean using *Phaseolus* as a reference diploid; development of full cytogenetics maps for all *Oryza* species; sequencing of the common bean genome and development of markers for plant improvement.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



YIWEI JIANG

RANK: Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2005

EFFORT DISTRIBUTION: 25% I, 75% R

AREA(S) OF EXPERTISE: Turfgrass Stress Physiology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1989	Inner Mongolia Agricultural University of China
M.S.	1992	Shenyang Agricultural University of China
PH.D.	2001	Kansas State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor, Department of Agronomy, Purdue University, since 2005
Research Associate, Beijing Vegetable Research Center, 1992-1997.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Graduate Presentation Award, 2nd place poster. C-5 section, Crop Science Society of America, Salt Lake City, UT. 1999.
Mentor for Master's Student Research Award in Agronomy Department, Purdue University. 2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY696	Agronomy Graduate Research Seminar	1	13
AGRY598A	Environmental Stress Management for Turfgrass	3	7
AGRY598B	Plant Ecophysiology	2	7

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic advisor for 12 turf Science majors; supervisor for an Agricultural Undergraduate Research Scholar

TEACHING ACCOMPLISHMENTS SINCE 2002:

Developed and teaches two new courses: AGRY 598A and AGRY 598B. The courses fill a gap in the current curriculum in the department and college and are well-received.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Actively involved in education-related activities at different levels. The number of professional attendees at Dr. Jiang's seminar is more than 400.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Dr. Jiang's research interests focus on environmental stress physiology of perennial grasses. Cool-and warm-season perennial grasses are among the most economically important species. He has published 11 refereed scientific articles in top agricultural journals since 2002. Research results would benefit grass sustainable production in enhancing stress tolerance and water conservation.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 2 **PhD:** _____ / _____ **PostDocs:** _____ / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Guihua Bai, USDA-ARS, Kansas (Association mapping of drought tolerance in turfgrass)
Scott Warnke, USDA-ARS, Maryland (Association mapping of drought tolerance in turfgrass)
Eric Watkins, University of Minnesota (Drought tolerance of prairie junegrass)
Jianming Yu, Kansas State University (Association mapping of drought tolerance in turfgrass)

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 5

Total funding received: \$156,999

Funding agencies: United State Golf Association, The TORO Company, The O.J. Noer Research Foundation, The Midwest Regional Turfgrass Foundation, Indiana Golf Course Superintendents Association.

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 2/3

Refereed Journal Articles: 12/17

Non-refereed Papers: 1/1

Engagement publications: 6/8

Teaching publications:

Invited seminars, lectures and presentations: 22/27

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Wang, K., S. Bian, and Y. Jiang. 2009. Anaerobic metabolism of roots in Kentucky bluegrass in response to short-term waterlogging alone and in combination with high temperatures. *Plant and Soil* (DOI 314:221-229).

Wang, K. and Y. Jiang. 2007. Antioxidant responses of creeping bentgrass roots to waterlogging. *Crop Science*, 47: 232-238.

Jiang, Y. and R.N. Carrow. 2007. Broadband spectral reflectance models of turfgrass species and cultivars to drought stress. *Crop Science*, 47: 1161-1618.

Jiang, Y. and K. Wang. 2006. Growth, physiological and anatomical responses of creeping bentgrass cultivars to different depths of waterlogging. *Crop Science*, 46: 2420- 2426.

Jiang, Y., R.R. Duncan, and R.N. Carrow. 2004. Assessment of low light tolerance of seashore paspalum and bermudagrass. *Crop Science*, 44: 587-595.

Jiang, Y. and B. Huang. 2002. Protein alterations in tall fescue in response to water stress and abscisic acid. *Crop Science*, 42: 202-208.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

The long-term goal of Dr. Jiang's research program is to explore and understand the mechanisms of stress tolerance in perennial grasses using physiological combined with molecular and genetic approaches. The goal of Dr. Jiang's teaching is to create an active learning environment for students.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



BRAD JOERN

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1991

EFFORT DISTRIBUTION: 15% I, 30% R, 55% E

AREA(S) OF EXPERTISE: Soil Chemistry and Nutrient Management Planning

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1984	University of Wisconsin-River Falls
M.S.	1987	Lousiana State University
PH.D.	1991	Michigan State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor, 2001-present, Purdue University, West Lafayette, IN
Associate Professor, 1996-2001, Purdue University, West Lafayette, IN
Assistant Professor, 1991-1996, Purdue University, West Lafayette, IN

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

U.S.D.A. Technology Transfer Award: Phosphorus Indexing Research Group, 2003.
U.S.D.A. Secretaries Group Honor Award: Phosphorus Indexing Research Group, 2003.
Purdue University Cooperative Extension Specialists Association Team Award: Indiana's Revised Animal Waste Management Regulations, 2002.
Outstanding Teacher, Department of Agronomy, Purdue University, 2000.
Experiment Station Committee on Organization and Policy (ESCOP) Leadership Development Program Fellow, 1999 - 2000.
Outstanding Teacher, Department of Agronomy, Purdue University, 1998.
Editor's Citation for Excellence in Manuscript Review, Journal of Environmental Quality, 1996.
Purdue University Cooperative Extension Service Team Award: Indiana's Animal Waste Management Regulations, 1993.

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 365	Soil Fertility	Every Spring	45

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)
N/A

TEACHING ACCOMPLISHMENTS SINCE 2002:

- Consistently high teaching evaluations
- All course materials on the Web
- Integration of Classroom Performance System (CPS) clickers into course lectures
- Revised wet laboratory procedures
- Nutrient management project introduced to laboratory

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Manure management planner (MMP) software was adopted by USDA-NRCS nationally for writing comprehensive nutrient management plans (CNMPs). MMP is specifically mentioned in the 2008 revised USEPA CAFO rule as a preferred tool for writing NMPs that meet USEPA regulatory requirements. Developed the EPA NMP and USDA-NRCS CNMP templates.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Demonstrated that sorption of inorganic P and various organic P forms are site specific and competitive in both soils and soil minerals. Developed HPLC method for routine analysis of inorganic and organic P compounds.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 6 PhD: 3 / 5 PostDocs: 0 / 0

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

USDA-ARS, Department of Agronomy, West Lafayette, IN Laura Bowling, Jim Camberato, Bob Nielsen, Phillip Owens, Doug Smith and George Van Scoyoc. We work collaboratively on nitrogen, phosphorus and potassium chemistry in soils, manure, and stream sediments.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 13

Total funding received: \$1,860,000

Funding agencies: USDA-NRCS, USEPA, NASA

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 4/5

Refereed Journal Articles: 14/31

Non-refereed Papers: 13/37

Engagement publications: 5/22

Teaching publications: 0/0

Invited seminars, lectures and presentations: 15/38

Patents/Copyrights: Software: 17/30

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Berg, A.S., and B.C. Joern. 2006. Sorption dynamics of organic and inorganic phosphorus compounds in soil. *J. Environ. Qual.* 35:1855-1862.

Hess, P., B. Eisenhauer, and B. Joern. 2006. Challenges to using and implementing phosphorus indexes in nutrient management planning: an MMP Perspective. pp. 333-349. In D.E. Radcliffe and M.L. Cabrera (ed.) *Modeling Phosphorus in the Environment*. CRC Press. Boca Raton, FL, USA.

Winzeler, H. Edwin, P.R. Owens, B.C. Joern, J.J. Camberato, B.D. Lee, D.E. Anderson, and D.R. Smith. 2008. Potassium fertility and terrain attributes in a Fragiudalf drainage catena. *Soil Sci. Soc. Am. J.* 72:1311-1320.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Teaching: Develop course in nutrient management planning and policy, Rewrite Soil Fertility Textbook (Foth and Ellis) and continue teaching AGRY 365.
- Research: Quantify soil and fertilizer N contributions to corn based on soil, climate and management. Assess nitrogen, phosphorus and potassium interactions in soils and couple pedology to nutrient management.
- Engagement: Continue improving nutrient management planning process with MMP and a GIS front end. Develop tactical planning and recordkeeping software.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



KEITH D. JOHNSON

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1981

EFFORT DISTRIBUTION: 5% I, 15% R, 80% E

AREA(S) OF EXPERTISE: Forage Production and Utilization

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1976	University of Nebraska-Lincoln
M.S.	1979	Purdue University
PH.D.	1981	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Teaching Assistant, Grad. Instructor and/or Research Asst., Purdue Univ. Agronomy Dept. 1976 – 1981
Assistant Professor of Agronomy, Purdue University, 1981 - 1986
Associate Professor of Agronomy, Purdue University, 1986 - 1990
Professor of Agronomy, Purdue University 1990 - present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Junior Award Recipient, Purdue University Cooperative Extension Specialists Assoc., 1986
Featured Scientist in Council for Agricultural Science and Technology magazine "Science of Food and Agriculture", March 1988 issue.
Friend of the Beef Cattle Industry, Indiana Beef Cattle Association, 1988
Superior Service Award, United States Department of Agriculture, 1989
Maurice E. Heath Award, Indiana Forage Council, 1989
\$500 Travel Grant to International Grassland Congress, American Forage and Grassland Foundation
Merit Certificate, American Forage and Grassland Council, 1990
American Forage and Grassland Council Director, 1989-1992
Sharvelle Award Winner, presented to mid-career Purdue University Extension Specialist, 1995
Certificate of Excellence, 1998 Educational Materials Contest, American Society of Agronomy for Internet Web Sites, "Purdue Forage Information"
Epsilon Sigma Phi/Alpha Lambda Chapter, Visionary Leadership Award, 2004
Epsilon Sigma Phi/Alpha Lambda Chapter, Distinguished Service Award, 2006
Purdue Agriculture TEAM Award, 2008

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 597	Communicating with the Public	3	8
AGRY 105	Crop Production	2	40

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Improved course content and expectations associated with AGRY 597. Guest lectured in Agronomy, Animal Sciences and Veterinary Clinical Sciences classes. Interacted with Computer Graphic Technology

students in the animation of four educational stories for children and the creation of a computer-based hay listing service.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Developed and released a multi-authored "Forage Field Guide." Co-authored a management-intensive grazing publication. Offered a forage management training day at the Purdue University Crop Diagnostic Training and Research Center. Hosted an annual Purdue Forage Day that is complete with educational topics and forage harvest demonstrations. Served as a committee member that developed a multi-association sponsored Indiana Cattle-Forage Symposium. Evaluated forage cultivars of many forage species.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Part of a team effort to document the value of rotational stocking with many paddocks as compared to two paddocks. Development of collaborations with faculty members with an interest in cellulosic biofuels. Documented that harvesting alfalfa six times in a growing season like many large dairies utilize is detrimental to annual yield as compared to a four-harvest system. Better understand the value of potato leafhopper resistant alfalfa as compared to insecticide use on susceptible cultivars.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 2 PhD: 0 / 0 PostDocs: 0 / 0 Served on two MS and 2 PhD committees

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

NRCS Grazing Specialists, Susannah Hinds, Jerry Perkins, Victor Shelton and Robert Zupancic
Through effective collaboration, developed a detailed publication on management-intensive grazing.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: Associated as a investigator/co-investigator on 4 research projects

Total funding received: \$67,150

Funding agencies: Rice Family Farm Estate, Monsanto, numerous seed companies, Bayer CropScience

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Refereed Journal Articles: 4

Non-refereed Papers: 10

Engagement publications: 3 peer reviewed

Invited seminars, lectures and presentations: 40

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Purdue Extension Forage Field Guide. 2004. ID-317. Purdue University Cooperative Extension Service. 259 pp.

Berg W.K, S.M. Cunningham, S.M. Brouder, B.C. Joern, K.D. Johnson, J.B. Santini; and J.J. Volenec. 2007. The long term impact of phosphorus and potassium fertilization on alfalfa yield and yield components. Crop Sci. 47:1-12.

Management-intensive grazing in Indiana. 2007. AY-328. Purdue University Cooperative Extension Service. 59 pp.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Teaching: Be a resource person when forage expertise is needed in the classroom and field laboratory settings. Increase enrollment in AGRY 597, "Communicating with the Public," by 50 percent. Encourage peer-reviewed Extension publication development in AGRY 597.
- Extension: Enhance distance learning opportunities in forages. Prepare and assimilate reference materials for use by Purdue Extension Educators and their clientele. Provide hands-on and workshop training opportunities to help make knowledge-based decisions regarding forage crop management.
- Research: Develop active collaboration with researchers with an interest in forages, but lack field expertise. Advance knowledge regarding cellulosic biomass production systems. Determine cost-effectiveness of doublecrop forage crops.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



CLIFF T. JOHNSTON

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1993

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Environmental Soil Chemistry

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1979	University of California, Riverside
M.S.		
PH.D.	1983	University of California, Riverside

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Los Alamos National Laboratory, Postdoctoral Fellow (1983 – 1985)
 University of Florida, Soil and Water Science Dept. Asst.-Assoc Professor (1985 – 1993)
 Los Alamos National Laboratory, Sabbatical Fellow (1991)
 Katholieke Universiteit Leuven, Belgium, Sabbatical (1992 and 2002)
 Purdue University, Department of Agronomy, Assoc. Professor - Professor (1993 – present)

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

1997 Councilor for the Clay Minerals Society (1997 – 2000)
 1999 General Chair for the 1999 Clay Minerals Society Meetings
 2001 ESCOP Leadership Development Program Fellow (Class 10)
 2001 Marion L. and Chrystie M. Jackson Mid-Career Award of The Clay Minerals Society
 2002 Election to Fellow, Soil Science Society of America
 2002 Recipient of the Marion L. and Chrystie M. Jackson Mid-Career Soil Science Award
 2004 2004 George Brown Lecturer– Clay Minerals Groups of the Mineralogical Society (London)
 2005-6 President of The Clay Minerals Society (Vice President 2004-5, Past President 2006-7)
 2006-7 Executive Committee for Elements – An international magazine of mineralogy, geochemistry, and petrology
 2006- Member of Editorial Board for Geochemical Transactions
 2007 Awarded a Fulbright Senior Specialist Grant – Brazil

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY540	Soil Chemistry	Every year, Spring	8-12
AGRY460	Contemporary Issues in Agriculture (with Vorst)	Spring 2006, 2007	30
AGRY598T	Terrestria Biogeochemistry (with Filley EAS)	Spring 2008	13
AG 490	Concepts in Nanotechnology	Spring 2006	12

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic advisor to 6 NRES students, Faculty Advisor for Graduate Interservice Christian Fellowship (student organization), Chair, Agronomy Awards Committee, Char, College Awards Committee, Member of Division of Recreational Sports advisory committee, Mentor to at least one undergraduate research student each year

TEACHING ACCOMPLISHMENTS SINCE 2002:

Significant revision to AGRY 540 - Soil Chemistry; Developed two new courses: AG 490 - Introduction to nanotechnology and AGRY 598T Terrestrial Biogeochemistry

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

- Served as president of The Clay Minerals Society
- Organized joint meeting of The Clay Minerals Society and French Clay Group in France
- Awarded Fulbright Senior Specialist Grant - Brazil 2008

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Published 50 refereed journal articles and book chapters
- Advised 6 students and 2 postdocs
- Journal articles featured on the cover of the Journal of Physical Chemistry
- Currently have extramural research support from NSF, NIH, USDA-NRI and the McKnight Foundation

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 2 PhD: 2 / 4 PostDocs: 1 / 4

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

Active research collaborations with Japan, Australia, Hungary, Belgium, Brazil and Spain; Recently funded European Union Project with Spain; Developing active collaboration with Brazil - recently funded Fulbright Scholar; Active collaboration with the National Soil Erosion Laboratory; Member of interdisciplinary research team with Michigan State University. Currently funded by 5th USDA NRI project and current NIEHS (NIH) project; Member of the Purdue Climate Change Research Center

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: USDA-NRI (4), NSF (2), EPA 1, NIH 1, McKnight (1)

Total funding received: \$1,120,287.00

Funding agencies: USDA-NRI (4), NSF (2), EPA 1, NIH 1, McKnight (1)

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Book chapters: 6

Refereed Journal Articles: 44

Teaching publications: 1

Invited seminars, lectures and presentations: 28

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

R.H.A. Ras, C.T. Johnston, R.A. Schoonheydt. Relation between s-polarized and p-polarized internal reflection spectra: Application for the spectral resolution of perpendicular vibrational modes. J. Phys. Chem. A, 111 (36) 8787-8791 (2007) (featured on cover)

Johnston, C.T.; Boyd, S.A.; Teppen, B.J.; Sheng G., Sorption of Nitroaromatic Compounds on Clay Surfaces. in Handbook of Layered Materials for Catalytic Applications, S. M. Auerbach, K. A. Carrado, P. K. Dutta, Eds.; Marcel-Dekker: NY, pp. 155-189 (2004). (representative of collaboration with Michigan State University)

Johnston, C.T.; and Tombacz, E. Surface Chemistry of Soil Minerals. Chapter 2 in "Soil Mineralogy with Environmental Applications" J. Dixon and D. Schulze (eds.) pp. 37-68. (2002). (teaching related)

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Maintain and sustain extramurally-funded research program focused on understanding the surface chemistry of soil and environmental particles in the broader context of biosphere science.
- Continue to train graduate students, postdocs, and visiting scientists.
- Take a sabbatical with the next two years.
- Develop new research initiatives in biosphere science dealing with greenhouse gas emissions from soils and role of macro-invertebrates in soils.
- Develop a new course entitled 'Soils at Risk'

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



EILEEN J. KLADIVKO

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1982

EFFORT DISTRIBUTION: 25% I, 60% R, 15% E

AREA(S) OF EXPERTISE: Soil physics and management, water quality

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1975	Purdue University
M.S.	1977	Purdue University
PH.D.	1982	University of Wisconsin

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor (1994-present), Assoc.Prof.(1988-94), Assistant Prof.(1982-88), Agronomy Dept, Purdue Univ. Visiting Scientist (sabbatical): ARS National Soil Tilth Lab, Ames, Iowa (2003); CSIRO Land and Water, Canberra, Australia (2003); Agricultural Universities in Krakow, Warsaw, and Poznan, Poland, and Godollo, Hungary (1995-96); Univ. of California-Riverside (1988-89).

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Fellow, Soil Science Society of America, 2003
ESCOP/ACOP Fellow, (Leadership Development Program), 1993-94

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
Agry 465	Soil Physical Properties	Fall every year	16
Agry 560	Soil Physics	Fall every year	12
Agry 696	Graduate Seminar	Spring 2005	5
NRES 200	Environmental Science Seminar	Spring 2008	24

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Member of faculty committee working with Agronomy Ambassadors (undergraduate students)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Additional group problem-solving exercises have been included in both the undergraduate and graduate courses. More turf-related examples and a new lab exercise have been incorporated into the undergraduate course. Students in both courses learn standard methods for measurement of soil physical properties, which many will use in their future work.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Drainage, crop yield, and water quality: a website (<http://www.agry.purdue.edu/drainage/>) was developed about the long-term drainage research project in southeastern Indiana, and more of the long-term results will be added in the next year. The results have also been disseminated more widely through extension meetings throughout the state. Cover crops: I am one of the founding members of a new regional group

to facilitate cover crop research and adoption within the midwest (www.mccc.msu.edu), and have given numerous extension talks within the past year on cover crops.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Key results from the long-term drainage/water quality research study were published and have been presented at numerous scientific meetings. The data on nitrate loads from different drainage intensities are having an impact on discussions of how to better design drainage systems to meet both agronomic/economic and environmental goals.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 2 **PhD:** 0 / 2 **PostDocs:** 0 / 0

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

- ARS-National Soil Tilth Lab, Dan Jaynes, collaboration on drainage and water quality research.
- Collaborators in Iowa, Minnesota, Illinois, Ohio, North Carolina, for research and extension work on drainage water management systems for water quality and crop yield.
- Collaborators in North Central Region, for cover crop research and extension work.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 9

Total funding received: \$380,000

Funding agencies: USDA-CSREES; USDA-NRCS; Consortium for Agricultural Soil Mitigation of Greenhouse Gases; Pheasants Forever; Oregon Ryegrass Growers Seed Commission; Regional Water Quality Leadership Team for North Central States

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: none

Book chapters: 1/7

Refereed Journal Articles: 11/43

Non-refereed Papers: 11/35

Engagement publications: 3/5

Teaching publications: none

Invited seminars, lectures and presentations: 5/25

Patents/Copyrights: none

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Kladivko, E.J., J.R. Frankenberger, D.B. Jaynes, D.W. Meek, B.J. Jenkinson, and N.R. Fausey. 2004. Nitrate leaching to subsurface drains as affected by drain spacing and changes in crop production system. *J. Environ. Qual.* 33:1803-1813.

Kladivko, E.J., G.L. Willoughby, and J.B. Santini. 2005. Corn growth and yield response to subsurface drain spacing on Clermont silt loam soil. *Agron. J.* 97:1419-1428.

Kung, K.-J.S., E.J. Kladivko, C.S. Helling, T.J. Gish, T.S. Steenhuis, and D.B. Jaynes. 2006. Quantifying the pore size spectrum of macropore-type preferential pathways under transient flow. *Vadose Zone J.* 5:978-989.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Research: Publish more of the long-term data from the drainage research study, and put it into an annotated archival system that would be available for other researchers to use.
- Extension: Develop a cover crops curriculum for county extension and state agency staff, in collaboration with NRCS and colleagues within Purdue and in the Midwest Cover Crops Council.
- Teaching: Incorporate additional group problem-solving exercises into the courses.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



BRAD D. LEE

RANK: Associate Professor

DATE OF APPOINTMENT AT PURDUE: 2001

EFFORT DISTRIBUTION: 5% I, 30% R, 65% E

AREA(S) OF EXPERTISE: Pedology, Soils and Land Use

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1992	Oklahoma State University
M.S.	1994	Oklahoma State University
PH.D.	1999	University of California, Riverside

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Associate Editor, Soil Science Society of America, 2007 - 2010
President, Indiana Association of Professional Soil Classifiers, 2007 - 2008
Chair, Land based wastewater management workgroup - Soil Science Society of America, 2007-2008
Chair, Soil micromorphology committee S884, Soil Science Society of America, 2007-2008
Committee member, Indiana State Dept. of Health onsite wastewater plan implementation workgroup, 2006-2008
Invited Participant, Indiana State Department of Health Onsite Wastewater Strategy Taskforce, 2005
Chair, Indiana Onsite Wastewater Professionals Assoc. Wastewater Management Committee, 2002 - present
Committee member, Purdue University School of Agriculture Grade Appeals Committee, 2002 - 2005

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Dean's Team Award, Purdue University College of Agriculture, 2002
President's Commendation, Indiana Environmental Health Association, 2004

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
399V	Soils and Septic Systems	2	7

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

- Developed new course, Soils and Septic Systems
- Published (peer-reviewed) land use exercise

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

- Established the Home and Environment Extension bulletin series (16 bulletins, over 200,000 downloads)
- Developed a statewide voluntary certification program for septic system professionals
- Testified before state legislature and state Environmental Services Council about 2 septic system bills
- Developed 2 white papers for state legislature concerning state septic system program and impacts on water quality

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Compared state code septic system loading rates to actual field measured soil hydraulic conductivity rates in northeastern Indiana. Results indicate that state code septic system designs will fail in most northeastern Indiana soils. Work presented to Indiana State Department of Health, the regulatory agency responsible for developing and revising state septic system code.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 4 / 4 PhD: 1 / 1 PostDocs: _____ / _____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- University of Carbondale, Samuel J. Indorante, Evolution of a Loessial Soil Landscape, Southern Illinois, USA.
- University of Alberta, Sylvie A. Quideau, Assessment of compost maturity indices for high salt/high pH compost.
- USDA-NRCS National Soil Survey Laboratory, Philip S. Schoeneberger. Soil hydraulic conductivity across an Epiqualf-Argiaquoll toposequence: Wabash Moraine, northeastern Indiana.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 9

Total funding received: \$593,781.00

Funding agencies: EPA, Indiana Builders Assoc., ARS, Wabash County Health Dept.

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 0/0

Refereed Journal Articles: 10/15

Non-refereed Papers: 6/7

Engagement publications: 31/33

Teaching publications: 1/4

Invited seminars, lectures and presentations: 15/15

Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Lee, B.D., B.J. Jenkinson, J.A. Doolittle, R.S. Taylor and W. Tuttle. 2006. Electrical conductivity in a failed septic system absorption field. *Vadose Zone J.* 5:757-763.

Hart, K.S., B.D. Lee, P.J. Schoeneberger, D.P. Franzmeier, P.R. Owens and D.R. Smith. 2008.

Comparison of field measured soil absorption field loading rates to estimated loading rates from soil morphologic properties. *J. Hydrologic Engineering.* 13:665-670.

de Koff, J.P., B.D. Lee, R.S. Dungan. 2008. Amelioration of physical strength in waste foundry green sands for reuse as a soil amendment. *J. Environ. Qual.* In press.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Expand enrollment in AGRY 450, Soil and Water Conservation
- Expand Home and Environment Extension bulletin series
- Develop short course series for septic system professionals

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



LINDA S. LEE

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1993

EFFORT DISTRIBUTION: 20% I, 60% R

AREA(S) OF EXPERTISE: Environmental Chemistry

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1983	University of Florida
M.S.	1989	University of Florida
PH.D.	1993	University of Florida

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Chemist/Senior Chemist, University of Florida, Soil Science Department, Gainesville, FL, 1984 - 1993
Assistant Professor, Purdue University, Department of Agronomy, 1993 - 1997
Associate Professor, Purdue University, Department of Agronomy, 1997 - 2001
Professor, Purdue University, Department of Agronomy, 2001 - current
Associate Director, Purdue University, Discovery Park Center for the Environment, 2005 - current
Program Head, Purdue University, Ecological Sci. & Engin. Interdisciplinary Grad. Program, 2006 - current
Co-Chair, Purdue University, COA pre-Environmental Studies Program, 2007 - current

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Chemist Certification, American Chemical Society (1984); Frederick B. Smith Scholarship, University of Florida (1991); Certificate of Merit, American Chemical Society (1991); University of Florida Sigma Xi Graduate Student Research Award (1992); Award for Excellence in Graduate Studies, Soil & Water Science, University of Florida (1993); Emil Truog Award for Best Doctoral Dissertation, Soil Science Society of America (1994); Gamma Sigma Delta Research Award of Merit (2001); Purdue University Faculty Scholar (2001-2006); SSAJ Citation for Excellence in Manuscript Review (2003); ASA Fellow (2003); SSSA Fellow (2004); Outstanding Editor for J. of Environmental Quality (2004); Gamma Sigma Delta Award of Merit in Research & Teaching (2005).

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 544	Environmental Organic Chemistry	15	25
AGRY 385	Environmental Soil Chemistry	6	12

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Pre-ES Advising; Advising for pre-ES and AGRY for Days on Campus (2008)
Senior Capstone Research (2008); Summer MARC/AIM (2006); SURF (2007)

TEACHING ACCOMPLISHMENTS SINCE 2002:

- Launched and served as initial coordinator of the Pre-Environmental Studies (pre-ES) Program in COA.
- Launched and serving as Program Head of the Ecological Science & Engineering Interdisciplinary Graduate Program (ESE IGP), which has had tremendous growth in the last 2 years with 20 Fall 2008 incoming graduates students giving us a total of 32 students within a 3~ y period.

- Launched the Environmental Entrepreneurship Idea to Product (EE-I2P) competition, which has grown rapidly from 3 students in 2007 to 30 students in 15 dept/schools from 6 Colleges that competed in 2008.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Livestock and Poultry Education (LPE) Pharmaceutical Team National Web casts: Antibiotic Fate, Transport, Sources, and Impacts (2008); Purdue Animal Science-CAFO website support (2007-2008); Midwest States Risk Assessment Symposium: Chlorinated Solvents (2006), Co-Chair, Indianapolis, IN; Midwest States Risk Assessment Symposium: Background Soil Concentrations (2004), Co-Chair, Indianapolis, IN.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Established a strong presence and reputation in understanding the environmental behavior of fluorotelomer compounds, natural and sythetic hormones, and antibiotics.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 1 PhD: 5 / 9 PostDocs: 0 / 3

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 4
Total funding received: \$1,675,000
Funding agencies: NSF, DuPont, EPA, EPRI

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0
Book chapters: 2/8
Refereed Journal Articles: 32/61
Non-refereed Papers: 9/17
Engagement publications:
Teaching publications: 0/3
Invited seminars, lectures and presentations: 15/37
Patents/Copyrights: 1/1

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- Carmosini, N. and L.S. Lee. 2008. Partitioning of Fluorotelomer Alcohols to Different Sources of Dissolved Organic Carbon. Environ. Sci. Technol. Web released, July 2008.
- Liu, J. and L.S. Lee. 2007. Effect of Perfluorocarbon Chain Length on Solubility and Sorption by Soils of Fluorotelomer Alcohols. Environ. Sci. Technol. 41:5357-5362.
- Sassman, S.A. and L.S. Lee. 2005. Sorption of Three Tetracyclines by Several Soil: Role of pH and Cation Exchange. Environ. Sci. Technol. 39:7452-7459.
- Hyun, S. and L.S. Lee. 2004. Effect of Chemical Acidity and Acid Functional Group on Organic Acid Sorption by Variable-Charge Soils. Environ. Sci. Technol. 38:5413 -5419.
- Lee, L.S., T. Strock, A. Sarmah, P.S.C. Rao. 2003. Sorption and dissipation of testosterone, estrogens, and their primary transformation products in soils and sediment, Environ. Sci. Technol. 37:4098-4105.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Continue to grow the ESE-IGP and EE-I2P programs and increase fellowship and industry support, respectfully. Develop an upper undergraduate (based on AGRY385) level textbook in "Environmental Soil Chemistry" that includes material for lectures, applied problem solving, and associated lab and case study exercises to enhance learning across environmental disciplines. Help Purdue faculty across Colleges be successful at getting a Superfund Basic Research Program funded that capitalizes on our strengths.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



ALLEN R. LEROY, PH.D.

RANK: Administrative Professional

DATE OF APPOINTMENT AT PURDUE: 2000

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Soybean Breeding and Genetics

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1982	California Polytechnic State University, SLO, CA
M.S.	1985	University of Florida, Gainesville, FL
PH.D.	1990	Iowa State University, Ames, IA

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Quality Traits Breeder; Asgrow Seed Company; Isabela, Puerto Rico; 1991 - 1993
Quality Traits Breeding Project Manager; Monsanto Seeds; Ames, IA; 1993 - 1999
Professional; Department of Agronomy, Purdue University; West Lafayette, IN; 2000 - Present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

United States Patent, Soybean Cultivar 92160630750456, U.S. Patent Office, 1999

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002) N/A

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Advised the undergraduate research project of Craig Angle, 2007- 2008, Effect of 'Topflor' plant growth regulator on soybean plant canopy and seed yield in a greenhouse environment. Participated on the graduate student committee and M.S. thesis research of Greg Kruger in the Department of Botany and Plant Pathology, 2005 - 2006.

TEACHING ACCOMPLISHMENTS SINCE 2002: N/A

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Dr. LeRoy generates an annual progress report for the Indiana Soybean Alliance and has made a formal presentation to the farmer directors and accounting manager at least once a year since 2002. Allen also conducts an annual field tour of his nursery and yield test system for the members of the ISA, Ag Alumni Seed, and Purdue administration. In March of 2005, Allen LeRoy made a trip to visit soybean breeders in Japan. From this visit Allen acquired information about research and a few unique breeding lines which may have a significant impact on the future germplasm and varieties released from the program. Dr. LeRoy's time in Japan was also spent meeting tofu and miso soyfood producers and specialty grain buyers to inform them of the food bean breeding work going on at Purdue University and to learn about their traits of interest. He was introduced to these people by the American Soybean Association's Japan Food Bean Marketing Manager Massi Tateishi. In October of 2005, Dr. LeRoy arranged a tour of Purdue's Agronomy and Food Science departments for a delegation from the Japanese Tofu Association escorted by Massi Tateishi. Allen made a presentation about the Purdue soybean breeding program's research objectives and put the delegation in touch with Indiana specialty grain providers Ag Alumni Seed and Favored Grain. At Purdue University, Dr. LeRoy has made several presentations to the Agronomy 520 class (Field Crops Breeding) and 550 class (Crops Breeding Techniques). Allen has also participated in opportunities to promote the soybean breeding program at farm shows, Indiana seed

industry forums, and at extension programs at the ACRE. Allen has also worked as a committee member to shape and promote the Indiana State Variety Trials.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Five soybean cultivars developed by Allen LeRoy have been released to farmers and seedsmen since 2005. Each of the 5 cultivars originates from a cross designed by Dr. LeRoy. Two cultivars were released in 2005. One cultivar was released in 2006. And two more cultivars were released in 2008. High yield potential is a characteristic of each of these cultivars. All have some form of Phytophthora root rot resistance. Some have resistance to soybean cyst nematode. One cultivar has seed characteristics that make for good tofu and soymilk processing. Since 2005, seed sales of these varieties have totaled approximately 1700 bags, weighing 50 lb each. Sales have gone directly to farmers and also under license to seed companies.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: ____ / ____ **PhD:** ____ / ____ **PostDocs:** ____ / ____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Purdue University: Drs. Scott Abney and Jamal Faghihi, for disease screening related to soybean cultivar development. Dr. Karen Hudson, for development of novel soybean fatty acid mutants.

Other Universities: Dr. Brian Diers from the University of Illinois, Dr. Randy Nelson from USDA-ARS at Urbana, IL, Dr. Joe Burton from USDA-ARS at Raleigh, NC, Dr. Kristin Bilyeu USDA-ARS at Columbia, MO, Discovery and/or efficient use of molecular markers for soybean alleles related to yield, disease resistance, and seed composition.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 7

Total funding received: \$825,000

Funding agencies: Indiana Soybean Alliance, ADM, Ag Alumni Seed, Schillinger Seed

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters:

Refereed Journal Articles: 4

Non-refereed Papers: 1

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 6

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

P.S. Guzman, B.W. Diers, D.J. Neece, S.K. St. Martin, A.R. LeRoy, C.R. Grau, T.J. Hughes, and R.L. Nelson. 2007. QTL Associated with Yield in Three Backcross-Derived Populations of Soybean. *Crop Science*, 47:111-122.

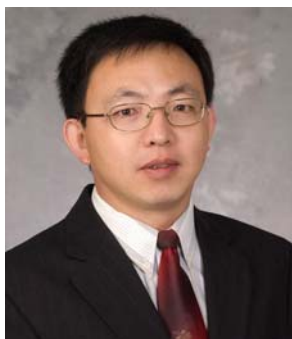
LeRoy, A.R., and T.S. Abney. 2007. Registration of 'CL0J173-6-2' and "CL0J173-6-8' Soybeans. *Journal of Plant Registrations*, 1:98-99.

G.P. Kroger, L. Xing, A.R. LeRoy, A. Westphal. Meloidogyne Incognita Resistance in Soybean under Midwest Conditions. *Crop Science*, 48:716-726.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

The soybean breeding program will emphasize the development of conventional (nonherbicide tolerant) cultivars with high yield and good disease resistance. There will also be a significant effort given to developing cultivars for specialty markets. Genetic research will be conducted in the area of allergens, high oil content, novel mutations effecting fatty acid profile, and resistance to the major soybean pests of Indiana. There will also be more emphasis placed on creating graduate student advising opportunities.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



JIANXIN MA

RANK: Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2006

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Comparative Genomics and Soybean Genetics

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1993	Laiyang Agricultural University, China
M.S.	1996	Chinese Academy of Agricultural Sciences
PH.D.	1999	Chinese Academy of Agricultural Sciences

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor, Department of Agronomy, Purdue University, West Lafayette, 08/2007-present

Research Assistant Professor, Department of Agronomy, Purdue University, West Lafayette, 06/2006-08/2007,

Research Geneticist, Department of Agronomy, Purdue University, West Lafayette, 06/2005-05/2006

Postdoctoral Associate, Department of Genetics, University of Georgia, Athens, GA, 08/2003 to 06/2005

Postdoctoral Associate, Department of Biological Sciences, Purdue University, West Lafayette, 04/2000-08/2003

Assistant Professor, Chinese Academy of Agricultural Sciences, Beijing, China, 08/1999 to 04/2000

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

National One-Hundred Outstanding Doctoral Dissertations Award, The State Council and Department of Education of China, 2001

Excellent Research Paper, Beijing Genetics Society, 1999

Outstanding Doctoral Graduate, Chinese Academy of Agricultural Sciences, 1999

Excellent Doctoral Dissertation, Chinese Academy of Agricultural Sciences, 1999

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY600	Genomics	Fall, 2006	30

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Graduate advisory committee member for 1 PhD student at Purdue, and 3 PhD students and 6 master students at Chinese Academy of Agricultural Sciences.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Guest lecturing in AGRY600 Genomics

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Initiated the Transposable Elements (TE) Workshop at the International Plant & Animal Genome (PAG) Conference, San Diego, CA (annually from 2008); served as Panelist for the Sun Grant Initiative of the Department of Transportation (DOT) (2007); served as reviewer for the U.S. Civilian Research and

Development Foundation (CRDF) (2006); served as reviewers for 15 scientific journals and for book, Genomics-Assisted Crop Improvement, Varshney, R.K. and Tuberosa, R., Eds. Springer

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Made several discoveries regarding the mechanistic basis that underlies structural and functional genomic changes including centromeric regions, with an emphasis on transposable element-mediated gene and genome evolution of cereal and legume species; co-initiated research projects on comparative sequencing of rice and wild relatives, evolutionary genomics of a rice centromere, comparative genomics of soybean and wild soybean species, developing the repeat database for soybean, and developing research programs on comparative genomics and molecular mapping of disease resistance genes (QTLs) in soybean (three extramural grants are pending).

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: ____ / ____ **PhD:** 1 / 1 **PostDocs:** 2 / 2

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

Beijing, Chinese Academy of Sciences, Dr. Lijuan Qiu, collaborative study on soybean germplasm diversity.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 4

Total funding received: \$179,000

Funding agencies: USDA, NSF (no allocation), ISA (no allocation)

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 2

Refereed Journal Articles: 20

Non-refereed Papers:

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 8

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Ma, J., Wing, R.A., Bennetzen, J.L. and Jackson, S.A. 2007. Plant centromere organization: conserved functions within a dynamic structure. Trends Genet. 23: 134-139

Ma, J., and Jackson, S.A. 2006. Retrotransposon accumulation and satellite amplification mediated by segmental duplication facilitate centromere expansion in rice. Genome Res. 16: 251-259

Ma, J., and Bennetzen, J.L. 2006. Recombination, rearrangement, reshuffling and divergence in a centromeric region of rice. Proc. Natl. Acad. Sci. USA 103: 383-388

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Prepare AGRY320, Genetics and develop or participate in teaching graduate-level courses; Develop nationally and internationally recognized soybean genetics and genomics programs; Foster international collaboration on soybean germplasm enhancement research.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



CHARLES MANSFIELD

RANK: Administrative Professional

DATE OF APPOINTMENT AT PURDUE: 1990

EFFORT DISTRIBUTION: 10% I, 90% E

AREA(S) OF EXPERTISE: Small grains, soybean, forages

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1976	Southern Illinois University
M.S.	1981	University of Florida
PH.D.	1990	University of Florida

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professional Agronomist, Purdue University, Vincennes, 1990 to present
Instructor, Fundación Universitaria de García Rovira, Málaga, Colombia, 1984-1986
Extension Area Agronomist, University of Missouri, Marshfield, 1981-1983
Crops Extension, Peace Corps, Colombia, 1976-1978

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRI 100	Ag Lectures (Vincennes Univ.)	Fall	32
AGRI 104	Crop Production (Vincennes Univ.)	Spring	31
AGRI 204	Soil Science (Vincennes Univ.)	Spring	8

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

- Academic advising of General Agriculture Transfer (30), Pre-Veterinary (18), and Agriculture and Biological Engineering (2) majors at Vincennes University.
- Oversee and maintain the VU/Purdue AG Program, and serve as liaison between Vincennes University and Purdue College of Agriculture.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Consistently maintain score greater than 4/5 on student rating of classroom instruction.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Continue to provide timely information to growers and industry in southern Indiana with annual evaluation of commercial wheat and soybean varieties.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Evaluation of appropriate management practices for control of Barley Yellow Dwarf virus in wheat.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: ____ / ____ **PhD:** ____ / ____ **PostDocs:** ____ / ____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 3

Total funding received: \$16,500

Funding agencies: Blue Sun Biodiesel, Bayer, Purdue-Mary Rice grant

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters:

Refereed Journal Articles:

Non-refereed Papers:

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations:

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Maintain and continue the Vincennes University/Purdue University Cooperative Agriculture Transfer Program.
- Teach the three classes at Vincennes University.
- Continue to advise students in majors under the Purdue AG Transfer umbrella.
- Evaluate varieties of canola and other oilseeds for production of biofuels.
- Evaluate systems for high management wheat production in southwestern Indiana.
- Continue the regional variety testing program on wheat and soybean.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



CINDY H. NAKATSU

RANK: Associate Professor

DATE OF APPOINTMENT AT PURDUE: 1995

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Microbial Ecology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1978	University of Toronto
M.S.	1983	University of Toronto
PH.D.	1993	Carleton University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Post-doctoral Research Associate: Michigan State University, East Lansing MI, 1993-1995

Research Associate and Instructor: University of Toronto, Toronto Canada, 1983-1989

Research Technician: University of Toronto, Toronto Canada, 1978-1980

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

AIST Foreign Researcher Invitation Award, Agency of Industrial Science and Technology, 1996 and 2001

Sustainable Agriculture Travel Award, OECD, 1997

Dow Elanco's Young Investigator's Award, Dow Elanco, 1995

Carleton University Scholarship, 1989-92

Ontario Postgrad Scholarship, 1991-92

NSERC Postgrad Scholarship, 1989-91

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 649	Molecular Microbial Ecology	6	8
AGRY 349	Soil Ecology	4	15

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Mentor students yearly in MARC/AIM (SROP) program.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Developed graduate course further.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Optimized the use of molecular genetic methods for studying microbial communities both qualitatively and quantitatively. Developed a method to assess bioremediation potential (especially bioattenuation) in sites contaminated with BTEX (benzene, toluene, ethyl benzenes, xylenes).

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 5 **PhD:** 0 / 4 **PostDocs:** 0 / 8

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

NIBH, Agency of Industrial Science and Technology, MITI, Tsukuba, Japan. Dr. Yoichi Kamagata. Purdue University. Drs. Konopka (Biological Sciences), Nies (Civil Engineering), Contribute to the microbial ecology and microbial genetics component of many different projects.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 9

Total funding received: \$1,111,117.00

Funding agencies: DOE-NABIR, EPA, NSF, NIH

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 5/9

Refereed Journal Articles: 31/56

Non-refereed Papers: 0/20

Engagement publications: 1/2

Teaching publications: 0/0

Invited seminars, lectures and presentations: 29/47

Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Baldwin, B., L. Nies, and C. H. Nakatsu. 2008. Detection and enumeration of aromatic oxygenase genes at gasoline-contaminated sites by real-time PCR. *Water Research* 42:723-731

Nakatsu, C. H. 2007. The basics and application of denaturing gradient gel electrophoresis for soil microbial community analysis. *Soil Sci. Soc. J. Am.* 71:562-571

Konopka, A., M. Carrero-Colón, C. H. Nakatsu 2007. Community dynamics and heterogeneities in mixed bacterial communities subjected to nutrient periodicities. *Environ. Microbiol.* 9:1584-1590

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Teaching: Will continue developing course on a yearly basis to reflect advancements in the subject area.

Research: Will continue at the present rate and productivity.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



ROBERT L NIELSEN

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1982

EFFORT DISTRIBUTION: 15% R, 85% E

AREA(S) OF EXPERTISE: Corn Cropping Systems Management

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1977	Univ Nebraska
M.S.	1980	Univ Minnesota
PH.D.	1982	Univ Minnesota

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor – Purdue Univ. - Sep '82 thru Jun '88

Associate Professor - Purdue Univ. - Jul '88 thru Jun '95

Full Professor - Purdue Univ. - Jul '95 thru present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Purdue Ag Dean's Team Award, Purdue Agriculture, 2008

CES Team Award, Purdue Extension, 2006

Division A-7 Innovator Award, American Soc Agronomy, 2005

Crops and Soils Award, Indiana Crop Improvement Assoc, 2002

Eric Sharvelle Distinguished Extension Specialist Award, Purdue Extension, 1999

International Service Award, Epsilon Sigma Phi, 1997

Werner L. Nelson Award for Diagnosis of Yield-Limiting Factors, American Soc Agronomy, 1995

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

No teaching responsibilities.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Participation as a team member of the Crop Diagnostic Training Center and playing a role in the renewed success of that educational program. Attendance and ratings have increased steadily since 2002.

Continued success of my Web-based Extension efforts. Two of my Web pages (Chat 'n Chew Cafe and KingCorn.org home page) are currently the 2nd and 3rd most visited individual Web pages on the entire Purdue Agronomy Web server. Visitors to the Chat 'n Chew Cafe Web site have increased from about 3200 per month in 2002 to over 10,000 per month to date in 2008. Total number of monthly visitors to my entire KingCorn.org Web site is currently averaging about 39,000 per month or more than 450,000 per year.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Collaboration with Jim Camberato and Brad Joern in our renewed efforts in evaluating corn yield response to nitrogen fertilizer rates, determining optimum N rates for corn that best balance yield and profitability, and evaluating the potential for optical crop sensors to help fine-tune the final increment of fertilizer N required to achieve maximum profitability.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 4 / 15 PhD: 0 / 3 PostDocs: 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Case-New Holland, Monty Weller, Norm Larson, Jacky Payne, Eric White, Collaboration in field research evaluating yield response to uneven within-row plant spacing.
- Purdue, Jim Camberato, Brad Joern, Collaboration in field research evaluating N rate response in corn and the use of optical sensors to document N status from corn canopies.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 11

Total funding received: \$171,415

Funding agencies: Purdue Agriculture, Indiana Corn Marketing Council, Pioneer Hi-Bred Int'l

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 1/4

Refereed Journal Articles: 3/5

Non-refereed Papers: 20/60

Engagement publications: 624/1612

Teaching publications: 0/0

Invited seminars, lectures and presentations: 392/1295

Patents/Copyrights: 0/0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- Nielsen, R.L. (Bob), Bill Johnson, Christian Krupke, Greg Shaner. 2007. Mitigate the Downside Risks of Corn Following Corn. [On-line Extension news article]. Available at <http://www.kingcorn.org/news/timeless/CornCorn.html>. (16,000 downloads since Jan 2006).
- Camberato, Jim, R.L. (Bob) Nielsen, Dan Emmert, Brad Joern. 2008. Nitrogen Management Update for Indiana. [On-line Extension news article]. Available at <http://www.agry.purdue.edu/ext/corn/news/timeless/NitrogenMgmt.pdf>. (5,600 downloads since Dec 2006).
- Nielsen, R.L. (Bob). Estimating Corn Grain Yield Prior to Harvest. [On-line Extension news article]. Available at <http://www.kingcorn.org/news/timeless/YldEstMethod.html> (17,000 downloads since 2004).

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Develop the means to better facilitate collaborative on-farm agronomic research trials.
- Continue to enhance and expand my Web-based Extension efforts.
- Develop strategies for implementing the use of optical crop sensors for estimating corn N status to determine variable rate sidedress fertilizer N applications.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



DEV NIYOGI

RANK: Assistant Professor of Regional Climatology, and Indiana State Climatologist

DATE OF APPOINTMENT AT PURDUE: 2005

EFFORT DISTRIBUTION: 15% I, 35% R, 25% E

AREA(S) OF EXPERTISE: Land - Atmosphere Interactions, Regional Climate, Severe Weather Climatology, Indian Monsoons, Droughts, Air Quality, Satellite Data Assimilation, Land Use Land Cover Change.

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1994	University of Pune, India (Civil Engineering)
M.S.	1996	North Carolina State University (Atmos. Sci.)
PH.D.	2000	North Carolina State University (Atmos. Sci.)

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor of Regional Climatology and Indiana State Climatologist, Purdue University, Department of Agronomy (75%), Department of Earth & Atmospheric Sciences (25%), 2005 - onwards
Research Assistant Professor, North Carolina State University, Department of Marine, Earth, Atmospheric Sciences, 2001 - 2005.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Marquis Who's Who In America 2006 Edition, 2006.
Outstanding Service plaque for first Agricultural Air Quality workshop – Presented by Colien Hefferan, USDA Administrator at the Workshop on Agricultural Air Quality, MD, 2006.
NASA Press Release, Tiny Air Particles Change How Much Carbon Plants Absorb, 2004.

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 335	Weather and Climate	Spring 06, 07, 08	30
AGRY/EAS 591	Land Surface Modeling	Fall 06, 07, 08	5
EAS 591	Climate Change Modules	Spring 07	3

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Research mentor for 12 undergraduates since 2005.

TEACHING ACCOMPLISHMENTS SINCE 2002:

- Developed a new graduate level Land Surface Modeling course.
- Restructured a required undergraduate course on Weather and Climate.
- Three undergraduates have been coauthors on papers published in peer reviewed international journals (J. of Geophys. Research; J. of Environ. Quality, J. of Applied Meteorol. Climatology).

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

- Indiana State Climatologist - First contact for climate and weather related information for Indiana
- Branded iclimate.org as the Indiana State Climate Office website.
- Received the American Association of State Climatologists Recognized State Climate Office status

- Invited Advisor, Indiana Water Shortage Task Force
- Member of several national, university wide, college and departmental committees.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Co-authored 45 peer-reviewed refereed research papers and 2 book chapters since joining Purdue in 2005. Over 50 research abstracts at national or international meetings.
- Competitive grants from various NSF, NASA, NOAA, DOE, and USDA NRI as a PI or co-PI.
- Highly interdisciplinary research that includes numerous national and international collaborations.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 12 **PhD:** 6 / 6 **PostDocs:** 1 / 3

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- National Center for Atmospheric Research, Fei Chen, Peggy LeMone - Working with the improvements and testing of the Noah land model and the IHOP_2002 field experimental analysis
- University of Colorado at Boulder, Roger Pielke Sr. - NASA projects on regional climate
- North Carolina State University, Viney Aneja - USDA Agricultural Air Quality projects
- Indian Institute of Technology Delhi, U C Mohanty - Indian monsoon and land surface processes

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 17

Total funding received: \$4M

Funding agencies: NASA, NSF, USDA NRICGP, DOE

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 1 coedited

Book chapters: 3/5

Refereed Journal Articles: 53/76

Non-refereed Papers:

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: over 100 since 2002

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Niyogi, D., T. Holt, S. Zhong, P. C. Pyle, and J. Basara, 2006: Urban and land surface effects on the 30 July 2003 mesoscale convective system event observed in the Southern Great Plains, *J. Geophys. Res.*, 111, D19107, doi:10.1029/2005JD006746.

Niyogi D., H. Chang*, et al. 2004, Direct observations of the Effects of Aerosol loading on Net Ecosystem CO2 Exchanges over Different Landscapes, *Geophysical Research Letters*, 31, L20506, doi:10.1029/2004GL020915.

Pielke Sr., R.A., G. Marland, R.A. Betts, T.N. Chase, J.L. Eastman, J.O. Niles, D. Niyogi, S. Running, 2002, The influence of land-use change and landscape dynamics on the climate system: relevance to climate change policy beyond the radiative effect of greenhouse gases. *Phil. Trans. Royal Soc.(London) A. Special Theme Issue*, 360, 1705-1719.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Teaching: Develop 600 level course: Land Surface Modeling (currently teaching), with Atmospheric Boundary Layer course. Graduate 4 to 5 PhDs. Recruit 2 to 3 graduate / 1 postdoctoral researcher.
- Research: Focus on urban and agricultural intensification impacts on regional climate. Continue working on Indian monsoon land use change. Develop agricultural interfaces for weather forecasting. Continue NSF, NASA, and DOE support.
- Engagement: Obtain critical sustained funding for state climate office operations (~ 100K/year); Develop NSF supported DRInet (drought network), and a hydrology - crop decision system.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



DARRELL NORTON

RANK: Adjunct Professor

DATE OF APPOINTMENT AT PURDUE: 1982

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Soil Erosion, Pedology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1975	Purdue University
M.S.	1976	Purdue University
PH.D.	1981	The Ohio State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Research Soil Scientist, USDA-ARS National Soil Erosion Research Laboratory, W. Laf., IN 1982-present
Research Associate, The Ohio State University, Cols., OH 1977-1982
Professional Associate, Dept. of Agronomy, Purdue University, W. Laf., IN 1976-1977.
Soil Scientist, Indiana Dept. of Natural Resources, Purdue University, W. Laf., IN 1974.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Certificate of Merit/Cash Award, USDA-ARS 1990, 1991, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Not applicable

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Not applicable

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Conducted an Internationally Recognized Soil Erosion and Water Quality Research program and obtained increased permanent base funding for research program related to soil amendment and drainage research.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 1 **PhD:** 3 / 6 **PostDocs:** 1 / 1

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- EMBRAPA National Soybean Center, Londrina, Brazil. Dr. Clovis Borkert. Research on Conservation Tillage and Soil Erosion
- Dept. of Soils, Federal University of Santa Maria, Santa Maria, Rio Grande do Sul, Brazil. Dr. Miguel Reichert and Dr. Flavio Eltz. Research on Soil Erosion and Conservation
- Dept. of Soils and Dept. of Agric. Engr., Federal University of Lavras, Lavras, Minas Gerais, Brazil. Dr. Carlos Melho. Watershed Modeling for Hydroelectric Production
- Dept. of Soil Management, Royal University of Ghent, Ghent, Belgium. Dr. Donald Gabriels. Research on the Combined Effects of Wind and Water on Erosion.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 0

Total funding received: \$8,000,000

Funding agencies: \$8,000,000

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0

Book chapters: 0

Refereed Journal Articles: 26

Non-refereed Papers: 21

Engagement publications: 0

Teaching publications: 0

Invited seminars, lectures and presentations: 32

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Norton, L. D. 2008. Gypsum soil amendment as a management practice in conservation tillage to improve water quality. *J. Soil Water Cons.* 63(2):46-48.

Favaretto, N., L.D. Norton, B.C. Joern and S.M. Brouder. 2006. Gypsum amendment and exchangeable calcium and magnesium affecting phosphorous and nitrogen in runoff. *Soil Sci. Soc. Am. J.* 70:1785-1796.

Dontsova, K.M., L. D. Norton and C.T. Johnston. 2005. Calcium and magnesium effects on ammonia adsorption by soil clays. *Soil Sci. Soc. Am. J.* 69:1225-1232.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Conduct a world recognized research program in soil erosion and water quality focusing on the beneficial utilization of waste materials in agricultural.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



HERBERT OHM

RANK: Professor

DATE OF APPOINTMENT AT PURDUE : 1972

EFFORT DISTRIBUTION: 30% I, 70% R

AREA(S) OF EXPERTISE: Plant Breeding and Genetics

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1967	University of Minnesota
M.S.	1969	North Dakota State University
PH.D.	1972	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Purdue University: Assistant Professor, 1/72 - 6/77; Associate Professor, 7/77 - 6/83; Professor of Agronomy, 7/83 - 11/04; Distinguished Professor, 11/2004-present

Team Leader, Interdisciplinary Wheat and Oat Genetics and Breeding Program, 1981-present:

Coordinated collaborative research activities among scientists in Departments of Agronomy, Botany and Plant Pathology, Entomology, and USDA-ARS; Develop research program with broad range of fundamental to applied research

Elected member of the National Plant Breeding Coordinating Committee, Liaison to CSSA, 2007-present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Outstanding Graduate Educator Award, Purdue Dept. of Agronomy, 2004, 05, 06, 07, 08

Certificate of Distinction, Purdue Agricultural Alumni Association, 2005

Fellow, American Association for the Advancement of Science (AAAS), 2001

School of Agriculture Team Award, Purdue University, May 2000

Agronomic Achievement Award-Crops, American Society of Agronomy, 1994

Fellow, American Society of Agronomy, 1991

Fellow, Crop Science Society of America, 1990

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY480	Plant Genetics	Fall, 02-07	6
AGRY605	Advanced Plant Breeding	Fall, 02, 04, 06	5
AGRY598	Plant Breeding	Spr, 07	2
AGRY598	Plant Breeding	SS, Fall 08	1

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Undergraduate academic advising: average 10-17 students.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Mentor for 1-3 undergraduate research projects per academic year - students recognized in Purdue University Annual Undergraduate Research and Poster Symposium, several Agronomy Outstanding

Students, 1 ASA Golden Opportunity Scholar Award, Beck Outstanding Student Awards, Dean's Scholars, ASA Outstanding Senior.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Extensive contacts with wheat seed growers/farmers regarding wheat and oat. Annual Wheat Field Days at West Lafayette and Evansville, and in collaboration with extension specialist, Chuck Mansfield and Posey county extension specialist Jon Neufelder, conducted a Wheat Field Day at Mount Vernon in 2008. Conducted a wheat high management study at ACRE, Evansville and Mt Vernon - very successful demonstrations at the 3 Field Days; will continue in future years. Since K. Day retired, have posted Indiana multilocation wheat and oat performance results on the Agronomy Extension website.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Released 7 wheat and 3 oat cultivars. Wheat cultivars grown on 30+ % of wheat acreage in Indiana and also grown regionally. Oat cultivars grown throughout north central and northeast regions of U.S. and in Ontario, Canada.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 5 PhD: 5 / 11 PostDocs: 1 / 2

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

- Australia, Michael Francki. Mapping of resistance in wheat to Stagonospora nodorum blotch.
- U.S., wheat geneticists/breeders. Develop wheat cultivars with resistance to fusarium head blight.
- U.S., wheat breeders. Develop wheat cultivars with multiple new traits using marker assisted selection.
- USDA-ARS, Raleigh, NC, St Paul, MN, Pullman, WA. Inheritance/map resistance to stem/stripe rusts.
- Purdue University, USDA-ARS, Christie Williams, Sue Cambron. Inheritance/map new HF resistance.
- Purdue University, USDA-ARS, Joseph Anderson. Shorten the 7E introgressed chromosome segment with Bdv3 and develop wheat cultivars with resistance to yellow dwarf viruses.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 29

Total funding received: \$3,756,820

Funding agencies: USDA-ARS, CSREES, Purdue Univ., AgAlumni Seed, Borlaug Fellows Program, Pepsico, Inc.

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/1

Book chapters: 1/3

Refereed Journal Articles: 39/155+

Non-refereed Papers: 45+/150+

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 11/74

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Shen X, et al. 2004. Theor and Appl Genet 108:808-813.

Giovanini MP, et al. 2006. MPMI 19:1023-1033.

Upaus J, et al. 2007. Crop Sci. 47:1813-1822.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Teaching: continue to effectively teach students in plant genetics and plant breeding.
- Research: develop wheat cultivars with resistance to all the important diseases.
- Engagement: serve as an effective source of information relating to cultural practices and improved cultivars of wheat and oat for Indiana and surrounding regions.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



PHILLIP R. OWENS

RANK: Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2005

EFFORT DISTRIBUTION: 10% I, 65% R, 25% E

AREA(S) OF EXPERTISE: Soil Geomorphology/Pedology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1993	University of Arkansas, Fayetteville
M.S.	1997	University of Arkansas, Fayetteville
PH.D.	2001	Texas A&M University, College Station

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor, Department of Agronomy, Purdue Univ., W. Lafayette, IN, 1/05-present
Research Soil Scientist, USDA-ARS Waste Management Unit, Mississippi State, MS, 1/03-1/05
Congressional Science Fellow, Office of U.S. Senator Blanche Lincoln, Washington, D.C., 1/02-12/02
Research Assistant, Texas A&M Univ., Soil and Crop Sci. Dept., College Station, TX, 8/97-12/01
Lecturer, Texas A&M Univ., Soil and Crop Sci. Dept., College Station, TX, 1/99-5/01
Research Specialist and Lecturer, Univ. of Arkansas, Crop, Soil & Environ. Sci., Dept., Fayetteville, AR, 8/93-8/97
Soil Scientist Trainee, USDA-NRCS, Soil Survey Office, Nacogdoches, TX, 5/91-8/91, 5/92-8/92

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

ASA/AAAS Congressional Science Fellow, 2001
First Place ASA S-9 Poster Competition, 1999
Outstanding Agronomy Masters Student, 1996
Outstanding Agronomy Senior, American Society of Agronomy, 1992
First Place Individual, Region IV Soils Contest, 1992, 1990, 1989

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY565	Soil Classification, Genesis and Survey	Fall	12
AGRY655	Advanced Pedology	Spring	7

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Dr. Owens advises 6 undergraduate students and co-supervises one student for an undergraduate research project. The undergraduate research project assesses the function of a natural wetland for nutrient removal after changing the vegetation from an invasive species to native plants.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Dr. Owens received an average of 4.5 out of 5 for overall class rating for all courses taught. He has worked with Darrell Schulze to develop GIS based spatial understanding of soils and landscapes using Tablet PC's. This method involved the development of data layers, implementation and utilization of electronic maps in the field laboratory portion of the class.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

The primary clientele for the engagement program is the USDA-NRCS Soil Survey Program. Dr. Owens is the Chair of the Future Directions of the Soil Survey National Committee, NCERA-3 Future Directions of the Soil Survey Committee, and the NECRA-3 High Intensity Soil Survey Working Committee. Through Dr. Owens' outreach program, the soil survey in Indiana is utilizing new digital mapping techniques to streamline updates of soil surveys. Additionally, Dr. Owens participates in the septic system outreach program, Diagnostic Training Center, Site Specific Management Center, surface mine reclamation and high school soil judging activities.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Dr. Owens research primarily focuses on linking hydrogeologic processes to spatial variability of soils within landscapes at multiple scales. This research utilizes rule-based fuzzy membership classification to develop spatial data which represents soil functional similarities on large geomorphic areas. Other research areas include linking landscape properties to fertility responses, assessing natural hazards and relating soil morphology to water table durations. This research program has authored or co-authored 15 refereed journal articles, 4 articles submitted, 11 technical reports, 3 extension publications and 30 presentations.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 3 PhD: 3 / 3 PostDocs: 0 / 1

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)****EXTRAMURAL FUNDING SINCE 2002:**

Number of grants: 7
Total funding received: \$87,500
Funding agencies: USDA-NRCS, Purdue University

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Book chapters: 2/4
Refereed Journal Articles: 15/16
Non-refereed Papers: 11/15
Engagement publications: 3/3
Teaching publications: 1/1
Invited seminars, lectures and presentations: 6/6

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Lin, H.S., J. Bouma, P.R. Owens, and M. Vepraskas. 2008. Hydrogeology: Fundamental Issues and Practical Applications. *Catena* 73:151-152.
Owens, P.R., L.P. Wilding, W.M. Miller and R.W. Griffin. 2008. Using iron metal rods to infer oxygen status in seasonally saturated soils. *Catena* 73:197-203.
Winzeler, H.E., P.R. Owens, B.C. Joern, J.J. Camberato, B.D. Lee, D.E. Anderson and D.R. Smith. 2008. Potassium fertility and terrain attributes in a Fragiudalf drainage catena. *Soil Sci. Soc. Am. J.* In Press.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

The goals for this program is to integrate the research teaching and engagement activities to highlight the applications of integrating hydrogeologic processes with digital soil mapping. Students require linking the use of progressive tools such as digital soil mapping with knowledge of the fundamental processes which create soil variability within landscapes. The goal for the next 5 years will be to further develop a class which will bridge the two areas. More research is needed to develop methodologies to create end products which illustrate soil property maps rather than soil type maps. Digital soil mapping based on fuzzy membership values is an innovative technique that recognizes the over-simplification introduced in depicting soils as discrete polygons, and uses landscape attributes (e.g., digital elevation models, DEM), and relationships between soil and landscape properties to derive spatially continuous soil maps from published soil survey data. Through engagement activities, Dr. Owens will demonstrate the usefulness of continuous maps of soil properties for published USDA-NRCS soil surveys as a supplemental product. This will service the ever increasing user base for engineering, environmental and agricultural land uses.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



ELIZABETH A PAPPAS (FORMERLY WARNEMUENDE)

RANK: Adjunct Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2002

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Hydraulic Engineering, Contaminant Transport

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1995	University of Wisconsin - Platteville
M.S.	1997	Montana State University
PH.D.	2000	Iowa State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Research Hydraulic Engineer, USDA ARS National Soil Erosion Research Laboratory, West Lafayette, IN, 6.5 yr

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Taiganides Award for Outstanding PhD Student, Iowa State University, 2001

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
N/A			

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

1. Improved swine manure and nutrient management guidelines. Dr. Pappas identified optimum swine manure application parameters by comparing bacterial losses to tile drain water from corn and soybean plots under various manure and fertilizer application regimes, and subsequently conducted a laboratory study to determine manure application timing and rate effects on bacterial transport in subsurface drain water among the most promising manure treatments identified in the field study. Impact: One or more of Dr. Pappas' publications on this research were used in the development of the following: The Iowa NRCS Nutrient Management Standard, Iowa, USDA NRCS; Analysis and Evaluation of Preventive Control Measures for the Control and Reduction /Elimination of Microbial Hazards on Fresh and Fresh-Cut Produce, USFDA; and Detecting and Mitigating the Environmental Impact of Fecal Pathogens Originating from Confined Animal Feeding Operations, USEPA.

2. Discovered effects of tillage and herbicide practices on herbicide Maximum Contaminant Level (MCL) compliance status and nutrient quality of surface runoff water. Dr. Pappas conducted rainfall simulation studies to quantify tillage effects on the transport of glyphosate, atrazine, and nutrients to direct surface runoff. Dr. Pappas concluded that glyphosate substitution for atrazine is preferable in no-till systems since it results in better runoff quality compliance with EPA drinking water standards, and that the current atrazine setback exception for surface inlets in no-till is ill-suited for some vulnerable areas. Additionally, she found that periodic tillage of long term no-till fields reduced herbicide and nutrient losses with runoff water in the short term. Impact: These studies provide basis for herbicide and drainage management guidelines to meet drinking water standards.

3. Established hydrologic and erosional impacts of impervious surface spatial characteristics. The urbanization of agricultural watersheds can have profound effects on hydrology and water quality, including increased flooding, erosion, and surface water degradation. Impervious surfaces are the dominating feature controlling these changes, but impacts of spatial characteristics of impervious surfaces are not well understood. Dr. Pappas developed an innovative system of modular unit surfaces, allowing for the development of precise hydrologic budgets and modeling of land use change effects at the agricultural / urban interface. Using this methodology, she discovered that impervious surface configuration has a major impact on soil loss flux. Impact: Data obtained in these studies are being used by the USEPA to modify the Storm Water Management Model to account for impervious surface spatial characteristics. The methods developed have led to increased understanding of landscape position and scaling impacts to sediment and contaminant transport processes, applicable to many research areas. The related publications have additionally led to several speaking invitations and presentations at professional meetings.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 1 **PhD:** 1 / 1 **PostDocs:** 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 0

Total funding received:

Funding agencies:

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/0

Book chapters: 0/0

Refereed Journal Articles: 16/16

Non-refereed Papers: 12/19

Engagement publications: 0

Teaching publications: 0

Invited seminars, lectures and presentations: 19/21

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Pappas, E.A., Huang, C. 2008. Predicting atrazine levels in water utility intake water for MCL compliance. *Environmental Science and Technology*. 42(19): 7064-7068.

Pappas, E.A., Kanwar, R.S., Baker, J.L., Lorimor, J.C., Mickelson, S. 2008. Fecal indicator bacteria in subsurface drain water following swine manure application. *Transactions of the ASABE*. 51(5):1567-1573.

Pappas, E.A., Huang, C., Buchholz, D. 2008. Implications of sampling frequency to herbicide conservation effects assessment. *Journal of Soil and Water Conservation* 63(6):410-419.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



NAME: P. SURESH C. RAO

RANK: Lee A. Reith Distinguished Professor

DATE OF APPOINTMENT AT PURDUE: 1999

EFFORT DISTRIBUTION: 25% R

AREA(S) OF EXPERTISE: Soil Physics, Hydrology, Environmental Chemistry, Ecological Science & Engineering

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1967	AP Agricultural University, India
M.S.	1969	Colorado State University
PH.D.	1974	University of Hawaii

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Member, Water Science and Technology Board, US National Research Council (1988-1991).
 Member, Committee on Groundwater Modeling Assessment, Water Science and Technology Board, US National Research Council (1987-1989).
 Member, Committee on Regional Assessment of Ground Water Vulnerability to Contamination, Water Science & Technology Board, US National Research Council (1990-1993).
 Chairman, Committee on Commercialization of Alternate Remediation Technologies, Water Science & Technology Board, US National Research Council (1994-1997).
 Chair-Elect (1992) and Chairman (1993), Division A-5 (Environmental Quality), American Society of Agronomy.
 Member, American Geophysical Union's Committee on Water in the Unsaturated Zone (1978-1988).
 Member, US National Research Council Committee on Long-term Stewardship of Nuclear Waste Sites" (2001-2002)
 Co-Chair, International Expert Panel on "DNAPL Source Zone Remediation" (2001-2003)
 Member, US National Research Council Committee on Restoration of Everglades (2004-2006)
 Editor-in-Chief, Journal of Contaminant Hydrology, published by Elsevier Sci. Publishers (1985-1992).
 Associate Editor, Water Resources Research, pub. by the American Geophysical Union (1990-1993).
 Member, Editorial Board, Environmental Toxicology & Chemistry, pub. by Pergamon Press (1990-1992).
 Associate Editor, Journal of Environmental Quality, published by the American Society of Agronomy (1980-1983).

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Fellow, Soil Science Society of America, 1989; Fellow, American Society of Agronomy, 1989;
 Environmental Quality Research Award, American Society of Agronomy, 1991; Soil Science Research Award, Soil Science Society of America, 1998; Fellow, American Geophysical Union, 2007; ISI 200 Most-Highly Cited Researchers; Who's Who in Technology Today (USA); Who's Who in South and Southeast (USA); American Men and Women in Science; Men of Achievement (Cambridge, U.K.)

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
CE597	Contaminant Transport	Fall or Spring	10
CE597	Remediation Science & Engineering	Spring	20
CE597	Ecological Science & Engineering Seminar	Fall & Spring	20

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Served as Associate Dean of Graduate Programs in College of Engineering; Served on various committees within the Ecological Science & Engineering Interdisciplinary Graduate Program; Served on various committees of the Division of Ecological & Environmental Engineering, College of Engineering; Taught Engineering Projects in Community Service (EPICS) course on Water Quality

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Worked with USEPA, DOD and other agencies in implementing innovative site characterization and remediation technologies

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 7 / 15 PhD: 4 / 27 PostDocs: 3 / 10

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:

(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

- Joint research project on contaminated site characterization and remediation, with faculty at the University of South Australia, Adelaide (Prof Ravi Naidu)
- Served on Research & Technology Committee, CRC for Contaminant Assessment & Remediation of the Environment (CRC CARE), Adelaide, Australia (Dr Ravi Naidu)
- Sabbatical leave at the CSIRO Land & Water unit, Perth, West Australia (Dr Greg Davis)

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 20

Total funding received: \$1.1M

Funding agencies: SERDP-ESTCP; USEPA; CRC CARE; INDOT; NiSource; CSRS: Showalter Trust;

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 5/5

Book chapters: 21/21

Refereed Journal Articles: 45/180

Non-refereed Papers: 20/50

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 20

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Basu, N.B., Rao, P.S.C., Poyer, I.C., Nandy, S., Mallavarupu, M., Naidu, R., Davis, G.B., Patterson, B., Annable, M.D., and Hatfield, K. 2008. Flux-based assessment of a TCE contaminated site in Australia. JOURNAL OF CONTAMINANT HYDROLOGY (accepted)

Falta RW, Rao PSC, Basu N Assessing the impacts of partial mass depletion in DNAPL source zones - I. Analytical modeling of source strength functions and plume response JOURNAL OF CONTAMINANT HYDROLOGY 78 (4): 259-280 AUG 2005

Hatfield K, Annable M, Cho JH, et al. A direct passive method for measuring water and contaminant fluxes in porous media JOURNAL OF CONTAMINANT HYDROLOGY 75 (3-4): 155-181 DEC 2004

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Assist in developing interdisciplinary curricula through ESE-IGP and DEEE
- Assist in developing interdisciplinary research projects in watershed hydrology
- Assist in developing international collaborations with colleagues in Australia and Europe
- Assist other faculty involved in outreach & engagement with diverse client groups

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



ZAC REICHER

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1997

EFFORT DISTRIBUTION: 20% I, 20% R, 60% E

AREA(S) OF EXPERTISE: Turfgrass

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1986	Iowa State
M.S.	1988	Iowa State
PH.D.	1993	Purdue

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

2005	Professor, Turfgrass Extension Specialist, Purdue University
2001-2005	Associate Professor, Turfgrass Extension Specialist, Purdue University
1997-2001	Assistant Professor, Turfgrass Extension Specialist, Purdue University
1992-1997	Administrative Professional, Turfgrass Extension Specialist, Purdue University
1988-1992	Professional Assistant, Turfgrass Research, Purdue University
1986-1988	Graduate Research Assistant, Horticulture Dept. Iowa State University

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

2004 Agriculture Team Award

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 110	Survey of Turfgrass Systems	Every fall	25
AGRY 512	Integrated Turfgrass Systems	Every fall	16

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Counselor for 10-15 students

TEACHING ACCOMPLISHMENTS SINCE 2002:

Totally revamped AGRY 512 to a capstone class which includes entirely working in teams throughout the semester, case studies and experiential problem solving, public presentations, etc.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

The Midwest Regional Turf Foundation and Indiana Nursery and Landscape Association combined forces to present the Indiana Green Expo starting in 2007, a 3-day conference with over 3000 attendees, 200 exhibitors, and 15 concurrent educational sessions

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Published over 20 journal articles

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 3 **PhD:** 1 / 2 **PostDocs:** 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Univ of Illinois, Tom Voigt and Bruce Branham. Collaborating on a number of weed management and giant miscanthus research project, as well as extension projects and publications.
- Univ of Kentucky, David Williams and AJ Powell. Collaborating on turf management research projects.
- Univ of Wisconsin-Madison, John Stier. Collaborating on weed management research project

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: Many small grants

Total funding received: \$500,000

Funding agencies: Midwest Regional Turf Foundation, Golf Course Superintendent's Assoc of America, Dow, Syngenta, Bayer, etc.

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 0/1

Refereed Journal Articles: 23/36

Non-refereed Papers: Many

Engagement publications: 10/50

Teaching publications:

Invited seminars, lectures and presentations:

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Kohler, E. A.*, V. L. Poole, Z. J. Reicher and R. F. Turco. 2005. Nutrient, metal, and pesticide removal during storm and non-storm events by a constructed wetland on an urban golf course. *Journal of Environmental Quality* 23: 285-298.

Reicher, Z. J., and Weisenberger, D. V. 2007. Herbicide selection and application timing in the fall affects control of ground ivy. Online. *Applied Turfgrass Science* (on line) doi:10.1094/ATS-2007-0831-01-RS. <http://www.plantmanagementnetwork.org/sub/ats/research/2007/ivy/>

Morton, D. E., D. V. Weisenberger, Z. J. Reicher, B. E. Branham, B. Sharp, R. Gaussoin, J. Stier and E. Koeritz. 2007. Evaluating bispyribac-sodium and sulfosulfuron for control of roughstalk bluegrass. *HortScience* 42(7): 1710-1714.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Teaching: Restructure AGRY 512 to include more non-golf experiences.
- Research: Initiate research/extension projects evaluating customer expectations and hopefully reducing inputs for homelawns
- Engagement: See research above, complete 10-15 Extension publications currently in draft form, finish lawn management pocket guide.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



TORBERT ROCHEFORD

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 2008

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Maize Molecular Genetics & Breeding

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1978	University of Massachusetts - Amherst
M.S.	1983	University of Maryland - College Park
PH.D.	1986	University of Nebraska - Lincoln

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Adjunct Professor, Department of Crop Sciences, University of Illinois, 7/2008 - 8/2009
Assistant, Associate, Full Professor, Agronomy/Crop Sciences, U. Illinois 8/1989 - 7/2008
Postdoctoral Research Associate, USDA/ARS and University of Florida 8/1986 - 8/1989
Graduate Research Assistant, Department of Agronomy, University of Nebraska 5/1983 - 8/1986

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Faculty Award for Global Impact, College of Agriculture, Consumer and Environmental Sciences (ACES), University of Illinois, Urbana, Spring, 2008

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
CPSC 452	Genetics of Higher Organisms	Fall 2003-07	15-20
CPSC 570	Plant Breeding Techniques	Summer 2004	20

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

- Faculty Advisor, ACES Global Ambassadors, Undergraduate Club 2003-2007
- Coordinated Summer Research Experience for High School and Undergraduate Students as part of NSF Plant Genome grant outreach program 2003-2008

TEACHING ACCOMPLISHMENTS SINCE 2002:

Taught a second course in genetics with relevance to plant breeding, undergraduate/graduate, included trips to field and private companies, encouraged/assisted many students to go to graduate school.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Engaged with University of Illinois alumni throughout the world, including France, China, South Africa, Spain. Purpose was to help develop alumni networks that may provide various benefits, including identifying international internship opportunities, and development efforts to endow graduate fellowships.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Collaborate with colleagues to develop a leading system on study of genetic basis of quantitative variation, carotenoids in maize grain. Completed project that was first successful marker assisted selection introgression of resistance to aflatoxins into commercial germplasm. Completed a series of QTL studies on maize kernel composition and candidate genes. Developing body of results on control of maize inflorescence architecture. Panel Manager, USDA-NRI Plant Genome Grant Program, 2005, 2006

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 6 PhD: 3 / 6 PostDocs: 1 / 3

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Collaborate with colleagues on maize inflorescence architecture, including Sarah Hake USDA/ARS Plant Gene Expression Center/ U.C. Berkeley. Collaborate with colleagues on carotenoids of maize grain, including Ed Buckler USDA/ARS, Cornell Univ. Collaborate with colleague on implementation of genetic results to increase levels of provitamin A in maize grain, including Kevin Pixley, CIMMYT, Mexico.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 9

Total funding received: \$2,100,000

Funding agencies: NSF Plant Genome, USAID, HarvestPlus, CERES, Inc., USDA, Rockefeller, Queensland, Australia Division of Agriculture

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 1 since 2002

Refereed Journal Articles: 29/63

Non-refereed Papers: 12/50

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 25 since 2002

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- C. Harjes, T. Rocheford, L. Bai, T. Brutnell, C. B.Kandianis, S.Sowinski, A.Stapleton, R. Vallabhaneni, M. Williams, E. Wurtzel,,J. Yan, E. Buckler. 2008. Natural Genetic Variation in Lycopene Epsilon Cyclase Tapped for Maize Biofortification. *Science* 319:330-333.
- J.C. Wong, R.J. Lambert, E. T. Wurtzel, and T.R. Rocheford. 2004. QTL and Candidate Genes Phytoene Synthase and zeta-Carotene Desaturase Associated with Accumulation of Carotenoids in Maize. *Theor. Appl. Genet.* 108:349-359.
- Laurie, C., S. Chasalow, J. LeDeaux, R. McCarroll, D. Bush, B. Hauge, C. Lai, D.L. Clark, T.R. Rocheford, and J.W. Dudley. 2004. The Genetic Architecture of Response to Long-Term Artificial Selection for Oil Concentration in the Maize Kernel. *Genetics.* 168:2141-2155.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Develop overall research program in interface of maize genetics and maize breeding at Purdue. Contribute proactively to development of a dynamic, internationally recognized and respected, interdisciplinary research program / team in maize molecular genetics and maize breeding.
- Develop an implement a new course, potentially in nutritional genomics/biochemical genetics. Develop course in a manner that it contributes to an enhanced overall curriculum in plant genetics and breeding.
- Engage Purdue alumni in the U.S. and throughout the world to enhance interactions that may provide various benefits, including internship opportunities for students, interaction with role models for students, collaborative projects with industry, and potential endowments for graduate fellowships.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



DARRELL G. SCHULZE

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1982

EFFORT DISTRIBUTION: 35% I, 65% R

AREA(S) OF EXPERTISE: Soil Mineralogy & Chemistry, Pedology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1975	Texas A&M University
M.S.	1977	Texas A&M University
PH.D.	1982	Technical University of Munich

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor (7/82 - 6/88), Associate Professor (7/88 - 6/96), Professor of Soil Science (7/96 - present), Purdue University

Visiting Professor, Soil Science Department, Federal University of Lavras, Lavras, Brazil, 1/98 - 7/98

Graduate Research Asst., Institute of Soil Science, Tech. Univ. of Munich, Freising, Germany, 9/77 - 6/82

Graduate Research Asst., Soil & Crop Sciences Dept., Texas A&M Univ., College Station, TX, 9/75 - 9/77

Soil Scientist (GS-7), USDA, Soil Conservation Service, Brenham, Texas, 5/75-9/75

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Marion L. and Chrystie M. Jackson Mid-Career Clay Science Award. 1996. The Clay Minerals Society.

Marion L. and Chrystie M. Jackson Soil Science Award. 1993. Soil Science Society of America.

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 565	Soil Classification, Genesis, and Survey	every fall	10 - 18
AGRY 650	Clay Mineralogy	every other spring	3 - 6

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic advisor to 3 to 4 undergraduates each year.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Obtained funding for 14 tablet PCs equipped with GIS (Geographic Information System) software and GPS receivers. Successfully integrated a teaching with GIS approach into AGRY 565, "Soil Classification, Genesis, and Survey." Obtained USDA Higher Education Challenge grant to incorporate a teaching with GIS approach into our undergraduate curriculum. Incorporated a Service Learning component into AGRY 565. Coeditor of "Soil Mineralogy with Environmental Applications," a text used in graduate soil mineralogy courses.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

I assist with the High School Soil Judging program each fall.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Research on an organic soil contaminated with As, Cr, Zn, Cd, and other metals showed how very complex these soils can be in terms of the solid phases present. Synchrotron-based x-ray micro-

diffraction was used to identify contaminant phases directly, and showed that many phases not detected by bulk x-ray diffraction are in fact present as pure or almost pure sub-millimeter size accumulations. The results are important for designing better in situ remediation strategies for metal-contaminated soils.

Our work with highly weathered acid soils from Brazil and Kenya has shown that soils from central Brazil are similar chemically and mineralogically to soils in Kenya west of the Rift Valley. Soils weathered from volcanic ash on the slopes of Mt. Kenya, however, are much more acidic and have higher aluminum saturation and phosphorus adsorption capacities. The results have important implications in the transfer of acid-tolerant maize and sorghum germplasm developed in central Brazil to East Africa.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 2 **PhD:** 1 / 3 **PostDocs:** 1 / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- EMBRAPA, Sete Lagos, Brazil (Robert Schaffert and others), Moi University, Eldoret, Kenya (Sam Gudu, Robert Okalebo and others). Phosphorus acquisition and aluminum tolerance of plants in marginal soils.
- Purdue Libraries (Chris Miller, Marianne Bracke), Computer Graphics Technology (Ron Glotzback, Bedrich Benes), and various agronomy faculty. Integrating Spatial Educational Experiences (Isee) into crop, soil, and environmental science curricula.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 4

Total funding received: \$350,337

Funding agencies: Department of Agriculture, McKnight Foundation, Department of Defense, National Science Foundation

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 1/2

Book chapters: 4/12

Refereed Journal Articles: 12/48

Non-refereed Papers: 4/18

Engagement publications:

Teaching publications: 1/1

Invited seminars, lectures and presentations:

Patents/Copyrights: 0/1

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Dixon, J. B., and D. G. Schulze (editors). 2002. Soil Mineralogy with Environmental Applications. Soil Science Society of America, Madison, WI. 866 p.

Marques, J. J., D. G. Schulze, N. Curi, and S. A. Mertzman. 2004. Trace element geochemistry in Brazilian Cerrado soils. *Geoderma* 121:31-43.

Schulze, D. G., R. R. Struthers, P. R. Owens and G. E. Van Scoyoc. 2007. Teaching soil-landscape interactions using rugged tablet PCs in the field. p. 119-127 in D.A. Berque, J. C. Prey, R. H. Reed, (eds.), *The impact of tablet PCs and pen-based technology on education: Beyond the tipping point.* Purdue University Press, West Lafayette, IN.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

I plan to continue to work to expand our ability to visualize the interconnections between soils, topography, crop productivity, land use, and other properties at various scales using state-of-the-art geographic information system (GIS) technology and Web 2.0 delivery systems. The tools and data sets that we develop will be used in our teaching, research, and engagement activities.

I also plan to continue my international work in two areas. First, I plan to continue to collaborate with crop scientists to enhance the phosphorus uptake efficiency and aluminum tolerance of crops by providing the pedology and soil chemistry research needed for this effort. Second, I will continue to work to establish collaborative teaching and research programs with Moi University in Kenya that will benefit both Purdue and Moi universities.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



PAUL SCHWAB

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1998

EFFORT DISTRIBUTION: 20% I, 50% R

AREA(S) OF EXPERTISE: Environmental soil chemistry

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1976	Colorado School of Mines
M.S.	1978	Colorado State University
PH.D.	1981	Colorado State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Director, Natural Resources and Environmental Sciences Program, Purdue Univ. 2008-present
Professor, Purdue University, West Lafayette, Indiana. 1998-present
Professor, Agronomy, Kansas State University, Manhattan, Kansas. 1994-1998
Associate Professor, Agronomy, Kansas State University, Manhattan, Kansas. 1989-1994
Assistant Professor, Agronomy, Kansas State University, Manhattan, Kansas. 1983-1989
Research Scientist, Battelle Pacific Northwest, Richland, Washington. 1981-1983

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Chair, Division S-11, Soils and Environmental Quality, 2004
Fellow, Soil Science Society of Agronomy, 2001
Fellow, American Society of Agronomy, 1998
Chair, Soil Chemistry Division of Soil Science Society of America, 1998-1999
Emil Truog Award for the Outstanding Dissertation in Soil Science, 1982
Member, Sigma Xi, research honorary
Member, Gamma Sigma Delta, agriculture honorary

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGR 101	Ag Orientation (NRES/preES division)	2	21
AGRY 540	Soil Chemistry	1	18
AGRY 555	Soil and Plant Analysis	5	6
AGRY 598	Environmental Geotechnology	1	16

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Director, Natural Resources and Environmental Science (NRES) program (60 students)
Director, pre Environmental Studies (preES) program (10 students)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Two publications in conjunction with Brad Lee:

- de Koff, J.P., B.D. Lee and A.P. Schwab. 2007. Avoiding arsenic exposure from treated lumber around the home. Purdue University Cooperative Extension HENV-100-W.
(<http://www.ces.purdue.edu/new/HENV-100-W.pdf>)
- de Koff, J.P., B.D. Lee and A.P. Schwab. 2007. Protecting your family from lead in the home. Purdue University Cooperative Extension HENV-101-W.
(<http://www.ces.purdue.edu/new/HENV-101-W.pdf>)

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Completed research evaluating the leaching of contaminants from coal piles. Funded by Energy Producers Research Initiative (EPRI).
- Completed a research project funded by the Department of Defense studying approaches to decreasing chemical lability and bioavailability of heavy metals in contaminated soils.
- A project by the Water Environment Research Foundation demonstrated that biosolids applied to farm fields at the recommended rates had neither long-term nor short-term impacts on toxicity to a suite of biological indicators.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 4 PhD: 2 / 5 PostDocs: 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Julie Smock, US Steel. Studying the potential of reclamation of steel mill slag with minimal addition of amendments
- Jason Weiss, Purdue Civil Engineering. Examining the cementing properties of waste products and mechanisms to reduce, prevent, or overcome the cementing process.
- Kathy Banks, Civil Engineering. Soil remediation, bioavailability of contaminants.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 16

Total funding received: \$364,953

Funding agencies: Department of Defense, WERF, Indiana Department of Transportation, US Environmental Protection Agency

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Book chapters: 4/11

Refereed Journal Articles: 33/93

Non-refereed Papers: 12/35

Engagement publications: 2/2

Invited seminars, lectures and presentations: 10/43

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Cofield, N., M.K. Banks, A.P. Schwab. 2008. Lability of polycyclic aromatic hydrocarbons in the rhizosphere. *Chemosphere*. 70:1644-1652.

Smith, K.W., A.P. Schwab, and M.K. Banks. 2007. Phytoremediation of polychlorinated biphenyl (PCB)-contaminated sediment: a greenhouse feasibility study. *J. Environ. Qual.* 36:239-244.

Chen, Y.C., M.K. Banks, and A.P. Schwab 2003. Pyrene degradation in the rhizosphere of tall fescue (*Festuca arundinacea*) and switchgrass (*Panicum virgatum* L.). *Environ. Sci. Tech.* 37:5778.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Continue to build the NRES and preES programs. We'd like to see nearly 100 NRES students and at least 20 preES students.
- Expand my involvement in Central Asian environmental projects. I have been working with the Civilian Research and Development Foundation for over ten years, and my involvement has doubled this past year. Continue with phytoremediation and restoration research. This has been the cornerstone of my research program for over a decade. Funding has been scant over the past 4+ years, but we're continuing to work hard to establish new collaborations and find new sources of funding.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



LEE E. SCHWEITZER

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1980

EFFORT DISTRIBUTION: 90% I, 10% R

AREA(S) OF EXPERTISE: Crops Teaching, Cropping Systems Management, Crop Physiology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1974	Purdue University
M.S.	1978	University of Illinois
PH.D.	1980	University of Illinois

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor of Agronomy, Purdue University, 1994 to present
Associate Professor of Agronomy, Purdue University, 1986-1993
Assistant Professor of Agronomy, Purdue University, 1980-1986
Graduate Teaching & Research Assistant, University of Illinois, 1974-1980

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Amoco Outstanding Teacher, Purdue University, 1987.
Outstanding Teacher, School of Agriculture, Purdue University, 1987
Outstanding Counselor, School of Agriculture, Purdue University, 1987
Fellow, National Association of Colleges and Teachers of Agriculture, 1986
Agronomic Resident Education Award, American Society of Agronomy, 1991
E.B. Knight Award for Outstanding Teaching Journal Article - National Association of Colleges and Teachers of Agriculture, 1994
Gamma Sigma Delta Award of Merit for Teaching. Purdue University, 1995
American Society of Agronomy Educational Materials Award for the development of the "Corn Growth, Development, and Diagnostics Germination To Knee-High" CD-ROM. 1996
Fellow, Purdue University Teaching Academy, 1999
Book Of Great Teachers, Purdue University. 1999
Crop Science Teaching Award, Crop Science Society of America, 2001

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 350	Global Awareness	Spring	55 to 75
AGRY 375	Crop Production Systems	Fall & Spring	55 to 75
AGRY 398	Sophomore Seminar	Fall	45 to 55

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

- Teaching Coordinator - Department of Agronomy. Fall 2008 to present. Coordinate teaching activities of department. Chair weekly meetings of the Departmental Teaching Committee, support the achievement of the teaching mission in all ways possible and foster good communication among the teaching faculty.
- Advising Coordinator / Option Representative. 2005 to present. Support good communication with students, among our faculty advisors, our teaching secretaries, and myself to deliver effective

undergraduate advising services. Maintenance of high quality in this critical service area as a top priority of the Department of Agronomy. Audit student progress toward degree objectives and certify candidate status for graduation when degree requirements are met.

- Placement Coordinator - Department of Agronomy. 1987 to present. Assure that all Agronomy students have the skills necessary to write excellent resumes; prepare for, schedule, participate in, and follow up on placement interviews; and explore alternative career paths. Most of this training is provided through AGRY 398 and 498 (Sophomore and Senior Seminars). Additional training is provided through offerings by the Center for Career Opportunities. Internship placement of Agronomy students continues to be strong. Nearly all Seniors surveyed in AGRY 498 report having participated in at least one summer/semester internship experience, with most participating in two or more (average 5.2). Placement of B.S. graduates continues to be strong with near full employment for students who actively sought positions.
- Scholarship Coordinator - Fall 2005 to present. Coordinate
- Curriculum and Student Relations Committee. Agronomy Representative. College of Agriculture. Fall 2005 to present.
- Instructional Innovation Grant Program Selection Committee. College of Agriculture. Co-Chairman 2006 to present.
- College of Agriculture Outcomes Based Teaching Improvement Committee. Agronomy Representative. Spring 2008 to present.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Continued development of enhanced teaching strategies including the use of multimedia in cropping systems course support and distance education resources such as Adobe Connect in Global Awareness course support.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Interact with corn soybean and wheat producers during each growing season as a backup resource person to answer extension questions.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: _____ / _____ PhD: _____ / _____ PostDocs: _____ / _____

KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002: (LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)

EXTRAMURAL FUNDING SINCE 2002:

Number of grants:

Total funding received:

Funding agencies:

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters:

Refereed Journal Articles: 0 / 11

Non-refereed Papers:

Engagement publications:

Teaching publications: 1 / 6

Invited seminars, lectures and presentations: 1 / 29

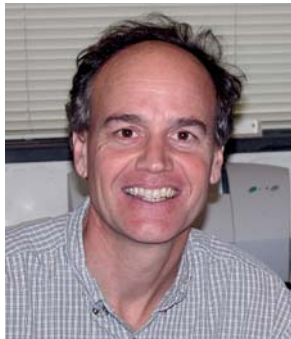
Patents/Copyrights: Interactive Multimedia Series

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Teaching - Continue to develop and enhance effective teaching strategies and methodologies in cropping systems and global awareness courses. Support departmental and college level activities in Outcome Based Teaching Improvement and Critical Thinking.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



STEVE SCOFIELD

RANK: Adjunct Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2002

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Plant Molecular Biology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1976	Kenyon College, Gambier OH
M.S.		
PH.D.	1985	Indiana University, Bloomington, IN

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Plant-Pathogen Interactions Research coordinator for IGROW (International organization for Genomics Research On Wheat) 2004- 2005.

Member of the Genetic Engineering and Transformation Research Advisory Council for the US Wheat and Barley Scab Initiative 2005 - 2007.

Chairperson of the Gene Discovery and Engineering Resistance Research Advisory Council for the US Wheat and Barley Scab Initiative 2008 - 2011.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Certificates of Merit from the USDA-ARS 2003, 2004, 2006 and 2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY696	Graduate Seminar	1	8

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Head of advisory committee for Megan Gillespie

Member of advisory committees for 11 Ph.D. students and 2 M.S. students

TEACHING ACCOMPLISHMENTS SINCE 2002:

Taught AGRY 696 during the spring semester of 2008.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Developed and presented a class titled: "Introduction to Plant Molecular Biology" to 4-H high school students 2007 and 2008.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- I established the first virus-induced gene silencing (VIGS) system for wheat. This system makes it possible to create a gene knockout that can be used to assess the function of gene in wheat in as little as one month.
- My lab used our VIGS system demonstrate the requirement for the RAR1, SGT1 and HSP90 genes in a wheat leaf rust resistance pathway.

- My group collaborated with Dr. Guri Johal to demonstrate that all grass crops are protected from a devastating fungal pathogen by the HM1 genes, which are a unique evolutionary invention of the grasses.
- My lab has employed our VIGS system to develop the first functional screening system to identify genes contributing to Fusarium head blight in wheat.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 2 PhD: 7 / 13 PostDocs: 0 / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Purdue University, Dr. Guri Johal - assessing if HC toxin reductase may have a general role in providing resistance of all grasses to Cochliobolus carbonum.
- University of Zurich, Switzerland, Dr. Beat Keller - to identify wheat genes required for resistance to powdery mildew.
- USDA-ARS West Lafayette, IN, Dr. Steve Goodwin - to examine the genetic requirements for host and non-host resistance.
- USDA-ARS West Lafayette, IN, Dr. Joe Anderson - to examine genes required in resistance to cereal yellow dwarf virus.
- USDA-ARS, Ames, IA Dr. Roger Wise - to test if BSMV can be used to identify genes required in Mla-mediated resistance of barley to powdery mildew.
- Purdue Univ. Dr. Nick Carpita - identifying genes encoding cell wall biosynthetic enzymes of barley.
- Colorado State University, Dr. Nora Lapitan - using BSMV-VIGS to identify genes required for resistance to Russian Wheat Aphid.
- University of California-Davis, Dr. Jorge Dubcovsky - using BSMV-VIGS to identify genes in a stem rust pathway.
- University College Dublin, Ireland, Dr. Fiona Doohan - using BSMV-VIGS to identify genes contributing to Fusarium head blight resistance in wheat and barley.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 4

Total funding received: \$290,406

Funding agencies: US Wheat and Barley Scab Initiative

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0

Book chapters: 2

Refereed Journal Articles: 7/26

Non-refereed Papers: 12

Engagement publications:

Teaching publications: 0

Invited seminars, lectures and presentations: 15

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Scofield, SR, Huang, L. Brandt, AS and Gill, BS Development of a virus-induced gene silencing system for hexaploid wheat and its use in functional analysis of the Lr21-mediated leaf rust resistance pathway. *Plant Physiol.* 138: 2165-2173, 2005.

Sindu A, Chintamanani, S, Brandt, A.M., Zanis, M. Scofield, SR and Johal, G. (2008) A guardian of the grasses: Specific origin and conservation of a unique disease resistance gene in the grass lineage. *Proc. Natl. Acad. Sci. USA* 105: 1762-1767.

Scofield, SR and Nelson R. Resources for Virus-induced Gene Silencing in the Poaceae. *Plant Physiology* (under review).

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

My lab will begin testing novel strategies to engineer resistance to Fusarium head blight and other diseases of wheat.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



DOUGLAS R. SMITH

RANK: Adjunct Associate Professor

DATE OF APPOINTMENT AT PURDUE: 2002

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Nutrient Fate and Transport

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1997	Texas A&M University - Commerce
M.S.	1999	Texas A&M University - Commerce
PH.D.	2002	University of Arkansas

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Research Soil Scientist, USDA-ARS National Soil Erosion Research Laboratory, West Lafayette, IN, 2002 to Present

Adjunct Assistant Professor, Purdue University Agronomy Department, West Lafayette, IN, 2002 to 2007

Adjunct Associate Professor, Purdue University Agronomy Department, West Lafayette, IN, 2007 to Present

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Gamma Sigma Delta Honor Society

Texas A&M University – Commerce, Profiled for Careers in Research, 2006

Certificate of Merit for Outstanding Performance, USDA-ARS, (6 times 2003-2008)

Texas A&M University – Commerce 2002 Alumni Ambassador

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Advised one undergraduate research student on the influence of agricultural drainage ditch maintenance on nutrient fate and transport. The student presented the research findings at the 2007 SASES undergraduate student research poster competition.

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Discovered that dredging of agricultural drainage ditches may result in the release of phosphorus and nitrogen to the water column in greater quantities than what was observed prior to dredging.
- Developed an understanding of land-use management and surface drainage patterns from watershed scale measured data.
- Developed a method to evaluate nutrient transport from plot (~2m²) to basin (> 15,000 km²)

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 6 PhD: 2 / 3 PostDocs: _____ / _____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Purdue University, Sylvie Brouder and Tony Vyn. Research to assess greenhouse gas emissions from agricultural land management.
- St. Joseph River Watershed Initiative, Jane Loomis. Collaboration to evaluate the water quality for the drinking water source for the city of Ft. Wayne, IN.
- USDA-ARS, Temple, TX, Daren Harmel. Working together to assess uncertainty in measured data and the influence of agricultural and manure management on soil and water quality.
- USDA-ARS, Columbus, Ohio, Kevin King. We have companion watershed projects in Ohio and Indiana to assess the influence of agricultural management on water quality.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 1
Total funding received: \$40,000
Funding agencies: USDA-NRI

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:
Book chapters: 1/1
Refereed Journal Articles: 30/31
Non-refereed Papers: 11/17
Engagement publications: 2/2
Teaching publications:
Invited seminars, lectures and presentations: 9/9
Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Smith, D.R., S. J. Livingston, B.W. Zuercher, M. Larose, G.C. Heathman, and C. Huang. 2008. Nutrient losses from row crop agriculture in Indiana. *Journal of Soil and Water Conservation*. 63:396-409.
Smith, D.R., E.A. Warnemuende, B.E. Haggard and C. Huang. 2006. Dredging of drainage ditches increases short-term transport of soluble phosphorus. *Journal of Environmental Quality*. 35:611-616.
Smith, D.R., P.A. Moore, Jr., B.E. Haggard, C.V. Maxwell, T.C. Daniel, K. VanDevander and M.E. Davis. 2004. Impact of aluminum chloride and dietary phytase on relative ammonia losses from swine manure. *Journal of Animal Science*. 82:605-611.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

My research goals for the next five years include: Develop a more quantitative understanding of in-stream nutrient fate and transport; Evaluate the influence of conservation practices on water quality, and develop tools to guide the placement of conservation practices; Assess the influence of eastern corn belt cropping systems management on greenhouse gas emissions; Determine the influence of freeze/thaw cycles on soil erodibility and nutrient transport.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



LORI UNRUH SNYDER

RANK: Assistant Professor

DATE OF APPOINTMENT AT PURDUE: 2007

EFFORT DISTRIBUTION: 80% I, 20% R

AREA(S) OF EXPERTISE: Agronomy-Sustainable Forage Systems

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1996	Cornell University
M.S.	1998	Cornell University
PH.D.	2003	North Carolina State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor, Purdue University-Agronomy Department, West Lafayette, IN (2007-present)

Lecturer: University of Florida- Agronomy Department, Gainesville, FL (2004-2007)

Lecturer: North Carolina State University- Crop Science Department, Raleigh, NC (2000-2004)

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Agronomy Society of America, A-4 Extension Educational Materials Contest, 2007

Gold Image Award, University of Florida, 2007

University Graduate Student Teaching Assistant Award, NC State, 1999 to 2004

North American Colleges & Teachers of Agriculture Graduate Teaching Award, USA, 2003

Outstanding College Graduate Teaching Assistant Award, NC State, 2002

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 105	Crop Production	Fall/ Spring	60

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic Advisor to 6 undergraduate Agronomy Science majors, Faculty Advisor for Forage Bowl

TEACHING ACCOMPLISHMENTS SINCE 2002:

Revised, updated and improved the course content for AGRY 105 (Crop Production) to reflect more current information. Developed the first distance education course for Crop Production (AGRY 105Y). Developed international study abroad course to Honduras focused on Sustainable Agriculture. Created a new capstone course in Costa Rica for sustainable agriculture. Preparing a new laboratory manual for AGRY 105 (Crop Production). Updating the Crops Resource Center for undergraduate programs.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

National presenter at the Agronomy Society and Crop Science Society Conferences for crop science education and forage production. Presentations: International: 2; National: 7; Regional: 2; State: 16.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Established and externally funded a research program established in the area of forage production systems. Authored or co-authored 7 peer-reviewed research publications.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 0 **PhD:** 1 / _____ **PostDocs:** 1 / _____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Purdue University, Animal Science Department: Drs. Lake, Lamanager, Nimmeck, Neary, Ebner (Ruminant Nutrition Research and Nutrient Management); Agricultural Economics Department: Drs. Luc Valentin and Marshall (Economics of Biofuels)
- EARTH University, Costa Rica, Dr. Daniel Herrera: Research and Teaching with Sustainable Pasture Management (EARTH- adjunct faculty) and Dr. Pedro Bidegray (International Programs Office)
- Zamorano University, Honduras, Isidro Matamors (International Forage Production Travel Course for Undergraduate and Graduate students)

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 10

Total funding received: \$550,000

Funding agencies: USDA-Higher Education Challenge Grant, USDA, Integrated Organic Program and college and departmental grants

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0

Book chapters: 0

Refereed Journal Articles: 7

Non-refereed Papers: 3

Engagement publications: 1

Teaching publications: 3

Invited seminars, lectures and presentations: 12

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Unruh-Snyder, L.J., J.M. Luginbuhl, J.P. Mueller, A. Conrad, and K.E. Turner. 2007. Intake, Digestibility, and Nitrogen Utilization of Robinia pseudoacacia Foliage Fed to Growing Goat Wethers. Small Ruminant Research. 71:179-193.

Unruh Snyder, L.J., J.P. Mueller, J.M. Luginbuhl and C. Brownie. 2007. Growth characteristics and allometry of Robinia pseudoacacia as a silvopastoral system component. Agroforestry Systems Volume 70 (1), pp. 41-51.

Bonczeck, J. L., L.J. Unruh Snyder, L.R. Ellis. 2007. An Academic Club Service Learning Project as a Demonstration of Experiential Teaching Tools. Journal of Natural Resources and Environmental Education Vol. 36 pp.107-111.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Teaching: I want to increase student numbers in AGRY 105, Crop Production. Develop the first distance education course to help increase dual-enrollment for rural Indiana high school students. Research: Increase forage testing facilities to contribute to joint projects between Animal Science and Agronomy Departments; also play a key role in cellulositic biofuel studies. Engagement: Continue focusing on developing community experiences for undergraduate students and contribute in the future to the diagnostic training center.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



GARY C. STEINHARDT

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1976

EFFORT DISTRIBUTION: 50% I, 10% R, 40% E

AREA(S) OF EXPERTISE: Soils and Soil Mangement

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1966	Michigan State University
M.S.	1968	Michigan State University
PH.D.	1976	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

None

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

American Society of Agronomy, Certificate of Excellence for Educational Materials, 2004
Agronomy Outstanding Teacher Nominee, 2003
American Society of Agronomy, Certificate of Excellence for Educational Materials, 2003
Entomological Society of America, Educational Project Award, 2007
Purdue University College of Agriculture Team Award, 2008 - Diagnostic Training Center
Sagamore Council, Boy Scouts of America, Outstanding Venture Crew Advisor, Tecumseh District for 2006-2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 155	Introduction to Soil Morpholgy	Fall	5
AGRY 355	Soil Morphology and Geography	Fall	5
AGRY 450	Soil Conservation and Water Management	Fall	12
AGRY 585	Soils and Land Use	Spring	20
AGRY 598	Special Problems in Soil Morphology	Fall and Spring	8

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Agronomy Academic Advisor
Alpha Delta Chapter, Theta Chi Fraternity, Advisor
Purdue University Chapter, The Fraternity of Alpha Zeta, Advisor
Purdue University Soils Team, Coach
Purdue University Student Chapter Soil and Water Conservation Society, Advisor

TEACHING ACCOMPLISHMENTS SINCE 2002:

I have been the coach of the Purdue Soils Team. Purdue teams have won the Region 3 American Society of Agronomy Contest five times, and participated the American Society of Agronomy National Soils Contest and the North American Colleges and Teachers of Agriculture Contest. Charles Mansfield

and I started a satellite soil judging program at Vincennes. This has resulted in a winning NACTA two year team and the invitation for two year schools to join the Region 3 contest

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

I have trained Certified Crop Advisors. I developed “hands on” activities for soil survey, tillage selection and acreage measurement. Site specific farming programs have been done. I act as official judge for the 4H/FFA soil judging program at both area and state level that involves thousands of participants.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Completed the Struthers’s MS study of an Order 1 soil survey of the site-specific study at the Davis-Purdue Farm.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 1 PhD: 0 / 1 PostDocs: 0 / 0

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

None

EXTRAMURAL FUNDING SINCE 2002:

Number of grants:

Total funding received:

Funding agencies:

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0

Book chapters: 0

Refereed Journal Articles: 2

Non-refereed Papers: 5

Engagement publications: 10

Teaching publications: 1

Invited seminars, lectures and presentations: 0

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Completed the Struthers’s MS study of an Order 1 soil survey of the site-specific study at the Davis-Purdue farm. There is great interest in this study and remarkable correlation with yield. Students have started appealing to various donors to support specifically the Soils Team activities. We had approximately \$1000.00 donated based on these appeals. The area and state soils contests for 4H/FFA continue to be very successful. The manual is being revised to update both the agricultural and home site practices. We were able to cover all contests and there was general satisfaction. It was a learning experience for all participants including the official judges.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- A study will be started at the Agronomy Farm, DTC in soil properties with legume and grass cover crops again with corn as the crop.
- I intend to complete an improvement to the current Extension publication on land surveys.
- Extension programs will be available to cover subject matter in soil management.
- 4H/Youth efforts will be continued and recruiting will be expanding if possible.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



DIANE E. STOTT

RANK: Adjunct Professor

DATE OF APPOINTMENT AT PURDUE: 1985

EFFORT DISTRIBUTION: 100% R

AREA(S) OF EXPERTISE: Biogeochemistry, soil enzymology, carbon cycle, soil quality, soil erosion

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1976	Oregon State University
M.S.	1979	Oregon State University
PH.D.	1982	University of California, Riverside

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Soil Scientist, USDA-ARS, National Soil Erosion Research Laboratory, 1984-present

Lead Scientist, USDA-ARS, 2004-present

Visiting Researcher, Univ. Federal de Lavras, Lavras, Minas Gerais, Brazil, 1998

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Fellow, American Society of Agronomy, 1997

2nd Vice chair for Division 3 (Soil Use and Management), International Union of Soil Science (IUSS), 2002-2006

Elected Chair, Division S-6 (Soil & Water Management & Conservation), Soil Science Society of America (SSSA); Chair-elect in 2004, Chair in 2005, and Past-chair in 2006

Elected Member, Board of Directors, SSSA, Representing Division S-6, 2006-2008

Elected Chair, Commission 3.2 (Soil & Water Conservation), IUSS, 2006-2010

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
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OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Application of RUSLE to the Kenyan Highlands. In the Embu district of central Kenya, we demonstrated that calliandra and Napier grass hedges could be used to form and maintain natural terraces. We determined erosion rates from hill slopes under natural rainfall during several rainy seasons, with and without these hedges, showing a significant increase in erosion control with the hedges. RUSLE technology was adapted to the area, introduced to personnel working with limited resource farmers. The project was funded by the Rockefeller Foundation.

Soil quality in the Brazilian Cerrado. Sampled soils over a three state area in the southern part of the Cerrado to develop a baseline for soil quality in the native soil. Specifically we determined the biochemical, chemical and structural status of these soils, while other project members determined the

chemical, mineralogical, and physical characteristics. These baselines will allow monitoring of these regional soils as they come under agricultural production, reducing the impact on the Amazon Basin.

Optimization of FDA enzyme technique for soil quality. Developed a method for measuring fluorescein diacetate (FDA) activity in soil as a measure for overall soil microbial activity. Until then, the most common method used was based on pure culture work that did not work well in heterogeneous soil environments. The FDA enzyme technique can be applied to soil quality quantification for different soil types and will be utilized for CEAP soil quality assessments.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 1 **PhD:** 0 / 2 **PostDocs:** 0 / 1

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Tim Filley, Earth & Atmospheric, Purdue. Woody encroachment of savannahs: Impact on carbon cycling.
Ron Follet, ARS, Ft. Collins, CO & GRACEnet team. Impact of soil & crop management on greenhouse gas emissions.

Doug Karlen, ARS, Ames, IA. Soil quality across landscapes, an investigation of the ARS experimental watersheds.

Wayne Honeycutt, ARS, Orono ME. GHG emissions from root crops.

Doug Karlen, ARS, Ames IA & REAP Team. Impact of biofuel feedstock harvest on soil quality & productivity.

Mark Liebig, ARS, Mandan ND. Crop dynamics impact on soil biochemical characteristics

Susan Andrews, NRCS, Greensboro NC. β -glucosidase as a soil quality indicator in the SMAF (soil management assessment framework) model.

Nilton Curi, UFLA, Lavras MG Brazil. soil chemical & biochemical characteristics of Cerrado soils.

Henry Torbert, ARS, Auburn AL. Impact of elevated CO₂ on soil biochemical characteristics.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 5 plus base funding

Total funding received: \$2,958,650

Funding agencies: ARS (base funding and special funds), NRCS, NSF

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/1

Book chapters: 2/10

Refereed Journal Articles: 12/32

Non-refereed Papers: 6/19

Engagement publications: 0/1

Invited seminars, lectures and presentations: 5/32

Software packages: 0/2

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Angima, S.D., D.E. Stott, M.K. O'Neill, C.K. Ong and G.A. Weesies. 2002. Use of calliandra-Napier grass contour hedges to control erosion in central Kenya. *Agriculture, Ecosystems and Environ.* 91:15-23.

Green, V.S., D.E. Stott, and M. Diack. 2006. Assay for fluorescein diacetate hydrolytic activity: Optimization for soil samples. *Soil Biology & Biochemistry* 38:693-701.

Green, V.S., D.E. Stott, J.C. Cruz, N. Curi. 2007. Tillage impacts on soil biological activity and aggregate stability in Brazilian Cerrado Oxisols. *Soil & Tillage Research* 92:114-121.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Research goals include 1) understanding the impacts of management on soil quality on a field and watershed scale, including soil quality assessments using SMAF and SQI; 2) understanding the movement of dissolved organic carbon and inorganic carbon from watersheds; 3) impact of management systems on greenhouse gas emissions and soil biochemical cycles; 4) impact of corn stover harvest for biofuel feedstock on soil quality and productivity; 5) increased understanding on the impacts of biochemical processes on soil quality, productivity and erodibility.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



DAN SZYMANSKI

RANK:

DATE OF APPOINTMENT AT PURDUE: 1999

EFFORT DISTRIBUTION: 25% I, 75% R

AREA(S) OF EXPERTISE: Plant Genetics, Genomics, Cell Biology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1989	University of Michigan
M.S.		
PH.D.	1995	University of Illinois

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

2004-present	Associate Professor, Purdue University, Department of Agronomy
1999-2004	Assistant Professor, Purdue University, Department of Agronomy
1995-1999	Research Associate, University of Minnesota, Genetics and Cell Biology
1990-1995	Research Assistant, University of Illinois, Department of Plant Biology

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

2005	Study in a Second Discipline
1998-1999	NSF Cytoskeleton Training Grant Fellowship
1998	3-D Microscopy of Living Cells Fellowship

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
320	Genetics	7	150
430	Advanced Undergraduate Genetics	1	16
530	Advanced Plant Genetics	3	15

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Coordinated creation of the Genetics Lab class, Genetics 321 with Dr. Gregore Koliantz, coordinated more than 10 undergraduate research projects. Promote outreach activities for the PULSe graduate student organization.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Dr. Szymanski participated in several Center for Instructional Excellence workshops that increase teaching effectiveness. Dr. Szymanski served as a research mentor for more than 10 undergraduate students and 1 high school student. Dr. Szymanski is the director of the PULSe graduate program.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: _____ / _____ PhD: 2 / 4 PostDocs: 4 / 6

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Dr. Fred Ausubel, Harvard Medical School. In collaboration with the Ausubel lab we are examining non-host resistance to fungal pathogens. We are finding that cytoskeleton-regulating genes are required for non-host resistance.
- Dr. Michael Bevan, John Innes Centre, UK. Understanding the role of the actin cytoskeleton during the integration of metabolic and growth activities in plants.
- Dr. Pamela Ronald, University of California Davis, In collaboration with the Ronald lab we are analyzing the loss of function phenotypes of a large number of rice mutants that are affected in cytoskeletal function. A comparative approach of monocot and dicot mutants will shed new light on the function of particular cytoskeletal proteins during plant development.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 4
Total funding received: \$2,100,000
Funding agencies: DOE, USDA, NSF

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 1 since 2002
Book chapters: 2/2
Refereed Journal Articles: 11/19
Non-refereed Papers:
Engagement publications:
Teaching publications:
Invited seminars, lectures and presentations: 10 since 2002
Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- Jie Le, E. L. Mallery, C. Zhang, S. Brankle, D. B. Szymanski. 2006 Arabidopsis BRICK1/HSPC300 is an essential subunit of the WAVE complex that selectively stabilizes the Arp2/3 activator SCAR2. *Current Biology* 16, 895-901. (cited = 5)
- Basu, D., Le, J., Zakharova, T., Mallery, E.L., and Szymanski, D.B. 2008 A SPIKE1 signaling complex controls actin-dependent morphogenesis through the WAVE and ARP2/3 complexes. *PNAS USA* 105, 4044-4049.
- Chunhua Zhang, Eileen L. Mallery, Shanjin Huang, Jessica Schlueter, Youran Fan, Steven Brankle, Christopher J. Staiger, and Daniel B. Szymanski 2008 Arabidopsis SCARs function interchangeably to meet ARP2/3-activation thresholds during morphogenesis (*Plant Cell*, in press)

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Develop molecular tools to engineer crop species to have increased disease resistance or more robust yield in the context of biomass production. Have initiated translational research projects using maize, Arabidopsis, and rice.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



MITCHELL TUINTRA

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 2007

EFFORT DISTRIBUTION: 20% I, 80% R

AREA(S) OF EXPERTISE: Plant breeding and genetics

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	2001	Calvin College, Grand Rapids, MI
M.S.	2003	Purdue University
PH.D.	2006	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor and Wickersham Chair of Excellence in Agricultural Research, Department of Agronomy, Purdue University, 2007-present

Professor, Department of Agronomy, Kansas State University, 2006-2007

Associate Professor, Department of Agronomy, Kansas State University, 2001-2005

Assistant Professor, Department of Agronomy, Kansas State University, 1997-2001

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Wickersham Chair of Excellence in Agricultural Research, Purdue University, 2007

Early Career Award, Gamma Sigma Delta, 2001

Excellence in Biological Research Graduate Fellowship, Dow Elanco, 1995

Doctoral Fellowship, McKnight Foundation, 1994

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRON 598	Principles of Crop Improvement	1	1
AGRON 399	Independent Study	1	1
AGRON 970	Advanced Plant Breeding (KSU)	1	3
AGRON 980	Molecular Tools for Crop Improvement (KSU)	2	7

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Academic advising - 6 students

Graduate Advisory Committees - 22 students

TEACHING ACCOMPLISHMENTS SINCE 2002:

Vice-chair of the Education and Training of Plant Breeders Subcommittee and member of the Plant Breeding Coordinating Committee (SCC 080)

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

- Released 102 elite sorghum parent lines to the United States seed industry.
- Developed ALS herbicide resistance in sorghum - Acetolactate Synthase Herbicide Resistant Sorghum. Patent Cooperation Treaty. Intl. App. No.: PCT/US2007/86612 filed December 6, 2007.
- Developed ACCase herbicide resistance in sorghum - Acetyl-CoA Carboxylase Herbicide Resistant Sorghum. United States Provisional Application No. 60/880,125 filed January 12, 2008.
- Developed and demonstrated the efficacy of a novel herbicide seed treatment technology for controlling *Striga* infestation of sorghum based on use of sulfonyl urea herbicides as a seed treatment.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 6 PhD: 2 / 4 PostDocs: 1 / 1

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Niger, Souley Soumana; Burkina Faso, Hamidou Traore; Mali, Mountaga Kayentao. An international sorghum breeding and genetic research program supported by the USAID Collaborative Research Support Program.
- Delaware, DuPont Crop Protection, David Aupperle; Kansas State University, Kassim Al-Khatib. Interdisciplinary research project to develop and evaluate herbicide and weed management technologies for sorghum for deployment in the United States and Africa

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 8 (7 at KSU)

Total funding received: \$1,250,000

Funding agencies: Kansas Sorghum Commission, National Sorghum Producers Association, USDA, INTSORMIL-USAID-CRSP, Hatch, NC501, Wageningen University

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 2

Refereed Journal Articles: 25

Non-refereed Papers: 1

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 10

Patents/Copyrights: 2

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Tesso TT, Tuinstra MR, Claflin LE. 2005. Analysis of stalk rot resistance and genetic diversity among drought tolerant sorghum genotypes. *Crop Science* 45:645-652.

Kriegshauser TD, Tuinstra MR, Hancock JD. 2006. Variation in nutritional value of sorghum hybrids with contrasting seed weight characteristics and comparisons with maize in broiler chicks. *Crop Science* 46: 695-699.

Tuinstra MR, Al-Khatib K. 2007. New herbicide tolerance traits in sorghum. In: Proceedings of the 2007 Corn, Sorghum, and Soybean Seed Research Conference and Seed Expo, Chicago, IL, Dec 5-7, American Seed Trade Association. Alexandria, VA.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Teaching: Develop and teach a graduate course in Applied Quantitative Genetics and an undergraduate course in international agriculture.
- Research: Establish a world class research program in maize breeding and genetics with focus on stress tolerance and end-use quality traits in elite temperate and tropical maize germplasm.
- Engagement: Continue to strengthen linkages between Purdue and private seed research and end-use companies.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



RONALD F. TURCO

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1985

EFFORT DISTRIBUTION: 15% I, 60% R

AREA(S) OF EXPERTISE: Soil Microbiology, Water Quality, Environmental fates of anthropogenic materials

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1980	University of Idaho
M.S.		
PH.D.	1985	Washington State University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Chair, College of Agriculture Strategic Planning Committee – Research (2008 to present)
Chairman, Division S-3 SSSA (2007-2008)
Director, Indiana Water Resources Research Center (2003 to present)
Member, Indiana food security task force (2004 to present)
Director, Purdue's Consortium of Agricultural Soils Mitigation of Greenhouse Gases (CASMGs) program
Member, Indiana Department of Environmental Management Indiana Triennial Review, TMDL
Assistant Director, Agriculture Research Programs (ARP) – Environmental (2000 to present)
Director, Purdue-Environmental Sciences and Engineering Institute (1997 to 2004)

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Gamma Sigma Delta Agricultural Honor Society 2005
Purdue University Provost Office "Acorn Award" (NIRT Project) 2004
Purdue University College of Agriculture Team Award (Turfgrass Team) 2004
Mid America CropLife Association Indiana's Water Guardian Award 2003

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
580	Soil Microbiology and Biochemistry	Spring even years	12
582	Environmental fate of pesticides	Spring odd years	15
349	Soil Ecology (with John Graveel)	Fall	25

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Developing new class "Biotransformation of Anthropogenic Materials" to replace Environmental fate of pesticides. Worked with John Graveel to enhance Soil Ecology to better meet student needs.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Member Organizational Committee, CASMGs regional Symposium Committee Indianapolis, IN
Environmental Pathogens Information Network (EPI-Net) workshops (9 total)
Developed and Co-Directed a National Symposium on Nanotechnology in the Environment

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Published the first two papers on the impact of the nanomaterials (fullerene) on soil and biosolids processes. As part of biofuels study team, started work focused on the soil microbial processes impacted by the candidate biofuels systems switchgrass, sorghum, Miscanthus, maize, and native prairie. Continuing work to assess the production of biofuels (CH₄) from farm waste materials.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 2 PhD: 1 / 3 PostDocs: 0 / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Larry Nies and Tim Filley Nanotechnology Work; Larry Nies on impact of liquid biofuels
Linda Lee, Fate of Chemicals in the Environment
Bruce Applegate, Brad Ruehs and Richard Linton Food Safety and Bacteria Food/Plant Interaction
Linda Prokopky, Kim Wilson, Chad Jafvert and Jane Frankenberger Water Quality
Sylvie Brouder and Jeff Volenec, Biofuel production impacts
Tom Moorman, (National Soil Tilth Lab) Fate of Pesticides in Soil and Water
Mike Sadowsky, (Univ. Minnesota) Pesticide degradation and pathogens in the environment

EXTRAMURAL FUNDING SINCE 2002:

Number of grants:

Total funding received: \$1,800,000

Funding agencies: NSF, EPA, USDA, USGS, IDEM, National Pork Board

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 1 in progress

Book chapters: 1

Refereed Journal Articles: 24

Non-refereed Papers:

Engagement publications: 8

Teaching publications: 0

Invited seminars, lectures and presentations: 5

Patents/Copyrights: 0

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Shi, W., J. Becker, M. Bischoff, R. F. Turco, and A. E. Konopka. 2002. Association of microbial community composition and activity with lead, chromium, and hydrocarbon contamination. *Applied and Environmental Microbiology*. 68:3859-3866.

Tong, Z., M. Bischoff, L. F. Nies, B. Applegate, and R. F. Turco. 2007. Impact of fullerene (C₆₀) on a soil microbial community. *Environmental Sciences and Technology* 41:2985-2991

Nyberg, L., R.F. Turco and L. Nies. 2008. Assessing the impact of nanomaterials on anaerobic microbial communities. *Environmental Sciences and Technology* 42:1938–1943.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Work over the next five years covers tree scales, watersheds, plots and the bench. We are interested in project to develop a watershed management plan for the Middle portion of the Wabash River. We also want to develop a comprehensive understanding of the environmental impact of biofuels production and use. In particular, we are interested in the impacts of crop residue removal on soil functions and the impact of alcohol based fuels ethanol, methanol and butanol on soil process. As part of growing interest in developing a national risk assessment framework, we wish to expand our work on nanomaterials to include nanosilver and functionalized and nondecorated single wall carbon nanotubes. We are also interested in developing an understanding the environmental impact of the nanomaterials used in LED production.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



GEORGE E. VAN SCOYOC

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1976

EFFORT DISTRIBUTION: 85% I, 15% R

AREA(S) OF EXPERTISE: Soils Teaching, Soil Chemistry/Fertility

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1969	The Ohio State University
M.S.	1972	The Ohio State University
PH.D.	1976	Purdue University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Professor of Agronomy, Purdue University, 1984-present; Assist. and Assoc. Professor, 1976-1984
 Visiting Professor of Soil Science, Szent István University Gödöllő, Hungary, March–June, 2002
 Visiting Scientist, Michigan State University, E. Lansing, Michigan, July-Dec. 2002
 Associate Executive Vice President for Academic Affairs, Purdue University, 1992-2001
 Assistant Head, Department of Agronomy, Purdue University, 1985-1991
 American Council on Education Fellow, Office of the President, Wabash College, 1989-1990
 Visiting Associate Professor of Soil Science, North Carolina State University, 1983-1984

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Purdue University Book of Great Teachers, 1999; The Ohio State University College of Agriculture Distinguished Alumni Award, 1992; American Council on Education Fellow, 1989-1990; Soil Science Society of America Education Award, 1989; Fellow - Soil Science Society of America, 1988; NACTA, 1988; American Society of Agronomy, 1987; American Society of Agronomy Agronomic Education Award, 1985; CIBA-Geigy Award, American Society of Agronomy, 1985; Purdue University Amoco Outstanding Teacher Award, 1985; School of Agriculture Outstanding Teacher Award, 1985 and Outstanding Counseling Award, 1983; Purdue University Best Counselor Award (Omicron Delta Kappa), 1983

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY255/270	Soil Science / Forest Soils	Fall/Spring 2003-08	160
AGRY 365T	Soil Fertility (Turf)	Spring 2003-08	24
AGRY SA 229	Organic Agriculture (co-taught)	Maymester 2003, 2005, 2007	20
AGRY 498	Senior Capstone Seminar	Fall 2003-08	40
AGRY 596	Professional Presentations	Fall 2003-08	12
HORT 419	Organic Horticulture (co-taught)	Fall 2005-07	20

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Serve as academic advisor to approximately 20 students annually; Served as Teaching Coordinator for the department from 2003 to 2008. Honors Coordinator in the department, 2005 to present.

TEACHING ACCOMPLISHMENTS SINCE 2002:

Chaired the University Teaching Academy and worked closely with the Center for Instructional Excellence in providing a variety of faculty development programs across the campus, provided departmental leadership in the use of instructional technologies for both on-campus and off-campus audiences, created a format for doing on-line tutoring (first on campus), developed a soil fertility course for turf science students. Restructuring the Soil Science and Forest Soils courses into a computer-directed format, developed a relationship with Kabul University, Kabul, Afghanistan, and strengthened our relationship with Szent Istvan University, Godollo, Hungary and helped establish a study abroad course to Hungary and Romania. Developed a mentoring process by which Agronomy graduate students have obtained the highest number of teaching awards and certificates of any department in the University. Taught three Maymester courses on organic agriculture in England, Netherlands, France, and Italy. Taught with Dr. Steve Weller the first Purdue Organic Agriculture - Horticulture course. Have continued to represent the department in many activities at the College and University levels which enhance faculty and graduate student mentoring and development as it relates to teaching and learning. In 2007-2008 served as a mentor to seven junior faculty in the University Teaching for Tomorrow program.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Taught several State CCA and GCSAA Workshops on Soils. Consulted with Syngenta and Monsanto to conduct four Herbicide Action workshops with Dr. Steven Weller, Professor of Weed Science.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

K soil tests are often unreliable in making fertilizer recommendations. This is often related to soil type, clay mineralogy, time of sampling, and soil moisture conditions. Work has shown how these factors influence exchangeable and non-exchangeable K availability in soils.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 2 / 17 PhD: 0 / 1 PostDocs: 0 / 1

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)****EXTRAMURAL FUNDING SINCE 2002:**

Number of grants: 3

Total funding received: \$15,000 / \$143,050

Funding agencies: Mary S. Rice Fund, College of Agriculture, ITaP

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/1

Book chapters: 0/2

Refereed Journal Articles: 3/24

Non-refereed Papers: 2/12

Teaching publications: 2/13

Invited seminars, lectures and presentations: 10/80

Patents/Copyrights: 0/1

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Walker, K.S., C.A. Bigelow, D.R. Smith, G.E. Van Scoyoc and Z.J. Reicher. 2007. Aboveground Responses of Three Cool-Season Lawn Species to Varying Annual Nitrogen Rates and Application Timings. *Crop Sci.* 47:1225-1236.

Hernandez-Ramirez, G., S.M. Brouder, D.R. Smith, and G.E. Van Scoyoc. 2008. Carbon and Nitrogen Dynamics in an Eastern Corn Belt Soil: N Source and Rotation. *Soil Sci. Soc. of Am. J.* (in press)

Hernandez-Ramirez, G., S.M. Brouder, D.R. Smith, and G.E. Van Scoyoc. 2008. Greenhouse Gas Fluxes in an Eastern Corn Belt Soil: Weather, N Source and Rotation. *J. Environ. Qual.* (in press)

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Sabbatical in 2009 - Develop distance education course in soil science and write up 3 publications that need to be completed. Revise and continue to teach the courses that I am currently teaching. Continue research in the area of K soil testing and provide input into the revision of the Tri-State Fertilizer Recommendations. Move to Voluntary Partial Retirement and work only one semester a year.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



JEFFREY J. VOLENEC

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1983

EFFORT DISTRIBUTION: 20% I, 70% R, 10% E

AREA(S) OF EXPERTISE: Crop Physiology and Ecology

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1978	University of Wisconsin-Madison
M.S.	1980	University of Missouri-Columbia
PH.D.	1983	University of Missouri-Columbia

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

1992-pres. Assist./Assoc. Head, Agronomy Dept., Purdue University, West Lafayette, IN
 1992-pres. Professor, Agronomy Department, Purdue University, West Lafayette, IN
 1987-1992 Associate Professor, Agronomy Department, Purdue University, West Lafayette, Indiana
 1983-1987 Assistant Professor, Agronomy Department, Purdue University, West Lafayette, Indiana

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Program Planning Officer, American Society of Agronomy, 2008-2011
 Publication Review Committee, Crop Science Society of America. 2006-2007
 Outstanding Teaching Award, Purdue University Department of Agronomy. 1994, 1997, 2001, 2004, 2005
 Nonresident Fellow, Samuel Roberts Noble Foundation. 2005-2009
 Outstanding Undergraduate Counselor Award, Dept. of Agronomy. 2000, 2002
 Merit Award, American Forage and Grassland Council. 1998
 Fellow, American Association for the Advancement of Science. 1997
 Research Fellow, AFRC Institute of Grassland and Environmental Research. 1993-1994
 CIBA-GEIGY Award in Agronomy. 1993
 Fellow, American Society of Agronomy. 1993
 Fellow, Crop Science Society of America. 1993
 Purdue University Agricultural Research Award. 1993
 Young Crop Scientist Award, Crop Science Society of America. 1992

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 505	Forage Management	Spring 2002-2008	20
AGRY 515	Plant Mineral Nutrition (w/Drs. Joern, Beyrouthy)	Fall 2004	12
AGRY 525	Crop Physiology and Ecology	Spring 2002-2008	40

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

Advise 2 to 5 undergraduate students
 Employ approximately 2 undergraduate research assistants annually

TEACHING ACCOMPLISHMENTS SINCE 2002:

- AGRY 505: Co-Authored text entitled "Forages: An Introduction to Grassland Agriculture" used in this course. Incorporated capstone project that requires students to use an Integrated Farming Systems Model to develop student's problem-solving skills. Added content to reflect the re-purposing of forages for use as herbaceous biofuels.
- AGRY 515: Developed web-based content for student use including a wide array of visuals.
- AGRY 525: Continue to provide up-to-date physiological information relevant to majors. Approximately 1/5 of the course is revamped annually. Problems set using GenBank have been developed as a capstone experience that encourage students to apply their understanding to crop improvement situations.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Continue to provide forage management educational programming to clients in large venues. Answer questions (phone, e-mail) as needed when the Dr. Johnson is unavailable. Published two Extension bulletins focused on alfalfa autotoxicity and P/K management of alfalfa.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Identified and characterized storage proteins in alfalfa taproots that are used as N sources for regrowing shoots. Completed a long-term study focusing on the impact of P and K on alfalfa yield and yield components, taproot physiology, tissue and soil test P and K levels, and forage quality. Initiated studies focused on the C, N, and water economies of candidate biofuels systems including switchgrass, sorghum, *Miscanthus*, maize, and native prairie. Initiated studies aimed at understanding the impact of P and K nutrition on switchgrass establishment, yield, and biomass composition.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 6 / 8 PhD: 1 / 3 PostDocs: 0 / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Insufficient space to elaborate.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 32
Total funding received: \$8,654,197.00
Funding agencies: USDA, NASA, IPNI

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 1 in process
Book chapters: 3
Refereed Journal Articles: 27
Non-refereed Papers: 10
Engagement publications: 2
Invited seminars, lectures and presentations: 9

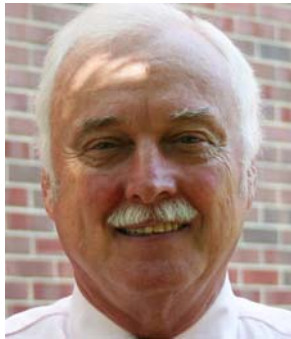
LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

- Brouder, S.M. and J.J. Volenec. 2008. Impact of climate change on crop nutrient and water use efficiencies. *Physiol. Plant.* 133:705-724.
- Castonguay, Y., S. Laberge, E.C. Brummer, and J.J. Volenec. 2006. Alfalfa winter hardiness: A research retrospective and integrated perspective. *Adv. Agron.* 90:203-265
- Volenec, J.J., S.M. Cunningham, D.M. Haagenson, W.K. Berg, B.C. Joern, and D.W. Wiersma. 2002. Physiological genetics of alfalfa improvement: past failures and future prospects. *Field Crops Res.* 75:97-110.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Develop a comprehensive understanding of the environmental impact of biofuels production. Use molecular approaches to knock-out taproot storage proteins in order to understand their role in alfalfa growth and persistence. Continue to improve both courses focusing on enhanced problem-solving and critical-thinking skills.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



JAMES VORST

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1969

EFFORT DISTRIBUTION: 40% I, 10% R

AREA(S) OF EXPERTISE: undergraduate education, competency based assessment, field crops management

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1964	Ohio St. Univ.
M.S.	1966	Ohio St. Univ.
PH.D.	1969	Univ of Nebraska

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Ass't, Assoc, Professor, Purdue Univ

Visiting Teaching Fellow, Oregon State Univ. 1995

Curriculum Development Specialist, Jordan Univ. of Sci. and Technology, 1994

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

ASA Resident Education Award

CSSA Crop Sci. Teaching Award

USDA Food and Agric. Sciences Excellence in Teaching Regional Award

Charles Murphy Outstanding Undergraduate Teaching Award

Fellow of: ASA, CSSA, NACTA

Outstanding Teacher, Purdue Agriculture

Outstanding Counselor, Purdue Agriculture

Member, Purdue Teaching Academy

Listed in Purdue Book of Great Teachers

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
105	Crop Production	4	40
460	Contemporary Issues in Agriculture	6	limited at 36
498	Senior Seminar (co-taught)	2	35

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

Am responsible for updating and reviewing Competency documents, and constructing Certified Crop Adviser Exams for International and Tri-State CCA programs.

Invited presentation: A Competency Based Education Program to Transfer Research Results to Crop Producers, Athens, Greece September 24-27, 2008

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: _____ / 20 PhD: 2 / 15 PostDocs: _____ / _____

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Board of Directors, International Center for Sustainable Development, Panama
Worked with NRCS in developing the competencies for their TSP program

EXTRAMURAL FUNDING SINCE 2002:

Number of grants:

Total funding received: approx \$70000/yr

Funding agencies: International, Tri state CCA programs

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 4 (career)

Book chapters:

Refereed Journal Articles: 2 since 2002

Non-refereed Papers: over 50 (career)

Engagement publications:

Teaching publications: 10 (career)

Invited seminars, lectures and presentations:

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Using Alumni Input as a Reality Check of Agronomy Teaching and Advising. 2007.

John G. Graveel and James J. Vorst. JNRLSE 94-97

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Anticipate full retirement in 2009.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



TONY J. VYN

RANK: Professor

DATE OF APPOINTMENT AT PURDUE: 1998

EFFORT DISTRIBUTION: 5% I, 35% R, 60% E

AREA(S) OF EXPERTISE: Cropping Systems, Tillage, Nutrient Placement

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1976	University of Guelph
M.S.	1978	University of Guelph
PH.D.	1987	University of Guelph

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Research Associate and Lecturer, 1978-84; Assistant Professor (contract), 1984-87; Assistant Professor (tenure track), 1987-91; Associate Professor, 1991-98; Professor, 1998; Adjunct Professor, 1998-2001. All former positions held at Plant Agriculture Department, University of Guelph, Guelph, Ontario, Canada.

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

- Fellow, Organization for Economic Cooperation and Development (OECD) for a research project in Australia during sabbatical leave in 2005
- Fellow, American Society of Agronomy (ASA), 2003
- Scientific Society Invited Presentations: Six invited presentations to Annual Meeting of ASA (to S-3 in 1993, to C-2 in 2000, to A-9 and S-4 in 2002, to C-3 and S-4 in 2007), plus 3 invited lectures to NC Regional ASA Meetings in 2001, 2004, and 2007

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 598C	Cropping Systems Research	Spring 2008	1

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Mentored 11 graduate students, member of departmental Graduate Committee from 2000-2005, and started teaching a graduate course in Cropping Systems at Purdue in 2008.

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

I am responsible for providing technical information and expertise on sustainable cropping systems to Certified Crop Advisors, farmers, county educators, conservation specialists, and other industry representatives in the Corn Belt. I serve as Co-Chair of the annual Crop Advisor Conference held in Indianapolis, where 40 speakers educate over 600 crop advisors from Indiana and surrounding states. This conference has been co-sponsored by Purdue University CES and the Indiana CCA board since 2002. Adoption of strip tillage and no-till continues to grow in Indiana and surrounding states. I have been invited to speak about my specialties to approximately 40 out-of-state and international conferences and workshops since 2002.

RESEARCH ACCOMPLISHMENTS SINCE 2002:

My present research responsibilities include: 1. Conservation tillage effects on corn and soybean response, 2. Fall zone (strip) tillage for corn, 3. Long-term crop rotation effects on soil sustainability and greenhouse gases, 4. Physiology of yield response in corn as affected by plant density, nitrogen, and plant breeding (with a special focus on intra-plant competition in corn), 5. Optimum fertilizer placement in no-till and strip-till systems, 6. Manganese management in glyphosate-resistant crop production, and 7. Precision agriculture (e.g. automatic guidance, remote sensing) tools for crop agriculture. We recently completed year 34 of the long-term tillage and rotation studies at the Agronomy Research Center. This experiment confirms the merits of continuous no-till for corn-soybean rotation systems, soil carbon sequestration, reduction in greenhouse gas emissions and costs savings.

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 1 / 8 PhD: 1 / 3 PostDocs: 0 / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

Joint research with Godollo University of Agricultural Sciences (Godollo, Hungary) and University of Guelph (Guelph, Ontario, Canada)

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 16

Total funding received: \$6,100.00

Funding agencies: USDA (NRI), USDA (CASMGS), Pioneer (Dupont), Monsanto, Foundation for Agronomic Research, Indiana Soybean Alliance, Fluid Fertilizer Foundation, Natures, John Deere Ltd., Agricultural Research Programs (Purdue), Mary S. Rice Fund (Purdue), Mission Oriented (Purdue), Pheasants Forever, Agricultural Business Group

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Book chapters: 1/2

Refereed Journal Articles: 23/63

Non-refereed Papers: 15/55

Engagement publications: 20/120

Invited seminars, lectures and presentations: 6/12

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Boomsma, C.R., and T.J. Vyn. 2008. Maize drought tolerance: Potential improvements through arbuscular mycorrhizal symbiosis? *Field Crops Research* 108:14-31.

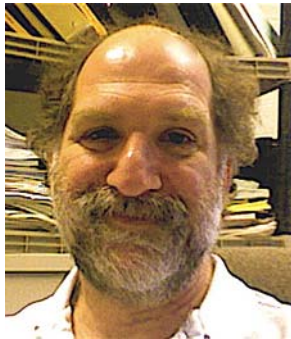
M. Gonzalo, T.J. Vyn, J.B. Holland & L.M. McIntyre. 2007. Mapping reciprocal effects and interactions with plant density stress in *Zea mays* L. *Heredity* 99:14-30

Gál, A., T.J. Vyn, E. Michéli, E.J. Kladvik, and W.W. McFee. 2007. Soil carbon and nitrogen accumulation with long-term no-till versus moldboard plowing overestimated with tilled-zone sampling depths. *Soil Tillage Research*. 96:42-51.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

- Continued research and extension on system approaches to overcome tillage equipment, fertility placement, and soil constraints to expanded no-till or strip-till adoption for corn.
- Determine effects of deeper nutrient placement in high yield corn and soybean environments.
- Research and promote crop rotation systems other than the predominant corn/soybean sequence for improvement of soil structure, nutrient cycling, pest control, and higher yields.
- Expand collaborative research and extension with crop physiologists and soil specialists with emphasis on achieving reductions in plant stress and plant-to-plant variability in corn.
- Examine the long-term consequences of glyphosate-resistant crop systems on micronutrient availability to corn and soybean.
- Expand research to better understand the physiological basis of yield gain in modern transgenic corn hybrids.
- Contribute to the understanding of environmental consequences of growing crops for biofuels.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL



CLIFF WEIL

RANK: Associate Professor

DATE OF APPOINTMENT AT PURDUE: 2001

EFFORT DISTRIBUTION: 25% I, 75% R

AREA(S) OF EXPERTISE: Maize Genetics, Genomics, Value-Added Traits

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1978	University of California, Davis
M.S.		
PH.D.	1984	Cornell University

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Associate Professor, University of Idaho, Biological Sciences Dept. 1998-2001

Assistant Professor, University of Idaho, Biological Sciences Dept. 1992-1998

Research Associate, University of Georgia, 1988-1992

Post Doctoral, Ohio State University, Microbiology Dept. 1984-1988

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Scientific Advisory Board, NSF Plant Genome: Maize Inflorescence Project 2008

Editorial Board, *BioEnergy Research* 2007-present

Editorial Board, *Plant Genomes and Systems Biology* 2006-2008

Elected Fellow, American Association for the Advancement of Science 2006

Seeds of Success Research Award (2X), Purdue University 2003, 2006

Alumni Association Award for Faculty Excellence (student nominated), University of Idaho 1998

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
AGRY 320	Intro Genetics	Spring 2003, 2004, 2005, 2006, 2007; Fall 2008	150-200
AGRY 630	Adv. Plant Genetics	Fall 2003, 2005, 2007	15
AGRY 600	Genomics	Fall 2004, 2006, 2008	15

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

Two new graduate courses in Advanced Plant Genetics and in Genomics (w/ S. Jackson, D. Szymanski)

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

Maize TILLING Project (maize, soybean, marigold TILLING)

Mutant maize lines that have slowly digesting starch (as food ingredient)

Mutant maize lines with rapidly digesting starch (as bioenergy feedstock)
Mutant maize lines with increased meiotic recombination
First identification of plant Nbs1 DNA repair signaling protein
Identification of unique maize/sorghum Mre11B DNA repair protein

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: 0 / 3 **PhD:** 1 / 3 **PostDocs:** 1 / 2

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- Maize Recombination Consortium (Hugo Dooner, Waksman Inst.; Bill Eggleston, Va. Commonwealth Univ.; Pat Schnable, Iowa State Univ.; Stephen Stack, Colo. St. Univ.; Wojtek Pawlowski, Cornell Univ.; Greg Copenhaver, U. North Carolina) Identification and characterization of mutants that alter recombination rate and crossover interference. Mapping of these genes in collaboration with Tom Gerats, Michiel van Eijk (Keygene NV, Netherlands)
- Whistler Center for Carbohydrate Research, Purdue Univ., Bruce Hamaker, Lisa Mauer, J BeMiller. Projects examining genetics of starch digestion, genetics of channel formation in maize starch granules.
- Seattle TILLING Project, Fred Hutchinson Cancer Research Institute, Steve Henikoff
- Mutant Assisted Gene Identification and Characterization (MAGIC), Purdue (Botany Dept) and North Carolina State Univ, Guri Johal and Peter Balint-Kurti. Use of diverse maize germplasm to identify enhancers and suppressors of known mutations and characterize networks of interacting genes.
- Switchgrass Diversity Project, USDA Madison, WI, and Ithaca, NY, Mike Casler and Ed Buckler. Use of EcoTILLING and EMS TILLING methodologies with upland and lowland switchgrass accessions, determining and developing diversity in these populations for key biomass and morphological genes.

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 13

Total funding received: \$4,644,870

Funding agencies: NSF, Purdue ARP, Purdue Energy Center, CPBR, Trask Foundation, USDA

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited: 0/1

Book chapters:

Refereed Journal Articles: 11/28

Non-refereed Papers: 11/11

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 60/73

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Yu, J.-H., K. Marshall, M. Yamaguchi, J.E. Haber and C.F. Weil. (2004) Microhomology-dependent end-joining and repair of transposon-induced DNA hairpins by host factors in yeast. *Molec. Cell. Biol.* 24:1351


Weil, C.F. and R. Monde (2007) Getting the point - mutations in maize. *Crop Sci* 47: S-60-67.

Johal, G., P. Balint-Kurti and C. Weil, (2008) Mining and harnessing natural variation - current approaches and a little MAGIC. *Crop Sci* 48: 2066-2073

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT:

Improved Recombination in crops; characterization of sugar accumulation in temperate grass species; extensive characterization of genetic networks in maize and other grass crops; High-throughput Targeted resequencing projects to identify mutants in maize, soybean, switchgrass, sorghum for functional genomics and breeding work.

FACULTY AND PROGRAMMATIC ADMINISTRATIVE/PROFESSIONAL

	QIANLAI ZHUANG
	RANK: Assistant Professor
	DATE OF APPOINTMENT AT PURDUE: 2005
	EFFORT DISTRIBUTION: 25% R
	AREA(S) OF EXPERTISE: Ecosystems and Biogeochemistry

EDUCATION:

<i>DEGREE</i>	<i>YEAR</i>	<i>INSTITUTION</i>
B.S.	1986	Shandong Educational College
M.S.	1991	Chinese Academy of Sciences
PH.D.	2001	University of Alaska Fairbanks

PURDUE AND OTHER PROFESSIONAL APPOINTMENTS: (LIST BY TITLE, ORGANIZATION, LOCATION, YEARS)

Assistant Professor, Purdue University, West Lafayette, IN, 2005-present
 Post Doctoral Scientist, Marine Biological Laboratory, Woods Hole, MA, 2001-2005
 Research Assistant, University of Alaska Fairbanks, 1997 -2001

AWARDS AND HONORS: (LIST BY TITLE OF AWARD, ORGANIZATION, YEAR AWARDED)

Award of the Excellence (First Place) of Advances of Science and Technology of China for the project "The Scientific Database and Management Systems", Beijing, P. R. China, 1997.

TEACHING RESPONSIBILITIES: (COURSES TAUGHT SINCE 2002)

<i>COURSE NUMBER</i>	<i>TITLE</i>	<i>SEMESTERS TAUGHT</i>	<i>AVERAGE CLASS SIZE</i>
EAS 591W & AGRY 598A	Modeling Ecosystems and Biogeochemical Cycles	Spring, 2006 Spring, 2007 Spring, 2008	5
EAS 591T & AGRY 598T	Principles of Terrestrial Ecosystems Ecology	Fall, 2006 Fall, 2007 Fall, 2008	7

OTHER RESPONSIBILITIES: (ACADEMIC ADVISING, UNDERGRADUATE RESEARCH, CLUB ADVISING, ETC.)

TEACHING ACCOMPLISHMENTS SINCE 2002:

ENGAGEMENT ACCOMPLISHMENTS SINCE 2002:

RESEARCH ACCOMPLISHMENTS SINCE 2002:

GRADUATE AND POST-DOCTORAL STUDENTS ADVISED: (CURRENT/TOTAL SINCE 2002)

MS: ____ / ____ **PhD:** 4 / 4 **PostDocs:** 4 / 5

**KEY COLLABORATIVE LINKAGES INCLUDING INTERNATIONAL EFFORTS SINCE 2002:
(LOCATION, CONTACT NAMES, ONE (1) SENTENCE DESCRIPTION)**

- MIT, Ron Prinn, John Reilly: Collaborative in developing and using an Integrated Global System Model (IGSM)
- USGS, Jennifer Harden, Robert Striegl: Collaborating on combining field measurements and modeling in addressing carbon and water dynamics in terrestrial ecosystems
- Marine Biological Laboratory, Woods Hole, Jerry Melillo: Collaborating on biogeochemistry studies
- University of Alaska Fairbanks, Dave McGuire: Collaborating on addressing Arctic climate changes
- UIUC, Donald Wuebbles: Collaborating on addressing impacts of methane on air quality and atmospheric chemistry
- Chinese Academy of Sciences, Guangsheng Zhou: Collaborating on Chinese ecosystems and biogeochemistry studies
- Purdue GTAP, Tom Hertel, Wally Tyner: Collaborating on global biofuel studies

EXTRAMURAL FUNDING SINCE 2002:

Number of grants: 6

Total funding received: \$1.5M

Funding agencies: NASA, NSF, DOE

NUMBER OF PUBLICATIONS: (SINCE 2002/TOTAL CAREER)

Books written/edited:

Book chapters: 2

Refereed Journal Articles: 15

Non-refereed Papers:

Engagement publications:

Teaching publications:

Invited seminars, lectures and presentations: 15

Patents/Copyrights:

LIST YOUR THREE MOST SIGNIFICANT PUBLICATIONS SINCE 2002:

Zhuang, Q., J. M. Melillo, M. C. Sarofim, D. W. Kicklighter, A. D. McGuire, B. S. Felzer, A. Sokolov, R. G. Prinn, P. A. Steudler, and S. Hu, CO₂ and CH₄ exchanges between land ecosystems and the atmosphere in northern high latitudes over the 21st century, *Geophys. Res. Lett.*, 33, L17403, doi:10.1029/2006GL026972, 2006.

Zhuang, Q., J. M. Melillo, D. W. Kicklighter, R. G. Prinn, D. A. McGuire, P. A. Steudler, B. S. Felzer, and S. Hu, Methane fluxes between terrestrial ecosystems and the atmosphere at northern high latitudes during the past century: A retrospective analysis with a process-based biogeochemistry model, *Global Biogeochemical Cycles*, 18, GB3010, doi:10.1029/2004GB002239, 2004.

Zhuang, Q., A. D. McGuire, J. M. Melillo, J. S. Clein, R. J. Dargaville, D. W. Kicklighter, R. B. Myneni, J. Dong, V. E. Romanovsky, J. Harden, and J. E. Hobbie, Carbon cycling in extratropical terrestrial ecosystems of the Northern Hemisphere during the 20th Century: A modeling analysis of the influences of soil thermal dynamics, *Tellus*, 55B, 751-776, 2003.

YOUR GOALS FOR NEXT 5 YEARS IN TEACHING, RESEARCH AND/OR ENGAGEMENT: