

Profiles

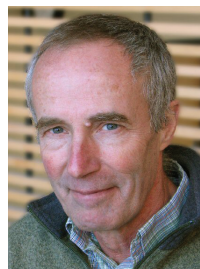


DEPARTMENT OF
SOIL SCIENCE
University of Wisconsin-Madison

NOVEMBER 2014

Message from the Department Chair

Friends of Soil Science at UW-Madison:



The past half-year has been filled with events that are rich fodder for reflection, something I am doing more of as I come to realize that I am unambiguously part of the old guard around here. First was our 125th anniversary celebration—a great success, with a day of wide-ranging talks by distinguished alums, current faculty members, and graduate students. An evening dinner and music capped the day. Thanks to those who made the trip to join us, and to those donors who helped defray the expenses.

As momentous (for me at least) was the retirement of a great mentor, Birl Lowery. Birl served on the faculty for 36 years, including stints as department chair and senior associate dean of the college. He was a warm-hearted teacher in Soil Science 322: Physical Principles of Soil and Water Management for decades and mentor to many graduate students.

Coming quickly on the heels of Birl's departure was Kevin McSweeney's surprise announcement that he was leaving us to join the Department of Natural Resources and Environmental Sciences at University of Illinois at Urbana-Champaign. We were delighted when Kevin returned to our department a couple of years ago from the UW Arboretum, and were dismayed to see him leave us again. But we can understand: Kevin did his PhD there and his spouse, Jacqueline Hitchon, was recruited as professor and head of the Department of Advertising.

Rounding out the departures is Jim Bockheim, a pillar of the department for over 39 years, who will retire on January 2, 2015. As we profiled in our last issue, Jim has long been a leading light in the study of cold soils. His energetic and prodigious fieldwork in the Arctic and Antarctic both documented these soils and inspired his theoretical contributions on their genesis and how they are best classified. In recent years, he has taught Soil Science 324: Soil and Environmental Quality, with great reviews.

In August, we learned of the death of John Murdock, a retired faculty member and college administrator (see "In Memorium" p. 2). Marv Beatty and I had a wonderful conversation about John's work in Brazil, something that should be considered a remarkable event in soil science history. When the UW team arrived, led by John, people were farming as in 1900, and yields had fallen to very low levels. Local agronomists had attempted a few P trials with little benefit, and one even warned farmers that lime would damage their soil. John applied both lime and P simultaneously, and the Cerrado was changed for good. For their contributions, Marv and John were both awarded honorary doctorates from the Federal University of Rio Grande do Sul in May 2014.

So yes, becoming a member of the old guard does seem to make reflection more satisfying than when I was younger. But my sense of knowing what the future will bring is, if anything, diminished. What I can have is faith that our faculty and graduate students will make for more great moments in soil science, and that there are leaders in the making amongst them.

Bill Bland, Chair



Attendees at 125th Anniversary Celebration on May 23, 2014

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Research Corner: Carrie Laboski



Carrie Laboski has a lot of questions about how to best manage soil fertility across Wisconsin. As a Professor and Extension soil fertility specialist, she is seeking answers with the help of a team of researchers, graduate students, and a diverse set of collaborators. In a typical growing season, she has around 12 experiments with 2200 field research plots at 30 locations across the state. Much of this research is to maintain the quality and relevance of an Extension publication that is at the heart of crop production in Wisconsin, "Nutrient application guidelines for field, vegetable, and fruit crops in Wisconsin," or as it is more widely known, "A2809." It has always been a guide to profitable fertilizer management, but has in recent years taken on legal significance as it is written into state and federal rules. Carrie is the latest caretaker of this important document, following the likes of Leo Walsh, Emmett Schulte, and Keith Kelling.

Carrie's research program also addresses emerging questions, particularly related to how manure is most wisely used. Do digesters transform dairy manure in ways that affect nutrient availability? Carrie's team is seeking answers to this question. She collaborated with Professor Sharon Long (also a member of our faculty) in looking at the behavior of both nutrients and bacteria in liquid manure applied in the Central Sands.

Nutrient management seeks a sustainable balance of profitable crop production with minimization of nutrient losses to the state's water resources. To accomplish this, Carrie evaluates various aspects of nutrient cycles with regard to the right source, rate, time, and placement of nutrients. This is applied soil science at its most useful, and Wisconsin is fortunate to have Carrie Laboski orchestrating such an energetic effort.

Awards, Honors, and News

Nick Balster received the 2014 Academy Award of the UW-Madison Teaching Academy.

Francisco Arriaga received the Elton D. and Carrie R. Aberle Faculty Fellow Award.

Retirement News: **Birl Lowery** retired August 4, 2014.

Kevin McSweeney retired August 15, 2014. **James Bockhiem** will be retiring January 2, 2015.

CALS Administration has announced the closing of the **Soil & Plant Analysis Laboratory (SPAL)** located on the west side of Madison; services will be consolidated at the **Soil and Forage Analysis Laboratory (SFAL)** in Marshfield. The transition is expected to be completed by November 2015.

The department welcomes the following new additions: Assistant scientist, **Daniel Toso**, will be working with Bill Hickey. **Kathryn Jones** is the new Student Services Coordinator with the Environmental Sciences Major.

Congratulations to the following poster awards: **Megan Chawner** who received 3rd place at the ASA, CSSA, & SSSA International Annual Meetings in November, and **Kelly Wilhelm** who received Best Poster at the Scientific Committee on Antarctic Research Open Science meeting in August. See the Alumni News for an oral presentation award from our recent alum **Glen Obear**.

The 68th United Nations General Assembly declared 2015 the **International Year of Soils!**

In Memorium

John T. Murdock - Professor Emeritus John T. Murdock died suddenly on August 29, 2014, at his home in Murray, Kentucky at the age of 86 years old. He earned his BS and MS degrees from the University of Kentucky in 1951 and 1952, and his PhD from the University of Wisconsin-Madison in 1955 under the guidance of Professor L.E. Englebert. He went on to direct the PhD programs of three future faculty members of the college: Leo M. Walsh, Ronald Doersch, and Wayne R. Kussow.

John joined the department in 1955. He went on to serve as the assistant director of International Agricultural Programs of the college, the president and executive director of the Midwest Universities Consortium for International Activities (MUCIA), and the chair of the department before retiring in 1991. His institution-building efforts in Brazil and Indonesia had great impact on colleges of agriculture in those countries and led to his being awarded an honorary doctorate from Institut Pertanian Bogor, Bogor, Indonesia, in 1985, and Doutor Honoris Causa from the Federal University of Rio Grande do Sul, Porto Alegre, Brazil, in 2014. John visited the department regularly after retiring, updating us on his renovations to barns on the family farm, and his efforts at developing the catfish farming industry in his part of Kentucky.

Student Profile: Melanie Stock



Most of us are quietly thankful for the break in fieldwork that our Wisconsin winters provide. Not so with Melanie Stock, first year PhD student with Francisco Arriaga. As the first snow begins to fly Melanie is installing experiments in the field, ahead of soil freezing. In her PhD research, she is pondering the very Wisconsin challenge of predicting how man-

agement options affect P loss from winter-spread manure. Her goal is to become an authority on the applied soil physics of winter processes in soils – a terrific idea, especially considering the increasing area of arctic soils that are becoming biologically active with climate change.

Melanie received her BS in Botany, Zoology, and Conservation, and an MS in Soil Science with Nick Balster right here at UW-Madison. She was first exposed to soil as an undergraduate in 301: *General Soil Science*. But it was in 322: *Physical Principles of Soil and Water Management*, that she became captivated by the interworkings of soil. Her MS thesis looked at the secret lives of Wisconsin's only toad species (*Anaxyrus americanus americanus*). These tough critters burrow down into the soil to overwinter, and Melanie's research explored the relationship of this behavior to the winter soil temperature regime.

Besides her graduate work, Melanie is an avid gardener who serves as chair of the grounds committee of Quann Community Garden in Madison.

Our Foundation Resources at Work

In the last issue, we reviewed the ways by which the contributions of our benefactors help support the graduate student training program in the department. Here we will take a look at the funds that are supporting our undergraduates and general teaching efforts. We are fortunate to have a portfolio of tools to support undergraduate experiences, including:

- F.D. Hole Wisconsin Soils Study and Expeditionary Fund,
- Professor Gerhard B. and Mildred Lee Scholarship,
- Charles O. Newlin Scholarship in Turfgrass Management,
- Charles L. Ream Memorial Scholarship,
- William A. Rothermel Fund,
- C.B. Tanner Agricultural Physics Award,
- O.R. and Gladys Zeasman Scholarship,
- Art and Eva Peterson and H. Foth funds,
- and the general Department of Soil Science Fund.

These tools help us recognize exceptional undergraduate students in our programs and support richer field experiences in our curriculum. Thank you to the foresighted donors who have enriched soil science education at UW-Madison through their contributions.



2015

International
Year of Soils

Recent Graduates

UNDERGRADUATE DEGREES

Breitzman, Matthew W. - BS, 2014 Soil Science, Agronomy, Certificate in Environmental Studies

Hansen, Aaron J. - BS, 2014 Soil Science

Luedtke, Benjamin R. - BS, 2014 Soil Science, Landscape Architecture

GRADUATE DEGREES

Cates, Anna M. - MS, 2014

Corn performance, nitrogen use efficiency, particulate and aggregate organic matter after 25 years of different crop management (Ruark)

Debels, Brad T. - PhD, 2014

A radiometric sensing approach to measure turfgrass evapotranspiration (Soldat)

Mansour, India M. - MS, 2014

Optimization and assessment of performance of a qPCR method for the detection of shiga toxin-producing *Escherichia coli* in environmental waters (Long)

Miguez, Maria Bettina - MS, 2014

Measuring drainage and solute fluxes in a sandy soil using cylindrical tube lysimeters (Bland)

Schulz, Laura A. - MS, 2014

Environmental and agronomic impacts of manure and fertilizer nitrogen management in the Wisconsin central sands (Laboski)

Our Supporters

3/1/2014 thru 9/30/2014

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Mr. and Ms. Bass

Professor Beatty

Professor and Ms. Bleam

Ms. Bormann

Professor and Dr. Brown

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Dr. Cates

Ms. Cole

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Ms. and Mr. Davies

Professor and Ms. Fermanich

Ms. and Dr. Frazier

Dr. Hadley

Mr. Hess

Mr. Hole

Dr. Isirimah

Ms. Jackson

Professor and Ms. Kelling

Mr. R. King

Mr. C. and Ms. J. King

Professor Kirkham

Mr. Kopecky

Ms. Kremer

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Peterson

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Professor Soldat

Ms. Soyering

Professor Stroehlein

Professor and Ms. Tolch

Ms. Urrutia and Dr. Roden

Dean Emeritus Walsh

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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Alumni Updates

Mallika Nocco (MS 2012) was awarded an EPA STAR fellowship grant. Mallika is currently pursuing a doctoral degree in Environment and Resources at the Nelson Institute under Chris Kucharik.

Glen Obear (MS 2013) received 1st place in the turf-grass science graduate student contest for his oral presentation at the ASA, CSSA, & SSSA International Annual Meeting in November. His presentation was "Iron-cemented layers in golf putting greens" (with co-authors Doug Soldat and Alfred Hartemink). Glen is currently pursuing a Ph.D. in Agronomy and Horticulture at the University of Nebraska-Lincoln.

Upcoming Events

UW-Madison will host the inaugural global workshop **Digital Soil Morphometrics** June 1-5, 2015. This workshop will review how proximal soil sensing and other tools can be used in soil profile descriptions where techniques and toolkits have not changed in the past decades. Confirmed keynote speakers include Erika Micheli (IUSS Division I chair, Hungary), Alex McBratney (University of Sydney, Australia), Matt Aitkenhead (The James Hutton Institute, Scotland), Budiman Minasny (University of Sydney, Australia), and Jose Dematte (University of Sao Paulo, Brazil). More information is available at: <http://digitalsoilmorphometrics.org/inaugural-global-workshop-2015/>.



Alumni Update

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

Name: _____

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

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News to share: _____

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Profiles

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