

Profiles

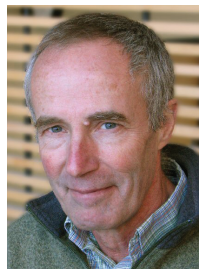


DEPARTMENT OF
SOIL SCIENCE
University of Wisconsin-Madison

NOVEMBER 2013

Message from the Department Chair

Friends of Soil Science at UW-Madison:



Yes, understanding a soil requires laboratory experiments, chemical and physical characterization, equations, and statistics. But all of these are merely in service to a richer appreciation when we view, touch, and discuss a soil in the field. This past weekend several of us

toured some classic Wisconsin soils: Loyal – the central idea of a vast area of drainage-challenged alfisols, Sayner – a northwoods spodosol, and a histosol that changed only subtly meter-after-meter downward. Most of you have experienced the power of visiting soils in the field. On page 3, you will learn of the new F.D. Hole fund to support this increasingly endangered part of soil science education.

In the past two months, I've had the great pleasure of hosting two remarkable alums of our department. Their stories are terrific reminders to the teachers among us of how our students go on to illustrious careers. In late September, Don Owens and wife Barbara of Elma, New York visited the department while participating in the UW-Madison Class of 1963's 50th Reunion. Don did his MSc with Professor G.B. Lee, and for some years after mapped soils for SCS. In 1977, he started his consulting firm Earth Dimensions, Inc and did very early work on Love Canal, the soil contamination case that brought us the Superfund program. For Don, nothing is as important in a soil scientist's training as experience seeing the variability of soil at the few-meter scale.

Henry Fribourg, Professor Emeritus at the University of Tennessee, was in Madison recently to receive the 2013 CALS Distinguished Alumni Award and visited with us. Henry came to UW-Madison as a 16-year old in 1946, and completed his BSc in Soils and Agronomy by 1949. A masters from Cornell and PhD from Iowa State led to a faculty position at the University of Tennessee that he held for 45 years.

He recorded his remarkable life in two ebooks available on-line. Phil Barak and I particularly enjoyed Henry's recollections of Emil Truog's lecture style: stock-still, eyes closed, for an hour.

Please take note of the celebration we will hold in May 2014, of the great legacy of soil science here at UW-Madison, in conjunction with the College of Agricultural and Life Sciences 125th anniversary. If you are unable to join us, please update us on your whereabouts - the great legacies of our department are sources of wonder, pride, and motivation.

Bill Bland, Chair



Join Us for Our 125th Anniversary!

Friday, May 23, 2014

F.H. King's Department of Agricultural Physics was recognized at UW-Madison in 1889, and from this emerged the Department of Soils, later renamed the Department of Soil Science. As part of the College of Agricultural and Life Sciences 125th anniversary (that's a quasiquicentennial), we are marking 2014 as the 125th anniversary of Soil Science at UW-Madison as well. This is also the date that the first phase of King Hall opened. (And the Soils Building will turn 99, close enough for many of us, but not everyone, alas.)

Please join us on Friday, May 23, 2014, for a full day and evening celebrating our department's remarkable legacy. The day's program will include reflections on our history, research updates from leading faculty members and graduate students, and four special talks from folks who we count among our most important product—graduates—who are now distinguished scholars of soil science: Mary Beth Kirkham (Kansas State University), Mike Vepraskas (North Carolina State University), Paul Gessler (University of Idaho), and Tom Sauer (USDA-ARS and Iowa State University).

Formal registration will open in early April 2014, and we will alert you to this in a Spring newsletter edition. In the meantime, though, consider visiting our website (<http://soils.wisc.edu>) and expressing your interest in the event.

To help defray the cost of the event, we have created the "Soil Science Anniversary Fund" at the UW-Foundation. Please consider a donation to this fund either through the form on page 3 or online at <http://supportuw.org/giveto/soilsanniversary>.

ANTIGO SILT LOAM

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Awards, Honors, and News

Steve Ventura was recently named the third Gaylord Nelson Distinguished Professor. The award honors members of the faculty of the Nelson Institute for Environmental Studies (with which we share Steve) for innovation, research excellence and contributions to interdisciplinarity in environmental studies. Ventura will hold the title and receive flexible research support for four years.

Carrie Laboski, Associate Professor and Extension Soils Specialist, received the ARS Researcher Award.

John Peters, Director of the UW Soil Testing Laboratories and Extension Soil Scientist, received the ARS Service Award.

Matt Ruark is leading a research team recently awarded a \$10 million federal grant to help find ways to improve carbon and nitrogen management on dairy farms. The project is part of a larger initiative to mitigate and adapt to climate change.

Department Hosts International Soil C Conference. Over 140 soil scientists from around the world gathered in Madison in June 2013 to participate in a conference on soil carbon, jointly sponsored by the department and the International Union of Soil Sciences (IUSS). Soil C is at the heart of global climate change and food and ecosystem sustainability, so we were delighted to have the opportunity to participate in the discussions. **Alfred Hartemink** is the secretary general of IUSS.

James Bockheim has recently co-authored a book titled *Pedodiversity*. The first of its kind, the book is intended to be a combined handbook, historical account of pedodiversity research, and essay on its future challenges.

Matt Ruark's lab welcomes three new members. **Carolyn Betz**, research program manager, **Allison Dungan**, associate outreach specialist, and **Jaimie West**, research specialist.

Troy Humphrey joined the department as our new Electronics Technician.

In Memorium

Larry G. Bundy - Professor Emeritus Larry G. Bundy, age 69, passed away after a brief illness on July 8, 2013 in Madison, WI. From 1973 to 1982, Bundy worked in industry as a soil scientist for Libby, McNeill & Libby, and Nestle Enterprises, Inc. in Janesville, WI. He then joined the soil science faculty, where he served for 25 years until his retirement in 2007. During his tenure in our department, Larry authored 80 refereed research papers and more than 250 extension articles. He served as major adviser for 16 graduate students seeking MS or PhD degrees. His recognitions included the CALS Pound Extension Award (1992), the ASA Agronomic Achievement Award (1998), the ASA Agronomic Extension Education Award (1999), and election as a Fellow of ASA (1994) and SSSA (2001).

The Larry Bundy Graduate Student Fund has been established in the UW Foundation to continue his legacy to our discipline and department. Contributions may be made using the form on page 3. Additional information on Larry's life and legacy is posted on our website (<http://soils.wisc.edu>).

David Sloan - Dave Sloan, Electronics Technician for the department, passed away after a courageous battle with cancer on April 22, 2013. Dave was a wonderful member of our community, and he left us much too soon.

Leo M. Walsh Distinguished Lectureship in Soil Science



Dr. Jenny Talbot, a microbial soil ecologist, presented the first Leo M. Walsh Distinguished Lecture in Soil Science, *"From hyphae to biomes: a continental-scale look at form and function of soil fungal communities."*

She is a post-doctoral researcher at Stanford, on her way to a faculty position at Boston University. A generous gift by Dean Emeritus Leo Walsh supports an annual lecture from a distinguished soil scientist. We were delighted to focus on the vibrant area of soil ecology for the first of what surely will be an exciting series of lectures.

Research Corner: Barak Lab

Generations of UW-Madison students have learned the value of fertilizers from Professors Emeritus Dick Corey, Emmett Schulte, Jaya Iyer (deceased), and, for the past two decades, Professor Phil Barak. But knowing the value of fertilizer has always cut two ways with Barak -- yes, the right investment can be easily paid back through higher yields, but what of the financial value of plant nutrients lost during manure management and human wastewater treatment? Three undergraduate scholars estimated that \$63 million worth of NPK end up in Wisconsin wastewater treatment plants, where they are largely considered a nuisance by the operators.

Barak is leading a multi-pronged research effort to capture these nutrients for fertilizer. He was recently awarded US patent No. 8,568,590 for a method to extract brushite, a phosphate-containing mineral, from sewage. A grant from the National Collegiate Innovators and Innovators Alliance is allowing his team to document the fertilizer value of this mineral. Barak also set up a company, Nutrient Recovery and Upcycling (NRU) LLC, to commercialize the process, and NRU was awarded a \$100,000 USDA Small Business Innovation Research (SBIR) Phase I grant. Looking to nitrogen, Barak estimates that \$2.5 billion of it ends up in US wastewater treatment plants annually. He has disclosed to WARF an invention that recovers up to half of that in a fertilizer-friendly form.

After years of dedicated work in the basic science side of soil science and agroecosystems, Phil Barak is enjoying applying his knowledge and experience toward practical problems of the day, and answering the call of the University leadership for the professoriate to engage in commercialization of their findings.



Soil Science graduate students (left to right) **Tyler Anderson**, **Megan Chawner**, **Justin Cartier**, **Laura Schulz**, **Melissa Haber**, and **India Mansour** with **Prof. Alfred Hartemink** at the 11th annual UW Science Expedition Day on April 6, 2013.

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10/1/2012 thru 9/30/2013

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Ms. Karen Talarczyk
Mr. Robert Thull
Mr. Gerald Timm
Mr. Donald Timmons
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Recent Graduates

Undergraduate Degrees

Ambrowiak, Gloria M. - BS, 2012
Agricultural and Natural Resources

Arneson, Jens O. - BS, 2013
Agricultural Science-Production

Gerdts, Matthew J. - BS, 2013
Agricultural and Natural Resources

Huiras, Brian A. - BS, 2012
Agricultural and Life Sciences

Reuteman, Patrick L. - BS, 2013
Agricultural Science-Production

Schmidt, Jason E. - BS, 2012
Agricultural Science-Production

Vanderleest, Clay P. - BS, 2012
Agricultural and Natural Resources

Weber, Jarvis R. - BS, 2012
Agricultural Science-Production

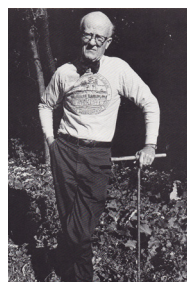
Graduate Degrees

Evans, David M. - MS, 2013
Digital soil mapping of the red clay in the driftless area near Verona, WI, USA (Hartemink)

Stock, Melanie N. - MS, 2013
Using soil temperature dynamics and ground-penetrating radar to investigate the subsurface habitat of eastern American toads (*Anaxyrus americanus americanus*) during winter (Balster)

Wells, Ana J. - Ph.D, 2013
Disturbed soil resources and seed availability regulate plant community assembly after a dam removal in southwestern Wisconsin (Balster)

F.D. Hole Soil Studies and Expedition Endowment



Francis Hole believed passionately that students of soil science (of all ages) should learn to "read each landscape for practical purposes or simply the pleasure of it." "Reading a landscape" requires getting out into it and spending time there, in the company of other students of soils and landscapes. These things require busses and lodging, costly items for which university funds are not available. To address this, we have established the F.D. Hole Soil Studies and Expedition Endowment, initiated by generous donations from Francis' children, Ben and Sarah. Please consider helping keep alive Francis' legacy of field experiences that whet the curiosity and train the eye for the beauty of landscapes by contributing to the fund at <http://supportuw.org/giveto/soilstudy>.

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



Profiles

Department of Soil Science
Jennifer Etter Goh, Editor

University of Wisconsin
1525 Observatory Drive
Madison, WI 53706-1207

Web site: soils.wisc.edu
Email: jgoh@wisc.edu

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Alumni Updates

Eric Cooley (BS 1998, MS 2005) and **Amber Radatz** (BS 2007, MS 2009) were appointed Co-Directors of Discovery Farms in July 2013.

Steve Houlihan (BS 2003, MS 2005) is now the head golf course superintendent at Blue Mound Golf and Country Club in Wauwatosa, WI.

James A. Pomeroy (BS 1951) is a Professor Emeritus who retired from California State Polytechnic University - Pomona in 1992, and moved to Las Vegas in 2002.

Dr. Bryant Scharenbroch (PhD 2007) is this year's recipient of the International Society of Ariculture's (ISA) Early Career Scientist Award. Dr. Scharenbroch, an urban soil scientist, studies urban soils to improve tree growth and longevity at The Morton Arboretum Soil Science (MASS) Laboratory.

Leslie Sherman (PhD 1997) is the chair of Environmental Sciences at Washington College.

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(continued from pg. 3)

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Alumni Update

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or send your updates via email to: jgoh@wisc.edu

Name:

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Position:

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Profiles

Department of Soil Science • University of Wisconsin-Madison
1525 Observatory Drive • Madison WI 53706-1207