

# Profiles



DEPARTMENT OF  
SOIL SCIENCE  
University of Wisconsin-Madison

JUNE 2018 VOL. 9 NO.2

## Message from the Department Chair

Last Saturday, I attended the Spring Commencement at Camp Randall. The weather was somewhat cooperative (according to the Chancellor, it was because the head of the National Weather Service is an UW alum), and most of our Soil Science graduates were present. As always, it was a festive event and also one of reflections on the past, present, and future. That comes with the job.

Our department was founded by F.H. King in 1889, and is one of the oldest soil science departments in the world. The first student with a BS degree graduated in 1905, the first MS in 1906, and the first student with a PhD degree graduated in 1918. Between 1906 and 2018, the department has graduated 2,386 students (1,306 BS, 588 MS and 492 PhD degrees). Over the past decades, the number of students graduating with a BS degree has dwindled, and we now graduate more PhD and MS than BS students. Our MS and PhD programs are stronger than ever and in our view, that reflects funding, vibrancy of the soil science discipline (we work on matters that matter), and the job market.

Change is coming. Our College of Agricultural and Life Sciences has embarked on an ambitious endeavor to increase teaching, bring in more research dollars, and increase administrative efficiencies. As a forward looking Department, we are all for change, but have not embraced the idea of a merger with another department. We are working together with more than half the departments in the college, as well as departments in other colleges and continue to seek outcomes that foster our research, teaching, and extension mission, as well as advance the soil science discipline. Our courses are well-subscribed, and we have an active and highly supportive alumni population.

In April, we celebrated a new professorship established through a \$1.2M gift from emeritus professor Marv Beatty, and a \$0.5M match from the John and Tashia Morgridge Foundation. The professorship will provide a tenured faculty member with resources to pursue research, attend meetings, travel, support research, and graduate students. Emeritus professor Beatty received his PhD from our department in 1955 with a research focus on interpreting soil surveys and land use. He served as a Cooperative Extension specialist, program leader, and associate dean for at UW-Extension until his retirement in 1988. We are speechless and deeply honored by such a large gift that will help us in so many ways. It shows trust in our department, our discipline, and will ultimately benefit the people on the land. All of us realize that we are building on 129 years of soil science at the University of Wisconsin and a strong alumni basis.

On the personnel front, we welcome Dr. Jingyi Huang, who joined us as assistant professor in soil physics. Dr. Huang obtained degrees from the University of New South Wales in Sydney, Australia. We are greatly looking forward to his scientific explorations and the continued expansion of soil physics research in our department. Prof. Sharon Long and Prof. Bill Hickey have announced their retirement this year and both have made major contributions to our research and teaching capacity on soil microbes and waterborne pathogens. We wish them a happy retirement!

And then, we have a staff member who has worked here for 50 years, Carol Duffy! Carol began working for the university in 1968 and has seen over twelve hundred students graduate from our department. That is over half of the total soil science alumni population. We are grateful to have her on our staff, and her dedication and presence might as well illustrate that our Department is a great place to work. It is also a great department to have a degree from.

**Alfred Hartemink**

## Welcome

The department has numerous new graduate students and staff members to welcome:

**Kristin McAdow** (MS, Soldat)  
**Jaimie West** (PhD, Whitman)  
**Qiyu (Ada) Zhou** (PhD, Soldat)

**Andrew Stammer**, Lab Director and Extension Soils Specialist,  
UW Soil and Forage Analysis Lab  
**Chelsea Zegler**, Associate Research Specialist, Ruark Lab



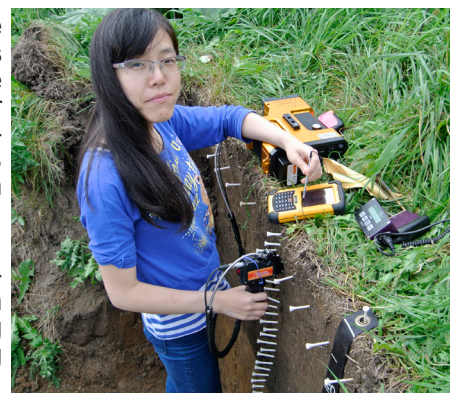
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|                          |   |
|--------------------------|---|
| Student Profile.....     | 2 |
| Walsh Lectureship.....   | 2 |
| Department News.....     | 2 |
| Research Corner.....     | 2 |
| Graduates.....           | 3 |
| Future Leader Award..... | 3 |
| Soil Physicist.....      | 3 |
| Supporters.....          | 4 |

## Student Profile: Yakun Zhang

Yakun grew up in Baoding, China and received her BS in Environmental Science from Sun Yat-sen University. Her interest in soils grew from soil courses and field trips in Sun Yat-sen University. She is especially impressed by how diverse and variable the soils are and is interested in soil formation and classification. She completed her undergraduate thesis on the effects of different types of biochar amendments on enzymes activities in soil. She continued her study in Soil Science and received her MS from McGill University where her research focused on quantifying soil spatial variation and optimizing soil sampling designs.

Wishing to experience new places and work with different people, she moved to UW-Madison for PhD study in Soil Science. She is working with Dr. Alfred Hartemink on Digital Soil Morphometrics and Soil Mapping. It involves using proximal soil sensing and other tools to measure and quantify soil profile properties and variability, mapping soil profile and landscape, soil image analysis, and optimization of soil sampling.



## Leo M. Walsh Distinguished Lecture in Soil Science

This year's Leo M. Walsh Distinguished Lecture in Soil Science was presented by Michael Castellano, Associate Professor in the Department of Agronomy at Iowa State University. His May 2nd presentation entitled, "Biogeochemical consequences of an aging soil infrastructure," marked the 6th year of this Lectureship.

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



*Emeritus Professor of soil science Leo Walsh (right) with 2018 Leo M. Walsh Distinguished Lecture presenter, Dr. Michael Castellano*

## Department News

### CONGRATULATIONS

**Joel Pedersen** has been selected as a Vilas Distinguished Achievement Professor.

**Steve Ventura** has been awarded the 2018 Spitzer Teaching Award.

**Carrie Laboski** has been elected to the SSSA Board of Directors representing the Agricultural Soil & Food Systems Group.

**Bill Hickey** is retiring after 28 years of service in the department focusing on soil microbiology and biochemistry.

**Sharon Long** is retiring from the department and the Wisconsin State Laboratory of Hygiene after 12 years of service.

**Carol Duffy** completed 50 years of service to the department, but isn't done yet!

**Steve Ventura** and colleagues have been selected as 2018 Community-University Partnership Award recipients for their work on "The compost project - A systems approach to food waste composting for urban agriculture."

"Mineral licks as environmental reservoirs of chronic wasting disease prions," which was funded by USGS with support from NSF, was published May 2 in the journal PLOS ONE. **Joel Pedersen**, joined by Michael Samuel and other colleagues from around campus worked on this project.

### SAVE THE DATE!

Wednesday, Nov. 14 marks the inaugural Jim Bockheim Distinguished Lectureship in Soil Science featuring guest presenter Dr. Sylvie Quideau. The Department wishes to thank **Jim and Julie Bockheim** for their generosity in making this opportunity a reality.

## Research Corner: Nick Balster

As conveyed in its name, "Collaborations in Ecosystem Science and Environmental Education," the Balster lab engages in a diverse array of collaborative activities that work to integrate research, teaching, outreach, and service. His lab currently consists of Dr. Alex Bajcz (PostDoc), Dr. Marie Johnston (PostDoc), Edward Boswell (PhD candidate), Yi Jing (Design Specialist), and three undergraduates (as part of his effort to provide undergraduate research opportunities – 60+ students since 2004!). His disciplinary research spans forest communities to prairies to urbanized landscapes. Some current projects include investigating the interactions between soil carbon and aggregation to changes in freeze-thaw cycles, physiological response for out-planted red oak following varied nitrogen regimes in forest nurseries, the effect of invasive earthworms on soil aggregation, and plant-soil interactions in urban "rain gardens."

On the education front, they just finished a research study examining the impact of professional development in teaching at a R1 university and another describing the impact of childhood interactions with nature and setting (urban vs. rural) on academic achievement in environmental science courses, an investigation that involved over 700 UW-



Continued on page 4

## Recent Graduates

### UNDERGRADUATE DEGREES

**Dryer, Daniel C. - BS, 2018**

Soil Science

**Persche, Malachi T. - BS, 2018**

Soil Science

### GRADUATE DEGREES

**Adams, Laura C. - MS, 2017**

Soil Science & Agroecology  
*Quantifying cover crop and reduced tillage impacts on corn silage production and water quality.* (RA, Arriaga)

**Diederich, Kalyn M. - MS, 2017**

Soil Science & Agroecology  
*Temporal and cropping system effects on labile soil carbon and nitrogen pools in long-term agroecosystems.* (RA, Ruark)

**Plunkett, Shannon A. - MS, 2017**

Soil Science  
*Accessible solutions to quantifying and remodeling soil lead hazard.* (RA, Soldat)

**Zhou, Qiyu - MS, 2018**

Soil Science  
*Evaluation of a new sodicity index: Limiting sodium adsorption ratio.* (RA, Soldat)

**Stock, Melanie N. - PhD, 2018**

Soil Science  
*Winter runoff processes after tillage and manure application in a dairy agroecosystem.* (RA, Arriaga)



## Future Leader Recipient

PhD student, **Ekrem Ozlu**, has earned the 2018 Future Leaders in Science Award from ASA/CSSA/SSSA. This award is presented annually in recognition of the recipient's interest and engagement in science advocacy. This past March 8th, Ekrem participated in the Congressional Visits Day in Washington, DC, where he was afforded the opportunity to meet with State Representative Tammy Baldwin and others to advocate for food, agriculture, and natural resources research.

Ekrem is in the Soil Science program with a double minor in Geography and Statistics. He works under the direction of Dr. Francisco Arriaga focusing on carbon stabilization and feedback mechanisms to soil physical structure.

Ekrem has a strong background in leadership awards and opportunities including: ACS leadership conference award (2015), ACS Grad Committee (2015-present), ACS Grad Leadership Sub-committees (2016, 2017 Chair), grad student web-editor *agronomy.org* and *soils.org* (2017), ACS Grad Committee (2018 Vice-chair, 2019 Chair), 2019 SSSA Early Career Task Force (presently), SSSA Graduate Student Committee (presently), SSSA International Soil Science Award Committee (presently), and SSSA The Profile Moderators Committee (presently)



WI State Representative Tammy Baldwin and Ekrem Ozlu

## Soil Physicist Joins Faculty



**Jingyi Huang**, originally from China, obtained his bachelor degree in biology from Central South University, Changsha, China. Inspired by the beauty of the nature and diversity of the world, he went to Australia pursuing a career in soil science in the University of New South Wales. After completing his MPhil and PhD studies with Dr. John Triantafyllis on applying electromagnetic induction theories in soil and water mapping, monitoring, and management, he worked as a post-doctoral researcher in the University of Sydney and University of New South Wales. During that time, he continued devoting himself to soil science and worked on improving the understanding of spatial-temporal variations in soil properties at different scales using various proximal and remote sensing technologies and data -mining/-assimilation algorithms. He is looking forward to sharing his ideas and expertise in soil sensing and modeling and collaborating with people in the department and across the university to push the boundary of our understanding of the soil in the water-energy-food nexus.

## 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.

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

# Profiles

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Continued from page 2

Madison students. Nick serves as chair of the successful Environmental Science Major and as faculty director of Madison Teaching and Learning Excellence.

This summer his lab will be installing an educational trail, "Soil on the Move" at Pope Farm Conservancy in Middleton. This trail will be the first of its kind to study its educational effectiveness of an informational trail on soil processes. Nick is the first to admit that the invaluable collaborations with students, faculty, staff, and practitioners is instrumental in these efforts. He is always looking for new projects involving soils and plants and jumps at any opportunity to share his love and reverence of soil.

## Our Supporters

12/1/2017 to 5/15/2018

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## 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](mailto:jgarvin2@wisc.edu)

Name:

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

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