

Profiles



DEPARTMENT OF
SOIL SCIENCE
University of Wisconsin-Madison

MAY 2016

Message from the Department Chair



Agriculture in Wisconsin is an \$88 billion industry and provides a living for almost half a million people. Staggering numbers compared to research budgets in our department and the college. The agricultural success comes from the devoted farm community, all the cows, and the high-yielding crops as a result of inherently fertile soils, hybrid seeds, and soil management practices that maintain and improve yields. Many of these practices were developed over decades of research and extension work. That work continues in our department and contributes to the success of agriculture in Wisconsin.

Whereas agriculture is an important cornerstone, many of our graduates and research programs focus on environmental aspects. That is not a new trend and has been a spearhead for our department since the late 1960s. Research has focused on, for example, soil and water contamination, riparian buffers, and more recently on soil health. We are the proud home for both the Soil Science and Environmental Science Major. The environmental business in Wisconsin is rapidly

growing and many of our graduates end up in environmental research and consultancy.

The department continues to work on expanding the boundaries of research and teaching. On a personal note, we are sad to see Bill Bland retiring, someone who has made many contributions to UW, CALS, and our department. At the same time we are pleased to welcome Thea Whitman who will unearth the wonderful world of soil ecology.

We thank you for your support that assists us to teach and research the agricultural and environmental soil aspects of Wisconsin and the rest of the world. We wish you a happy summer, and please feel welcome in the department any time you are in Madison!

Alfred Hartemink

Research Corner: Francisco Arriaga

Research within the Sustainable Soil Management Lab (SSML) supports the development of soil and water management systems that promote environmental and economic sustainability. Current research projects involve various agricultural production facets, including crop productivity and water quality. Work is a collaborative effort by the SSML team composed of Francisco Arriaga (Assistant Professor), Nick Bero (Research Specialist), Geoff Siemering (Outreach Specialist), Melanie Stock (PhD candidate), Clay Vanderleest (PhD candidate), and Laura Adams (MS candidate). Some of the present research includes the study of processes that affect P losses and runoff from frozen soils, as well as the impact of calcium-sulfur containing by-products on crop productivity, soil properties and edge-of-field nutrient losses. Other research within SSML focuses on the relationship of soil health factors and water runoff losses through simulated rainfall events. Another interesting project is quantifying the amount of denitrification that occurs in soil-based wastewater treatment systems used in cheese making facilities and vegetable processing operations; data generated will help inform regulators and industry during the permitting process to help protect water resources while maintaining production facilities economically competitive. In short, we are a small group of soil scientists trying to live the Wisconsin Idea while having fun doing science.



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Student Profile: Shannon Plunkett

Shannon Plunkett never expected to study soil science. A 2015 graduate from UW Madison with degrees in Spanish and Geography, the Minneapolis native anticipated her next move to take her deeper into community-based urban agriculture projects - ideally somewhere on the other side of the world (she is a romantic, after all). Ultimately, Shannon is interested in working in the intersections of human and environmental health, and sees urban agriculture as a potential means of furthering both.

Urban agriculture is celebrated for its community-building attributes, its ability to combat "food deserts," and its promotion of environmentally and physically healthy lifestyles. However, the expansion of urban agriculture also entails increased cultivation of potentially contaminated urban soils. Professor Doug Soldat's research with Pb contaminated soils presented Shannon with a new avenue to support urban agriculture by working to validate simple soil tests that are capable of detecting soil Pb hazard. As part of the Soldat lab, Shannon is working to identify accessible garden tests that are sensitive to Pb hazard as well as validate Pb remediation strategies for use in urban garden settings. This information supports urban agriculture by reducing obstacles that make information on soil Pb hazard inaccessible as well as providing strategies for urban agriculturalists to reduce their Pb exposure.



Soil Ecologist Joins Faculty

The department is pleased to introduce the newest member of our faculty, Soil Ecologist, **Thea Whitman**. Originally from rural Nova Scotia, Canada, Thea obtained her undergraduate degree in Environmental Biology from Queen's University in Ontario. Wishing to pursue a career with a meaningful impact on environmental issues, she enrolled in the MS program at Cornell University working with Dr. Johannes Lehmann on the study of climate change impact of biochar. She elected to continue



her PhD studies at Cornell University where she recognized the importance of microbes in the soil process and added a microbiology minor to her resume. She went on to assume the role of postdoc with Dr. Mary Firestone at UC Berkeley developing an expertise in microbial ecology and bioinformatics.

Leo M. Walsh Distinguished Lecture in Soil Science

The 4th Leo M. Walsh Distinguished Lecture in Soil Science was presented on April 20, 2016, by **Dr. Johannes Lehmann**, Professor in the School of Integrative Plant Science at Cornell University. His lecture was titled, "Soil organic matter formation: Concepts and controversies." The Leo M. Walsh Distinguished Lecture is made possible by the generosity of Leo M. Walsh and the Leo M. Walsh Distinguished Lecture in Soil Science Fund.



Department News

Congratulations to **Sharon Long** on receiving the 2016 CALS Equity and Diversity Award. The award was presented at the CALS Awards Program on Wednesday, May 4. We are very pleased that Sharon has received this well-deserved honor for her many contributions not only to the Department but to CALS and the whole university!

Peter Wakeman retired from the department on January 29 after 24 years of service. His expertise and sunny disposition will be greatly missed by all who worked with him. Congratulations to Peter as he moves into this new phase of life.

The Department of Soil Science received an exceptionally generous donation from **Ms. Edna Huggett** and matching funds through the generosity of **Ab and Nancy Nicholas**. The \$100,000 combined gift was made to the Wayne R. Kussow/Wisconsin Turfgrass Association Fellowship Fund Endowment. The purpose of this fund is to endow a graduate fellowship in turfgrass in honor of Dr. Wayne Kussow's service to the turfgrass industry. The Kussow/WTAF Fellowship qualifies under the Wisconsin Distinguished Graduate Fellowship Program and thus will be supplemented by Wisconsin Alumni Research Foundation to bring the total fellowship amount up to a full graduate fellowship as defined by the graduate school.

The Wisconsin Agriculturist recently selected **Dick Cates**, director of the Wisconsin School for Beginning Dairy and Livestock Farmers and lecturer in the Department, as a recipient of the 2016 Master Agriculturalist award.

After more than 25 years of service within the Department of Soil Science and University of Wisconsin-Madison, **Bill Bland** will be retiring this summer. Please join us as we honor him and his distinguished career with a short program followed by a reception

**Bill Bland
Retirement Program & Reception
Friday, May 20
2:30 - 5:00 p.m.
1525 Observatory Drive, Room 270
Madison**



In Memoriam

Charles B. Davey (MS, 1952; PhD, 1955) - North Carolina State University Professor Emeritus Charles B. Davey passed away July 7, 2015 at the age of 87. The bulk of his career was spent at NCSU where he supervised or co-supervised more than 100 PhD and 50 MS students during his career. He received his MS in Forest Soils from UW-Madison in 1952, and his PhD in Forest Soils and Microbiology in 1955.

Lloyd A. Peterson (MS, 1956; PhD, 1958) - Professor Emeritus Lloyd A. Peterson passed away on March 25, at the age of 85. Through his devotion for farming and education, he shared his passions with his students as professor in both Horticulture and Soil Science at UW.

Sidney S. Pollack (PhD, 1956) - Sidney S. Pollack passed away on August 12, 2015 at the age of 85. Upon completing his PhD at UW-Madison in 1956, he went on to become a research chemist at Mellon Institute and later laboratory manager at the US Department of Energy's Bruceton facility.

Earth Day and Scholarship Program

Earth Day marked the first annual Department of Soil Science Undergraduate Scholarship Recognition Program. Prof. Steve Ventura provided an historical context of Earth Day and the work of Gaylord Nelson. Additionally, undergraduates receiving various scholarships were recognized followed by a reception in the library.



l-r: Chee Thao, Kyle Kazmierczak, Daniel Dryer, Sean Fischer, Jacob Kruse, Prof. Alfred Hartemink, Dept. Chair. Not pictured: Logan Mohr, Durrell Naquin

Recent Graduates

UNDERGRADUATE DEGREES

Gmeinder, Nicholas E. - BS, 2016 Soil Science

Philo, Allen C. - BS, 2016 Soil Science

Ritter, David K. - BS, 2016 Soil Science

Witkowski, Kristin K. - BS, 2016 Soil Science

GRADUATE DEGREES

Ivancic, Kathryn A. - MS, 2016 Soil Science / Agronomy
Spring planted cover crop impact on nitrogen management and sweet corn production in the central sands (RA, Ruark). Kate will return to UW-Madison this fall as she pursues her PhD in Agronomy.

McNamee, Elizabeth O. - MS, 2016 Soil Science / Agronomy
Unpacking the soil water characteristic curve: Measurement techniques, property-transfer predictions, and implications for DAYCENT model simulations (RA, Bland). Elizabeth will be traveling this summer and then returning in the fall to begin working on her PhD in Agronomy.

Welcome

The department welcomes three new graduate students this semester:

Hans Klopp (PhD, Bleam and Arriaga)

Qiyu (Ada) Zhou (MS, Soldat)

Kyoungtea Kim (PhD, Pedersen)

Lindsay Weisbrod joined the Soil & Forage Analysis Lab as a research specialist.

Erin Gonzales (RA, Hickey) joined the department in Feb.

Sarah Sebrosky is a programmer analyst with SnapPlus.

Professor Quibing Wang from Shenyang Agricultural Univ. in Shenyang, China will be in the department until August, 2016.

Department of Soil Science at the University of Wisconsin-Madison

I/we wish to join other students/alumni, industry, and friends in enhancing the teaching, research, and outreach programs in the Department of Soil Science by contributing as indicated below.

____\$50 ____\$100 ____\$250 ____\$500 ____\$1,000 ____Other

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If paying by check, please make your check payable to the UW Foundation-Department of Soil Science and mail to:
University of Wisconsin Foundation • US Bank Lockbox • P.O. Box 78807 • Milwaukee, WI 53278-0807

Online donation is available on our website <http://soils.wisc.edu/alumni-friends/>

Profiles

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Alumni Updates

Mark Krupinski (BS 1979) retired in January 2016 after 35 years as a soil scientist and forest ecologist employed by the USDA-NRCS and other agencies. He will now adjourn to his property in northern Lincoln County to garden, keep bees, raise chickens, make maple syrup, and go fishing and hunting at will.

Our Supporters

11/16/2015 to 4/30/2016

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Dr. Hobson	Michael Fields Agric. Inst.	Mr. & Mrs. Stellato	WI Turfgrass Association

Alumni Update

We'd love to hear from you! Please complete and return this form
or send your updates via email to: jgarvin2@wisc.edu

Name:

Degree(s) and Year(s): BS () MS () PhD ()

Home Address:

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Position:

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Profiles

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