

Profiles



Department of Soil Science
UNIVERSITY OF WISCONSIN-MADISON

JUN 2019 VOL. 10 NO.2



ANTIGO SILT LOAM

MESSAGE FROM THE DEPARTMENT CHAIR

130 Years!

Every morning when I come in (and I try to come in with the birds as Champ Tanner and Emil Truog taught us) I have a sense of excitement. Some of that comes from serious coffee loading over breakfast whilst studying my electronic calendar and must-do list. But most of that comes from the deep realization that we are working on issues that ultimately address the welfare of humankind. It is the concealed understanding of doing good work that motivates the most.

Although our science is always aiming to be cutting-edge, as a department we balance between tradition and revolution. Our tradition is one of conducting the best science, high impact teaching, and making sure our findings reach people in the state and across the world – that is where the revolution is too. The core of our work also includes training cohorts of students, mentoring new faculty, obtaining grants, writing papers, giving talks and being a good citizen in the college and university. From that, it seems that the university machine has not changed much ever since our department was founded 130 years ago – we teach, research, reach out, and provide service. We enjoy.

The tradition is also felt when we look at our scientific ancestry and those that left a significant mark on the department.

This year is the 50th anniversary of Professor Emil Truog's death. He came to the department in 1910 and was chair from 1939 to 1954 during which time he laid the foundation for the spectacular developments in the 1960s and 1970s. He mentored 100 students to their PhD degree, and 80 to their MS degree – his scientific pedigree stretches across the whole country and world. At home, he mentored two soil scientists who became National Academy Members - Champ Tanner and Marion Jackson.

It is against that background that we work every day on subjects that are relevant and vital for the future. Please stop by next time you are in Madison. We like to work, but we also like to hear from you, and can always find time to talk. Now spring is here, we could even stroll along the lake, end up on the union terrace, and chat about our traditions and the grand issues we are working on. Thank you for all your support to the Department of Soil Science!

Alfred Hartemink
Chair



LEO M. WALSH DISTINGUISHED LECTURE IN SOIL SCIENCE



The 7th annual Leo M. Walsh Distinguished Lecture in Soil Science was held on April 24. Dr. Donald Sparks, Professor in the Department of Agriculture and Natural Resources at the University of Delaware was this year's presenter. His presentation entitled, "Impact of a Changing Environment on Soil Chemical Processes" was well attended by students, staff, and faculty from around campus.

This lectureship is made possible by the generosity of Leo Walsh and the Leo M. Walsh Distinguished Lectureship in Soil Science Fund.

2019 Presenter, Dr. Donald Sparks (l) and emeritus professor of soil science Leo Walsh (r).

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STAFF PROFILE: TERRI BUSBY



After receiving her bachelor's degree from the University of Wisconsin-Whitewater in 1968, Terri Busby began her service to the State of Wisconsin in 1974 at the Wisconsin Vital Records Office. She later joined the University of Wisconsin-Madison, College of Agricultural and Life Sciences, Department of Poultry Science in March 1980. Terri made her way to the Department of Soil Science in January 1987 when she accepted the position of Program Assistant 2 - Supervisor. She has been a mainstay of our department until her retirement this past April (although officially not off the hook until July 5 of this year). For 32 years, Terri has served the department faithfully, conscientiously, and efficiently. Under her tutelage, she managed to steer the department through many transitions, most remarkably perhaps, the implementation of computer automation in the day-to-day operations of our office setting. In her decades-long tenure in the department, she worked with chairpersons Champ Tanner, John Murdock, Robin Harris, Birl Lowery, Stephen Ventura, William Bland, and Alfred Hartemink. Her ability to keep them on schedule, under budget, and out of trouble did not go unnoticed at her recent retirement reception where many noted that her professional skills have indeed attributed to the many successes of the department. Terri continues to come in once a week to ease our transition to her absence and help alleviate the challenges of losing her expertise. Once again, demonstrating her dedication and commitment to the department. We wish Terri all the very best as she transitions from the 40-hour workweek to the new normalcy of retirement life.

RESEARCH CORNER: THEA WHITMAN

The beautiful complexity of soil is fascinating to me, from its tiniest inhabitants to its role in the global carbon cycle. Our lab's research combines soil biogeochemistry, microbial ecology, and global environmental change. We work in environments including the boreal forest in the Northwest Territories in Canada, Wisconsin grasslands, and Californian forests. We use field research, greenhouse experiments, incubation experiments, molecular work, and bioinformatics to conduct fundamental and applied research with relevance for land-use management, agroecology, and climate change policy. Our lab is a robust group, with (in order of joining the lab) Jamie Woollet (associate research specialist), Michael Braus (PhD student), Timothy Berry (postdoc), Nayela Zeba (PhD student), Jaimie West (PhD student), and Jacob Price (postdoc). In addition, we have been lucky to have some excellent undergrads work with us, including Mai Zoua Yang and Annie Edwards. The lab currently focuses on three general topics: (1) The effects of fire on soil microbes and the carbon cycle (2) The role of microhabitats in structuring soil microbial communities and improving how we measure the soil environment to better reflect the perspective of a microbe (3) Improving our representation of uncertainty in microbial community data. This summer, lab members will be sampling soil from wildfires in Canada and prescribed fires in Wisconsin, investigating the factors and processes that make soils the most microbially diverse environments on earth, characterizing the limitations of pH as currently measured for use in soil microbiology, developing new computer software in the R programming language to better represent uncertainty in genomic sequencing data, and conducting incubations to determine how charcoal, soil, and microbes interact using custom-built gas flux monitoring equipment. It's been very fun getting the lab up and running over these past three years or so, and I am looking forward to what we find out next!



STUDENT PROFILE: ANNA TEETER



Anna Teeter (I) received 3rd place in the Soil Science Society of America's overall competition.

Growing up in the suburbs, Anna Teeter was never able to harness her passion for agriculture. Her involvement in 4-H led to her decision to attend the University of Wisconsin-Madison and pursue Animal Science as a major. After three semesters at UW, she learned her passion for agriculture was much more heavily focused on plants and soil as well as sharing scientific knowledge. She then switched gears and decided to dual major in Agronomy and Life Sciences Communication. Through her work experiences in industry as well as the Department of Agronomy, she realized that soil is our important resource and soil science is the foundational agricultural science. Anna is now currently a MS candidate with Carrie Laboski and her research focuses on the application of dairy manure and using different nitrogen management tools, a nitrification inhibitor and a cover crop, to combat nitrogen loss through the winter months. This research project ties together Anna's past experiences as well as her future career plans. Anna recently competed in the Soil Science Society of America student competition, placing 3rd overall. This was the inaugural year in which a Society-wide distinction was awarded.

OUR SUPPORTERS

12/01/2018 to 04/30/2019

Dr. and Mrs. Beaver
Mr. and Mrs. Benes
Mrs. Bohl Bormann and Mr. Bormann
Professor Emeritus Bouma
Dr. and Mrs. Bowling
Ms. Collins
Dr. and Mrs. Comfort
Mr. and Ms. D'Huyvetter
Mr. and Mrs. Duffy
Mr. and Ms. Franz
Dr. and Mrs. Frazier
Mr. Hess
Mr. Hole
Mr. Jansky
Dr. Kalenak and Ms. Muldowney
Professor and Ms. Keeney
Professor and Mrs. Kelling
Professor Kirkham
Ms. Laszewski
Mr. Lemahieu and Ms. Anderson
Professor and Mrs. Lowery
Dr. Massey
Monsanto Company
Ms. Powell
Mrs. Punwar (in memory of Jalamsinh Punwar)
Simplot Partners
Mr. and Mrs. Stellato
Professor and Mrs. Stroehlein
Professor and Dr. Swan
Mr. and Ms. Van Herwynen
Professor Ventura and Ms. Krome
Dean Emeritus Walsh
Wisconsin Turfgrass Assoc.
Dr. Yuan and Hao

DEPARTMENT NEWS

The department would like to recognize **Matt Ruark's** promotion to full professor, effective August 19, 2019. Matt joined the faculty in September of 2008, and he has proven to be an invaluable scholar, educator, researcher, and citizen to the department, college, university and extension.

Francisco Arriaga has been promoted from assistant professor to associate professor, effective July 1, 2019. Since joining the department in 2012, Francisco has demonstrated a strong commitment to the department, college, university and extension through his research, teaching, committee work and outreach programs.

Nick Balster has received the 6th annual Award for Mentoring Undergraduates in Research, Scholarly and Creative Activities. Nick has mentored 58 undergraduate researchers to date yielding 6 scholarships, 7 peer-reviewed publications, 4 competitive grants, 18 presentations at national conferences, 20 professional reports/Bio 152 conference presentations, and 22 research presentations at the UW Undergraduate Research Symposium.

Congratulations to **Alfred Hartemink** for receiving the inaugural Marvin T. Beatty Professorship in Soil Science. This newly endowed professorship was established from the trusts of emeritus professor Marv Beatty. All faculty whose tenure home resides in the Department of Soil Science is eligible. Four proposals were submitted for consideration, with Alfred's being selected by the voting members of the department.

Matt Ruark has been named Researcher of the Year by the Wisconsin Potato and Vegetable Growers Association (WPVGA) at their annual meeting this past February.

Doug Soldat is the recipient of a Vilas Faculty Mid-Career Investigator Award. This award is supported by the estate of professor, U.S. Senator, and UW Regent William F. Vilas (1840-1908) and recognizes research and teaching excellence.

The Soil Ecology Society has selected **Thea Whitman** as its recipient of the Early Career Research Award. This award recognizes an early career soil ecologist within 5 years of earning a PhD who has begun making and shows exceptional promise to continue making, outstanding research contributions to the broad field of soil ecology. In recognition of this award, Thea has been invited to give a plenary talk at the upcoming SES meeting.

SAVE THE DATE!

Wednesday, October 16, 2019 is the date of the 2nd annual James G. Bockheim Distinguished Lectureship in Soil Science. Dr. Rebecca Lybrand, Assistant Professor in the Department of Crop and Soil Science at Oregon State University will be our guest presenter. The department wishes to thank **Jim and Julie Bockheim** and the **James G. Bockheim Distinguished Lectureship in Soil Science Fund** for making this opportunity a possible.

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

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RECENT GRADUATES

Fischer, Sean S. - BS, 2019

Rogers, Alex R. - BS, 2019

Zimmermann, Isaac G. - BS, 2018

Sawyer, Dustin C. - MS, 2018 Soil Science (Barak)

Fertility Trends in 20 Years of Nutrient Drawdown and Best Management Practices at the Wisconsin Cropping Systems Trial.

Klopp, Hans W. - PhD, 2019 Soil Science (Bleam)

Effect of Soil ESP and Salinity on Soil Atterberg Limits, Shrinkage, and Soil Hydrologic.

Reyes Rojas, Luis A. - PhD, 2019 Soil Science (Ventura)

Digital Soil Mapping, Modeling, and Legacy Data Rescue in Chile.

ALUMNI UPDATES

Keith Kelling (PhD, 1974) UW - Madison professor emeritus of soil science was inducted into the Wisconsin Potato Hall of Fame in February. His years of dedication and contributions were recognized at the annual Wisconsin Potato and Vegetable Growers Association (WPVGA) meeting.

WELCOME

Sumanta Chatterjee (PhD, Huang)

Michelle Marks (Research Associate, Ruark)

Jay Schneider (Honorary Scholar, Pedersen)

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: _____

Email: _____

Phone No.: _____

Position: _____

Employer: _____

News to share: _____

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