

# Environmental and Conservation Sciences

---

## Program and Application Information

<b>Program Director:</b>	Dr. Eakalak Khan
<b>Department Location:</b>	Department of Civil and Environmental Engineering, CIE 201
<b>Department Phone:</b>	(701) 231-7717
<b>Department Web Site:</b>	<a href="http://www.ndsu.edu/ecs/">www.ndsu.edu/ecs/</a>
<b>Application Deadline:</b>	International applications are due May 1 for fall semester and August 1 for spring semester. Domestic applicants should apply at least one month prior to the start of classes.
<b>Degrees Offered:</b>	Ph.D., M.S.
<b>English Proficiency Requirements:</b>	TOEFL iBT 79 IELTS 6.5

---

## Program Description

The graduate program leading to an M.S. or a Ph.D. in Environmental and Conservation Sciences (ECS) rests on an integrative curriculum and a multidisciplinary team approach. The program emphasizes the common ground shared by all sciences, and seeks to bridge methodological and philosophical boundaries that might hinder interdisciplinary communication and cooperation. The program offers three tracks: Environmental Science, Conservation Biology and Environmental Social Sciences. The Environmental Science track focuses on abiotic environmental issues, such as water, air, and land pollution. The Conservation Biology track focuses on biotic issues, such as the preservation of biodiversity and ecosystem function. The Environmental Social Sciences track emphasizes relationships between humans and the natural environment such as cultural and behavioral issues, policy, business and economics, and sustainable development.

The interdisciplinary nature of this program is reflected by the participation of faculty from across the campus, including the Colleges of Agriculture, Food Systems, and Natural Resources; Arts, Humanities, and Social Sciences; Engineering; and Science and Mathematics.

## Environmental Science

Areas of Environmental Science, such as climate change, groundwater, hazardous waste, and water chemistry, require broad training across discipline lines for successful application. To better predict anthropogenic environmental impacts, the engineering, earth material, chemical, and biological data must be considered in an integrated manner.

## Conservation Biology

Conservation Biology offers a new philosophy of looking at complex problems. This discipline focuses on the loss of regional and global biodiversity, but considers the human element as well in its approach to resource issues. As an example, landscape ecology, sustainable development, and conflict resolution are themes promoted by the field of Conservation Biology.

## Environmental Social Sciences

Environmental Social Sciences discipline looks at interactions between humans and the environment which tend to be complex and often require interdisciplinary efforts to understand and manage. Environmental policy, environmental economics, environmental history, environmental communication, environmental sociology, and human ecology are examples of the fields of study.

## Admissions Requirements

To be admitted to the Environmental and Conservation Sciences program, the applicant must meet the Graduate School requirements.

## Financial Assistance

The applicant should contact a prospective mentor to identify sources of financial aid. Teaching and research assistantships may be available through funded research or participating departments. Applicants are considered on the basis of scholarship and potential to undertake advanced study and research. Contact the Student Financial Services for information and applications regarding scholarships.

## Program Administration

The graduate program is administered by the ECS Steering Committee. The committee is composed of four ECS graduate faculty members representing four different colleges: Agriculture, Food Systems, and Natural Resources; Arts, Humanities, and Social Sciences; Engineering; and Science and Mathematics. Four alternate members are also selected to substitute on the committee when necessary. Steering Committee members, who serve overlapping three-year terms, are elected at a yearly meeting of the ECS faculty. The committee also includes a student member which is nominated annually by the ECS Graduate Student Association.

The ECS Program Director presides over ECS Steering Committee meetings. The duties of the ECS Steering Committee include:

1. review of requests to join the ECS faculty and
2. program review and administration.

By the end of the second semester, the student and academic adviser will arrange for the appointment of a Graduate Supervisory Committee. For Ph.D. study, the Graduate Supervisory Committee will consist of at least four members of the NDSU graduate faculty. The committee must include the student's adviser, two additional ECS faculty members, and a Graduate School representative. One committee member must be from outside the student's home college.

For M.S. study, the Graduate Supervisory Committee will consist of at least three members of the NDSU graduate faculty and will include the student's adviser, an ECS faculty member and a faculty from outside the student's home college. The plan of study will be prepared by the student, in consultation with the major adviser, by the end of the first year in residence.

## Master of Science in Environmental and Conservation Sciences

The total credits will be not less than 30 graduate credits, with at least 16 credits of graduate courses numbered 601-689, 691; 700-789, 791 or 800-889, 891 plus the ECS graduate seminar for 1 credit, and research credits (798) not fewer than 6 nor more than 10 thesis credits. The didactic credits must include at least 1 ECS core course; 1 ECS track course and UNIV 720 Scientific Integrity. All M.S. students must complete a thesis and pass a final examination as described in The Graduate School Policies section of the Graduate Bulletin. An overall GPA of 3.0 or better must be maintained.

## Doctor of Philosophy in Environmental and Conservation Sciences

Each Ph.D. student will complete at least 27 credits of didactic courses plus the ECS graduate seminar for 1 credit. The didactic courses will include: 3 core courses (9 credits), UNIV 720 Scientific Integrity, a minimum of 14-15 credits from a chosen track, and 2-3 credits of electives from another track or other NDSU courses numbered 601-689, 691; 700-789, 791 or 800-889, 891. The 15 track credits must be from at least 2 course categories. Two of the three courses must come from outside of the student's chosen track. Of the 27 didactic course credits, a total of 15 must be at the 700-800 level. A total of 90 credits are required.

For students entering the program with a Master's Degree or previous graduate coursework, up to 12 credits of previous graduate work can transfer and be counted toward the 27 credits. Such transferred credits must be approved by the student's supervisory committee, the program director and the Graduate Dean. The student must earn no fewer than 60 graduate credits at NDSU. Of these, no fewer than 15 credits must be at the 700 or 800 level (700-789, 791; 800-889 and 891).

## Core Courses

### Environmental Social Sciences Track

ECON 681	Natural Resource Economics	3
ECS 770	Environmental Law and Policy	3
HIST 634	Environmental History	3
or HIST 710	Research Seminar in North American History	
or HIST 780	Readings in World History	
NRM 631	National Environmental Policy Act & Environmental Impact Assessment	3
NRM 702	Natural Resources Management Planning	3
SOC 631	Environmental Sociology	3

### Environmental Sciences Track

GEOL 614	Hydrogeology	3
CE 770	Hazardous Waste Site Remediation	3
MICR 652	Microbial Ecology	3
PH 720	Environmental Health	3

### Conservation Biology Track

BOT 862	Environment and Adaptation	3
BOT 864	Ecological Processes	3
ZOO 675	Conservation Biology	3
ZOO 850	Advanced Conservation Biology	3

---

## Conservative Biology Track - Total 18 credits

### Biodiversity

Select 3-9 credits of the following:

BIOL 681	Wetland Science
BOT 717	Aquatic Vascular Plants
ENT 750	Systematic Entomology
RNG 716	Agrostology
ZOO 650	Invertebrate Zoology
ZOO 652	Ichthyology
ZOO 654	Herpetology
ZOO 658	Mammalogy

### Ecology and Evolution

Select 3-9 credits of the following:

BIOL 850	Advanced Ecology
BIOL 859	Evolution
BOT 660	Plant Ecology
BOT 862	Environment and Adaptation
BOT 864	Ecological Processes
ENT 765	Biological Control of Insects and Weeds
ENT 770	Writing a Scientific Literature Review
GEOL 640	Quaternary Biology
MICR 652	Microbial Ecology
PLSC 631	Intermediate Genetics
PLSC 751	Advanced Plant Genetics
PLSC 781	Quantitative Genetics
RNG 765	Analysis Of Ecosystems
SOIL 610	Soils and Land Use
SOIL 647	Microclimatology
ZOO 662	Physiological Ecology
ZOO 670	Limnology
ZOO 850	Advanced Conservation Biology
ZOO 860	Evolutionary Ecology
ZOO 870	Aquatic Community Ecology

### Human Dimensions and Management

Select 3-9 credits of the following:

ANTH 662	Anthropology and the Environment
COMM 783	Advanced Organizational Communication I
CE 678	Water Quality Management
ECON 682	Environmental Economics
POLS 642	Global Policy Issues
POLS 650	Politics of the Developing Countries
RNG 656	Range Habitat Management
ZOO 675	Conservation Biology
ZOO 676	Wildlife Ecology and Management
ZOO 677	Wildlife and Fisheries Management Techniques
ZOO 850	Advanced Conservation Biology

### Research Tools

Select 3-9 credits of the following:

CE 677	Applied Hydrology
GEOG 655	Introduction to Geographic Information Systems
GEOG 656	Advanced Geographic Information Systems
GEOL 660	Biogeochemistry
GEOL 760	Advanced Biogeochemistry
PLSC 724	Field Design I
PSYC 640	Experimental Methods

RNG 650	Range Plants
SOC 701	Quantitative Methods
SOIL 784	Advanced Soil Genesis, Morphology and Classification
STAT 661	Applied Regression Models
STAT 662	Introduction to Experimental Design
STAT 663	Nonparametric Statistics
STAT 665	Meta-Analysis Methods
STAT 670	Statistical SAS Programming
STAT 730	Biostatistics
STAT 761	Advanced Regression
STAT 770	Survival Analysis

---

## Environmental Sciences Track-Total 17 credits

### Water Sciences

Select 3-9 credits of the following:

ABEN 664	Resource Conservation and Irrigation Engineering
ABEN 765	Small Watershed Hydrology and Modeling
CE 610	Water & Wastewater Engineering
CE 677	Applied Hydrology
CE 676	Watershed Modeling
CE 678	Water Quality Management
CE 679	Advanced Water and Wastewater Treatment
CE 776	Ground Water and Seepage
CE 779	Watershed Water Quality Modeling
CE 796	Special Topics
GEOL 640	Quaternary Biology
ZOO 670	Limnology

### Soil and Solid Waste

Select 3-9 credits of the following:

ABEN 696	Special Topics
CE 672	Solid Waste Management
CE 770	Hazardous Waste Site Remediation
SOIL 610	Soils and Land Use
SOIL 633	Soil Physics
SOIL 733	Modeling Environmental Fate and Transport

### Environmental Management

Select 3-9 credits of the following:

CE 672	Solid Waste Management
CE 678	Water Quality Management
COMM 783	Advanced Organizational Communication I
RNG 656	Range Habitat Management
ZOO 675	Conservation Biology
ZOO 676	Wildlife Ecology and Management
ZOO 677	Wildlife and Fisheries Management Techniques

### Research Tools

Select 3-9 credits of the following:

ABEN 682	Instrumentation & Measurements
ABEN 696	Special Topics
CE 677	Applied Hydrology
GEOG 655	Introduction to Geographic Information Systems
GEOG 656	Advanced Geographic Information Systems

GEOL 660	Biogeochemistry
GEOL 760	Advanced Biogeochemistry
IME 660	Evaluation of Engineering Data
RNG 650	Range Plants
STAT 662	Introduction to Experimental Design
STAT 725	Applied Statistics
STAT 761	Advanced Regression

---

## Environmental and Social Sciences Track-TOTAL 17 CREDITS

### Social Science Theory

Select 3-9 credits of the following:

AGEC 741	Advanced Microeconomics
ANTH 680	Development of Anthropological Theory
COMM 711	Communication Theory
ECON 640	Game Theory and Strategy
POLS 720	Theoretical Perspectives to the Study of Political Science
SOC 622	Development Of Social Theory
SOC 723	Social Theory

### Cultural and Behavioral Aspects

Select 3-9 credits of the following:

AGEC 711	Applied Risk Analysis I
ANTH 662	Anthropology and the Environment
ANTH 664	Disaster and Culture
ECON 656	History of Economic Thought
ECON 681	Natural Resource Economics
ECON 682	Environmental Economics
HIST 634	Environmental History
POLS 642	Global Policy Issues
POLS 653	Environmental Policy and Politics
SOC 631	Environmental Sociology
SOC 639	Social Change
SOC 643	International Disasters

### Management Techniques

Select 3-9 credits of the following:

COMM 783	Advanced Organizational Communication I
GEOL 660	Biogeochemistry
NRM 631	National Environmental Policy Act & Environmental Impact Assessment
NRM 632	Environmental Impact Statement
NRM 653	Rangeland Resource/Watershed Management
NRM 701	Terrestrial Resources Management
NRM 702	Natural Resources Management Planning
RNG 654	Wetland Resources Management
RNG 656	Range Habitat Management
SOC 604	Community Assessment
TL 755	Context Sensitive Solutions
ZOO 675	Conservation Biology
ZOO 676	Wildlife Ecology and Management
ZOO 850	Advanced Conservation Biology

### Research Tools

Select 3-9 credits of the following:

AGEC 701	Research Philosophy
----------	---------------------

AGEC 739	Analytical Methods for Applied Economics
BIOL 850	Advanced Ecology
COMM 700	Research Methods in Communication
COMM 701	Advanced Research Methods in Communication I
COMM 704	Qualitative Research Methods in Communication
COMM 707	Quantitative Research Methods in Communication
ECON 610	Econometrics
ECON 710	Advanced Econometrics
EMGT 614	Spatial Analysis in Emergency Management
ENGL 656	Literacy, Culture and Identity
ENGL 758	Topics in Rhetoric, Writing, and Culture
GEOG 655	Introduction to Geographic Information Systems
GEOG 656	Advanced Geographic Information Systems
PSYC 640	Experimental Methods
RNG 652	Geographic Information Systems in Range Survey
RNG 765	Analysis Of Ecosystems
SOC 700	Qualitative Methods
SOC 701	Quantitative Methods
STAT 660	Applied Survey Sampling
STAT 661	Applied Regression Models
STAT 662	Introduction to Experimental Design
STAT 663	Nonparametric Statistics
STAT 665	Meta-Analysis Methods
STAT 670	Statistical SAS Programming
STAT 725	Applied Statistics
STAT 726	Applied Regression and Analysis of Variance
STAT 730	Biostatistics
STAT 761	Advanced Regression
STAT 770	Survival Analysis

---

## Preliminary Examinations for Doctoral Students

The written preliminary examination will cover the core areas for ECS and each of the core topic areas for the appropriate track. The preliminary examination will typically be taken in the middle of the third year. The written exam must be passed before the comprehensive oral examination can be scheduled.

The comprehensive oral examination will be taken no later than the end of the third year in residence. The examination will cover the topic areas for the appropriate track.

## Dissertation Research

A proposal describing research suitable for preparation of a dissertation in Environmental and Conservation Sciences will be prepared in the format of a NSF Dissertation Improvement Grant. Alternative formats must be agreed to by the Graduate Supervisory Committee. The proposal will be submitted to the student's Graduate Supervisory Committee for review and approval. The dissertation must show originality and demonstrate the student's capacity for independent research.

### **F. Adnan Akyuz, Ph.D.**

University of Missouri-Columbia, 1994

Research Interests: Applied Climatology and Microclimatology/Climate Based Agriculture

### **Allan C. Ashworth, Ph.D.**

University of Birmingham, 1969

Research Interests: Quaternary Paleoecology, Paleoclimatology

### **Peter Bergholz, Ph.D.**

Michigan State University, 2007

Research Interests: Food Safety and Environmental Microbiology, Landscape Genomics

**Achintya Bezbaruah, Ph.D.**

University of Nebraska-Lincoln, 2002

Research Interests: Nanomaterials for Pollution Control, Recalcitrant and Micro Pollutants, Contaminant Fate and Transport, Small Community Water and Wastewater Treatment, Environmental Sensors, Environmental Management

**Julia Bowsher, Ph.D.**

Duke University, 2007

Research Interests: Evolutionary and Developmental Biology

**Malcolm G. Butler, Ph.D.**

University of Michigan, 1980

Research Interests: Aquatic Invertebrate Biology, Limnology, Wetland Ecology

**Patrick M. Carr, Ph.D.**

Montana State University, 1989

Research Interests: Sustainable Agriculture, Cropping Systems

**Frank X.M. Casey, Ph.D.**

Iowa State University, 2000

Research Interests: Field and Laboratory Studies of Water Flow and Chemical Transport Processes

**Larry Cihacek, Ph.D.**

Iowa State University, 1979

Research Interests: Carbon Sequestration in Soils, Soil Physical Properties, Soil Management for Waste Disposal

**Gary K. Clambey, Ph.D.**

Iowa State University, 1975

Research Interests: Ecology and Biogeography, Environmental Analysis and Planning, Structure Function Relations in the Midwestern Ecosystems

**Mark E. Clark, Ph.D.**

University of Tennessee, 1996

Research Interests: Population Ecology, Landscape Ecology, Fish and Wildlife Ecology, Ecological Modeling, Spatial Modeling, Species Interactions

**Dennis Cooley, Ph.D.**

University of Rochester, 1995

Research Interests: Ethics of Science

**Davis Cope, Ph.D.**

Vanderbilt University, 1980

Research Interests: Partial Differential Equations, Numerical Methods, Applied Mathematics

**Aaron Daigh, Ph.D.**

Iowa State University, 2013

Research Interests: Soil Physics, Transport in Soils, Soil Residue and Water Management, Crop Rotations, and Nutrient/Agrochemical/Industrial Byproduct Soil Amendment Impacts on Soil Physical Properties

**Stephanie Day, Ph.D.**

University of Minnesota, 2012

Research Interests: Fluvial Geomorphology, Slope Stability, Geospatial Sciences

**Edward (Shawn) DeKeyser, Ph.D.**

North Dakota State University, 2000

Research Interests: Wetland Ecology, Wetland Assessment and Monitoring, Invasive Species Ecology and Management, Native Prairie Restoration

**Anne Denton, Ph.D.**

University of Mainz, 1996

Research Interests: Data Mining, Bioinformatics, Scientific Informatics, Educational Technology, Model Building, Databases

**Thomas M. DeSutter, Ph.D.**

Kansas State University, 2004

Research Interest: Trace Gas Fluxes, Inorganic Soil Chemistry, Soil Environmental Conditions

**Ned Dochtermann, Ph.D.**

University of Nevada, Reno, 2009

Research Interests: Ecological and Evolutionary Causes and Consequences of Phenotypic Variation

**Nathan Fisher, Ph.D.**

University of Michigan, 2006

Research Interests: Ecological and Evolutionary of Bacterial Virulence

**Ann-Marie Fortuna, Ph.D.**

Michigan State University, 2001

Research Interests: Microbial and Soil Process Regulating Nutrient Cycling, Soil Health and Global Climate Change, Soil Health Indicators

**Erin Gillam, Ph.D.**

University of Tennessee, 2007

Research Interests: Behavioral ecology of bats, ecological and evolutionary basis of behavior in all animal groups, behavioral, ecological, and evolutionary factors influence the structure of animal communication signals and wildlife ecology and conservation.

**Gary A. Goreham, Ph.D.**

South Dakota State University, 1985

Research Interests: Rural Sociology, Community, Family Research Methods, Sociology of Religion, Sociology of Agriculture

**Kendra Greenlee, Ph.D.**

Arizona State University-Tempe, 2004

Research interests: Environmental and respiratory physiology of insects; insect immunology.

**Timothy Greives, Ph.D.**

Indiana University, 2009

Research Interests: Physiology and Behavior of Animals in Response to Environmental Signals

**James W. Grier, Ph.D.**

Cornell University, 1975

Research Interests: Animal Behavior and Ecology, Animal Population Dynamics, Applied Biostatistics, Philosophy of Research

**Jason Harmon, Ph.D.**

University of Minnesota, 2003

Research Interests: Environmental change; ecosystem services; population and community ecology

**Marion O. Harris, Ph.D.**

Michigan State University, 1986

Research Interests: Insect-Pest Management, Host-Plant Relationships

**Mark Harvey, Ph.D.**

University of Wyoming, 1986

Research Interests: American West, Environmental History, Public History

**Harlene Hatterman-Valenti, Ph.D.**

Iowa state University, 1993

Research Interests: High-Value Crop Production

**Robert R. Hearne, Ph.D.**

University of Minnesota, 1995

Research Interests: Economic Analysis of Emerging Environmental and Resource Issues in the Northern Great Plains

**Britt Heidinger, Ph.D.**

Indiana University, 2007

Research Interests: Physiological Ecology, Senescence, Stress Physiology

**Linda Helstern, Ph.D.**

Southern Illinois University-Carbondale, 2001

Research Interests: Writing, Literature and the Environment, Multicultural Literature

**David Hopkins, Ph.D.**

North Dakota State University, 1997

Research Interests: Soil Formation and Chemistry

**Tom Isern, Ph.D.**

Oklahoma State University, 1977

Research Interests: History of Agriculture, History of Great Plains

**Donna Jacob, Ph.D.**



University College, 2004

Research Interests: Wetland ecology, biogeochemistry, ecophysiology and ecotoxicology

**Sivaguru Jayaraman, Ph.D.**

Tulane University, 2003

Research Interests: Photocatalysis, Photochemistry, Green Chemistry

**Xinhua Jia, Ph.D.**

University of Arizona, 2004

Research Interests: Evapotranspiration, Subsurface drainage and Water quality

**Dinesh Katti, Ph.D.**

University of Arizona, 1991

Research Interests: Geotechnical Engineering, Constitutive Modeling of Geologic Materials, Expansive Soils, Multiscale Modeling, Steered Molecular Dynamics, Computational Mechanics, Nanocomposite, and Bio-nanocomposites. Computational Biophysics

**Eakalak Khan, Ph.D.**

University of California Los Angeles, 1997

Research Interests: Water Quality, Biological Process Development for Water and Wastewater Treatment, Storm water and Non-Point Source Pollution Control

**Kenneth E. Lepper, Ph.D.**

Oklahoma State University, 2001

Research Interests: Quaternary Geology and Age Dating

**Adam R. Lewis, Ph.D.**

Boston University, 2005

Research Interests: Long-term Climate Evolution, Antarctic Climate Evolution, and Glacial Geology

**Wei Lin, Ph.D.**

SUNY at Buffalo, 1992

Research Interests: Water and Wastewater Treatment, Hazardous Waste Management

**Zhulu Lin, Ph.D.**

University of Georgia, 2003

Research Interests: Surface and Subsurface Hydrology and Modeling, Soil and Water Resources Management, Environmental Systems Analysis, Risk Identifications and Assessment, Geostatistics and Spatial Statistics

**Guodong Liu, Ph.D.**

Hunan University, 2001

Research Interests: Synthesis of Novel Nanomaterials, Biosensors, Bioassays

**John McEvoy, Ph.D.**

University of Ulster Northern Ireland, 2002

Research Interests: Cryptosporidium Virulence Factors and Mechanisms of Pathogenesis

**Mark Meister, Ph.D.**

University of Nebraska, 1997

Research Interests: Rhetorical and Critical Theory, Environmental Communication

**Jennifer Momsen, Ph.D.**

Rutgers, 2007

Research Interests: Biology Education, Systems Thinking in Introductory Biology, Visualization, Assessing the Cognitive Level of STEM Courses

**Bakr Mourad Aly Ahmed, Ph.D.**

Virginia Tech., 2001

Research Interests: Sustainability Indicators and Implementation, Carrying Capacity Measurements, Coastal Development, Built Environment and Natural Resources Conservation

**Jack Norland, Ph.D.**

North Dakota State University, 2008

Research Interests: Restoration Ecology, Application of Remote Sensing to Natural Resource Management, Study of Natural Resources Management Problems in a Socio-ecological Setting

**Peter Oduor, Ph.D.**

University of Missouri - Rolla, 2004

Research Interests: Geographic Information Systems, Groundwater Flow Modeling, Groundwater Contamination

**Marinus Otte, Ph.D.**

Vrije Universiteit, 1991

Research Interests: Wetland ecology, Biogeochemistry, Ecophysiology and Ecotoxicology

**G. Padmanabhan, Ph.D.**

Purdue University, 1980

Research Interests: Hydrology, Water Resources, Hydraulic Engineering

**Birgit Pruess, Ph.D.**

Ruhr- Universitat Bochum, 1991

Research Interest: Microbial Physiology and Gene Regulation

**Scott Pryor, Ph.D.**

Cornell University, 2005

Research Interests: Biofuel Production from Cellulosic Feedstocks, Biobased Chemicals and Materials, Bioprocess Engineering, Process Optimization, Solid State and Liquid Fermentation Systems

**Shafiqur Rahman, Ph.D.**

University of Manitoba, 2004

Research Interests: Animal Waste Management, Biosolids Management, Air Quality, Water Quality, Composting

**Wendy L. Reed, Ph.D.**

Iowa State University, 2000

Research Interests: Physiological Ecology, Wetland and Bird Ecology, Environmental Endocrinology

**David A. Rider, Ph.D.**

Louisiana State University, 1988

Research Interests: Insect Systematics, Biodiversity

**David C. Roberts, Ph.D.**

Oklahoma State University, 2009

Research Interests: Evaluation and Design of Economically Efficient Tools and Policies for Pollution Control, Economic Valuation of Environmental and Ecological Attributes Through Revealed and Stated Preference Methods, Valuation of Environmental Risk, and Low-Impact and Precision Agriculture

**Bernhardt Saini-Eidukat, Ph.D.**

University of Minnesota, 1991

Research Interests: Environmental Geochemistry, Igneous Petrology, Economic Geology

**Donald P. Schwert, Ph.D.**

University of Waterloo, 1978

Research Interests: Quaternary Paleocology, Analysis of Fossil Insects

**Halis Simsek, Ph.D.**

North Dakota State University, 2012

Research Interests: Bioenvironmental Engineering

**Dean D. Steele, Ph.D.**

University of Minnesota, 1991

Research Interests: Irrigation and Environmental Engineering

**Craig A. Stockwell, Ph.D.**

University of Nevada, 1995

Research Interests: Conservation Biology, Evolutionary Ecology of Native Fishes, Human-Wildlife Interactions

**Steve E. Travers, Ph.D.**

University of California, 1998

Research Interests: Plant Evolutionary Ecology

**Cheryl Wachenheim, Ph.D.**

Michigan State University, 1994

Research Interests: Eliciting Perceptions and Valuations from Consumers, Firms, Students and Other Stakeholders and Decision Makers

**Alexander Wagner, Ph.D.**

Oxford University, 1997

Research Interests: Lattice Boltzmann, Spinodal Decomposition, Viscoelasticity, Drop Deformation and Break-up in a Shear Flow, Wetting, Non-equilibrium Thermodynamics, Complex systems

**Dennis Wiesenborn, Ph.D.**

Rice University, 1989

Research Interests: Refining, Fractionation and Conversion of Fats and Oils from Plants, Process Modeling for Biofuels and Renewable Products

**Scott Wood, Ph.D.**

Princeton University, 1985

Research Interests: Environmental Geochemistry, Radioactive Waste Disposal

**George Youngs, Ph.D.**

University of Iowa, 1981

Research Interests: Perceived Ethics of Genetically Modified Organisms, Sustainable Agriculture

**George M. Linz, Ph.D.**

North Dakota State University, 1982

Research Interests: Avian Ecology

**Brian D. Wisenden, Ph.D.**

University of Western Ontario, 1993

Research interests: Behavioral Ecology of Fishes, Chemical Ecology of Predator-Prey Interactions, Parental Care and Mating Systems