Environmental and Conservation Sciences

Program and Application Information

Program Director: Dr. Eakalak Khan
Department Location: Department of Civil and Environmental Engineering, CIE 201
Department Phone: (701) 231-7717
Department Web Site: www.ndsu.edu/ecs/
Application Deadline: 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.

Degrees Offered: Ph.D., M.S.
English Proficiency Requirements: 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 681</td>
<td>Natural Resource Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECS 770</td>
<td>Environmental Law and Policy</td>
<td>3</td>
</tr>
<tr>
<td>HIST 634</td>
<td>Environmental History</td>
<td>3</td>
</tr>
<tr>
<td>or HIST 710</td>
<td>Research Seminar in North American History</td>
<td></td>
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<tr>
<td>or HIST 780</td>
<td>Readings in World History</td>
<td></td>
</tr>
<tr>
<td>NRM 631</td>
<td>National Environmental Policy Act &amp; Environental Impact Assessment</td>
<td>3</td>
</tr>
<tr>
<td>NRM 702</td>
<td>Natural Resources Management Planning</td>
<td>3</td>
</tr>
<tr>
<td>SOC 631</td>
<td>Environmental Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

### Environmental Sciences Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 614</td>
<td>Hydrogeology</td>
<td>3</td>
</tr>
<tr>
<td>CE 770</td>
<td>Hazardous Waste Site Remediation</td>
<td>3</td>
</tr>
<tr>
<td>MICR 652</td>
<td>Microbial Ecology</td>
<td>3</td>
</tr>
<tr>
<td>MPH 720</td>
<td>Environmental Health</td>
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</table>

### Conservation Biology Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BOT 862</td>
<td>Environment and Adaptation</td>
<td>3</td>
</tr>
<tr>
<td>BOT 864</td>
<td>Ecological Processes</td>
<td>3</td>
</tr>
<tr>
<td>ZOO 675</td>
<td>Conservation Biology</td>
<td>3</td>
</tr>
<tr>
<td>ZOO 850</td>
<td>Advanced Conservation Biology</td>
<td>3</td>
</tr>
</tbody>
</table>

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**Conservative Biology Track - Total 18 credits**

**Biodiversity**

Select 3-9 credits of the following:
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 681</td>
<td>Wetland Science</td>
</tr>
<tr>
<td>BOT 717</td>
<td>Aquatic Vascular Plants</td>
</tr>
<tr>
<td>ENT 750</td>
<td>Systematic Entomology</td>
</tr>
<tr>
<td>RNG 716</td>
<td>Agrostology</td>
</tr>
<tr>
<td>ZOO 650</td>
<td>Invertebrate Zoology</td>
</tr>
<tr>
<td>ZOO 652</td>
<td>Ichthyology</td>
</tr>
<tr>
<td>ZOO 654</td>
<td>Herpetology</td>
</tr>
<tr>
<td>ZOO 658</td>
<td>Mammalogy</td>
</tr>
</tbody>
</table>

**Ecology and Evolution**

Select 3-9 credits of the following:

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

**Human Dimensions and Management**

Select 3-9 credits of the following:

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

**Research Tools**

Select 3-9 credits of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>CE 677</td>
<td>Applied Hydrology</td>
</tr>
<tr>
<td>GEOG 655</td>
<td>Introduction to Geographic Information Systems</td>
</tr>
<tr>
<td>GEOG 656</td>
<td>Advanced Geographic Information Systems</td>
</tr>
<tr>
<td>GEOL 660</td>
<td>Biogeochemistry</td>
</tr>
<tr>
<td>GEOL 760</td>
<td>Advanced Biogeochemistry</td>
</tr>
<tr>
<td>PLSC 724</td>
<td>Field Design I</td>
</tr>
<tr>
<td>PSYC 640</td>
<td>Experimental Methods</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
</tr>
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<td>-------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>RNG 650</td>
<td>Range Plants</td>
</tr>
<tr>
<td>SOC 701</td>
<td>Quantitative Methods</td>
</tr>
<tr>
<td>SOIL 784</td>
<td>Advanced Soil Genesis, Morphology and Classification</td>
</tr>
<tr>
<td>STAT 661</td>
<td>Applied Regression Models</td>
</tr>
<tr>
<td>STAT 662</td>
<td>Introduction to Experimental Design</td>
</tr>
<tr>
<td>STAT 663</td>
<td>Nonparametric Statistics</td>
</tr>
<tr>
<td>STAT 665</td>
<td>Meta-Analysis Methods</td>
</tr>
<tr>
<td>STAT 670</td>
<td>Statistical SAS Programming</td>
</tr>
<tr>
<td>STAT 730</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>STAT 761</td>
<td>Advanced Regression</td>
</tr>
<tr>
<td>STAT 770</td>
<td>Survival Analysis</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>AGEC 741</td>
<td>Advanced Microeconomics</td>
</tr>
<tr>
<td>ANTH 680</td>
<td>Development of Anthropological Theory</td>
</tr>
<tr>
<td>COMM 711</td>
<td>Communication Theory</td>
</tr>
<tr>
<td>ECON 640</td>
<td>Game Theory and Strategy</td>
</tr>
<tr>
<td>POLS 720</td>
<td>Theoretical Perspectives to the Study of Political Science</td>
</tr>
<tr>
<td>SOC 622</td>
<td>Development Of Social Theory</td>
</tr>
<tr>
<td>SOC 723</td>
<td>Social Theory</td>
</tr>
</tbody>
</table>

Cultural and Behavioral Aspects
Select 3-9 credits of the following:

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

Management Techniques
Select 3-9 credits of the following:

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

Research Tools
Select 3-9 credits of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGEC 701</td>
<td>Research Philosophy</td>
</tr>
</tbody>
</table>
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 Paleocology, 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

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

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

**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 Paleoecology, 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