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2018 Newsletter
Greetings from the Head

Dear alumni and friends,

As you may know, our biggest news of the year (and century) is that the School of Earth Sciences is now (mostly) in John T. Tate Hall, which many of you may recall – fondly or not – if you took a physics class at the U. The move in August and September was monumental in many ways, not the least of which was the exciting move of the ~27,000 pound Ely Greenstone core from the Pillsbury rock garden to the east side of Tate (check out the department’s Facebook page (www.facebook.com/groups/81943157076/) for a video of the epic Flight of the Ely Greenstone). Also on the move were many items of heavy equipment from the experimental labs and also the X-Ray Computed Tomography machine. Some flew threw windows via crane, some were dropped (ever so gently) down an access hatch to the Tate subbasement, and others rolled through the doors.

As you might imagine, moving the rock cabinets from Pillsbury to Tate was also a massive task. And we are still cleaning out the attic... We miss beautiful Pillsbury Hall, and yet it is exciting to have modern classrooms and labs that we designed specifically for our current and anticipated future teaching and research needs. Another major positive effect of the move is that so many different parts of the School of Earth Sciences are together in one building for the first time. In addition to most components of the Department, Tate Hall is also home to the Institute for Rock Magnetism and the Limnological Research Center, LacCore, and the Continental Scientific Drilling Coordination Office. Unfortunately, there was not sufficient space in Tate for the Polar Geospatial Center or our ESCI 1001 teaching labs, but we have consolidated considerably and are grateful to the University and the College of Science and Engineering for providing us with this opportunity.

It was great to see so many alumni and friends at our “farewell to Pillsbury” events in May 2017 (see p. 20). Events featured a special version of our annual awards ceremony, tours of Tate Hall, visits to the Pillsbury attic, and a picnic on the Pillsbury lawn. We are particularly grateful to the family and friends of the late Scott Rice, for whom a new scholarship is named. Since 2017, this award is given to an undergraduate with interests in environmental geoscience, the field in which Scott and his wife, Judith Friedman, worked for many years.

Another major change this past year is related to faculty transitions: Karen Kleinspehn retired in January 2018 and David Yuen in June 2018. Peter Hudleston and David Kohlstedt will retire in spring 2019. Faculty spent considerable time in the past year in wide-ranging discussions about future hiring priorities and we created a plan for priorities for the next two years. In addition to our plan, we had the opportunity to acquire a new colleague whose spouse was being recruited by another department; starting in fall 2019, Dr. Peter Makovicky, currently a senior researcher and curator in vertebrate paleontology at the Field Museum, will join our faculty. Also in 2019, Rock and Mineral Physics Professor Lars Hansen will move from Oxford University to the U of MN.

Dr. Peter Kang will join the faculty as the Gibson Professor of Hydrogeology in summer 2018. You can read a short biography and synopsis of Peter’s research on p.4. We are looking forward to Peter’s arrival, which will strengthen research and teaching in the critical area of hydrogeologic systems.

This has also been an eventful year because faculty and staff have been recognized by the University for outstanding achievements. These awards include a McKnight Land-Grant Professorship to Crystal Ng, and two teaching awards – one for excellence in undergraduate education (David Fox) and one for excellence in graduate and professional education (Chris Paola). In addition, Sharon Kressler received the President’s Award for Outstanding Service. Another notable achievement is Cara Santelli’s NSF CAREER award, a highly selective grant awarded to early-career faculty.

In May 2016, the destination of the annual undergraduate field trip was Argentina, led by Andy Wickert, and in May 2017 the undergrads went geo-adventuring in
The department would like to thank the Department of Earth Sciences Advisory Board for taking time to meet with students, staff, and faculty on May 3rd, 2018. We greatly appreciate the work they do and the input they provide the department. Thank you!

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New Faculty Members

Peter K. Kang

Assistant Professor & Gibson Chair of Hydrogeology
PhD, 2014, Massachusetts Institute of Technology

I joined the Department of Earth Sciences as an Assistant Professor and Gibson Professor of Hydrogeology in August, 2018. My research examines the coupled flow processes in subsurface environment where physical, biological, and geochemical processes are strongly coupled. I combine theory, numerical simulation and visual experiments to further advance fundamental understanding of fluid flow and reactive transport processes occurring in porous and fractured media across scales: from pore to fracture to field scale. Based on the improved understanding of the coupled processes, I develop predictive models for fluid flow and reactive transport in subsurface. I also develop advanced subsurface characterization methods that utilizes the coupling between processes. My research has a variety of real world applications related to subsurface environment and resources, including groundwater remediation, contaminant transport prediction, reservoir characterization, aquifer storage and recovery (managed aquifer recharge), and water filtration.

Prior to joining the University of Minnesota, I worked as a researcher at Korea Institute of Science and Technology (KIST) in South Korea. Before joining KIST, I was a postdoctoral associate at the Energy Resources Laboratory at MIT, and received my MSc (2010) and PhD (2014) in Hydrology in the Department of Civil & Environmental Engineering at MIT. I obtained BSc of Civil, Urban & Geosystem engineering with summa cum laude in 2008 at Seoul National University in South Korea. I was born in the US but did most of my schooling in South Korea. In my childhood, I frequently traveled back and forth between US and South Korea and now, I am more excited than ever as I will be back in the States with my growing family (wife, 3 years old son and 4 months old daughter!).

Anna Graber

Assistant Professor
History of Science & Technology
PhD, 2016, Yale University

I am joining the Department of Earth Sciences at the end of the summer as an Assistant Professor of History of Science and Technology. I am a historian of earth and environmental science specializing in the culture of science in modern and early modern Russia. My research is on knowledge creation and imperial governance in the Russian mining industry from the seventeenth to the nineteenth centuries. During this period, Russia went from being a net importer of metals to Eurasia’s leading producer of iron, copper, and silver. Using sources including factory records, scientific correspondence, mineral catalogues, maps, folk tales, and metallurgical treatises, I investigate the creation and circulation of mining knowledge across Eurasia form German mining centers to Eastern Siberia. In the book manuscript I am preparing for publication, Tsardom of Rock: Science, Society, and Enlightenment in the Russian Mining Industry, I situate mineralogical study and mining activity in the context of Enlightened reform. I examine how leaders of the mining industry developed new methods of knowing and ruling Russia’s natural environment and imperial subjects, in the process forging the modern Russian Empire. I also work on the interplay of geological thought and Russian Orthodoxy and on the intellectual aftershocks of the Great Lisbon Earthquake of 1755.

I received my Ph.D. in History from Yale University in 2016. I am coming to Minnesota after having spent a year as an Assistant Professor of History at Nazarbayev University in Astana, Kazakhstan and as a research fellow at Ural Federal University in Ekaterinburg, Russia. Before that, I was a postdoctoral fellow at Harvard University’s Davis Center for Russian and Eurasian Studies. I am thrilled to be joining to the department, and I am looking forward to be bridging the gap between the sciences and the humanities with my new colleagues.
Retiring Faculty Members

Dr. Karen Kleinspehn

Professor Karen L. Kleinspehn recently retired after 33 years of teaching, research, and service. Professor Kleinspehn started her career as an assistant professor in 1984 in the Department of Geology and Geophysics, then located in Pillsbury Hall, to teach and conduct research in sedimentology, basin analysis, and tectonics. Through detailed field studies, her early work with her students contributed to understanding the Cretaceous stratigraphy, paleogeography, and tectonic assembly of western North America. This work had profound implications for the Baja California–British Columbia (Baja-BC) controversy because it demonstrated that exotic terranes in British Columbia came from 3000 km south of their current location.

She continued her work on the general theme of lateral tectonic motion by focusing on a large continental transform system that first formed the Spitsbergen orogenic belt and was then overprinted by oblique divergence, when Greenland and Europe separated to connect the North Atlantic and Arctic basins during Cenozoic time. This work in the Arctic region of Svalbard characteristically used a creative blend of stratigraphy/sedimentology and structural geology, particularly with the study of Spitsbergen’s Central Basin where the method of paleostress stratigraphy was developed and tested. Using Svalbard as a research base, Karen participated in early debates on what forces drive rock exhumation: tectonic or climatic?

In the mid- to late 90s, Karen began research in the Aegean domain and investigated the late Cenozoic and still-active Aegean subduction system. She studied basins and structures that formed during the retreat of the slab and the progressive curvature of the plate boundary. These studies from Crete to Rhodes captured the 3D nature of subduction as a function of plate convergence, emphasizing the role of transtensional deformation in the forearc region. More recently Karen has been interested in post-Byzantine tectonics along this subduction system, bridging active tectonics and geo-archeology.

Karen made many excellent contributions as a teacher during her career in our department. Her classes in sedimentology and stratigraphy, geochronology and stratigraphy, and neotectonics were known for their rigor and blending of classic and cutting-edge content. The use of numerous outcrop photos from her field collections provided rich visual aids that facilitated learning. Karen also taught many sections of ESCI (GEO) 1001 over the years, teaching non-science students about the planet and how it works.

Karen is currently at a meeting in Greece where the seismological and archeological communities are exchanging data and ideas. We hope that we will continue to see her in Tate Hall as she continues to explore her diverse research interests. We also wish her well in combining geology with music, another passion and an illustration of Karen’s many creative talents.

Dr. David Yuen

David Yuen resigned his position at the University at the end of the academic year. He joined us in 1984 as one of four special hires associated with the establishment of the Minnesota Supercomputing Institute. Geology and Geophysics, as we then were, was in open competition with the other departments in the Institute of Technology, as it then was, so we were fortunate to be able to hire Dave. He certainly justified the title: Fellow of the Supercomputing Institute in the research he undertook. He has made significant contributions to the field of geodynamics in the broadest sense, from mantle convection to subduction processes and crust and mantle rheology, with ties to seismicity and earthquakes - including natural hazards resulting from these. His work is characterized by the application of computationally intensive numerical methods to simulate natural processes. It displays significant mathematical and computational sophistication, including methods for visualization of very large data sets.

Dave’s approach to research demonstrates the effectiveness of teamwork. Over the years, he has developed collaborations with an extensive network of colleagues around the world, with strong connections in Taiwan, China, Australia and Europe. This is most clearly reflected in his publications, which have appeared at a prolific rate.

On campus, Dave taught courses in the geophysics curriculum, and in the last few years a freshman seminar on tsunamis, all in a style that was distinctively his own. Dave now moves on and we wish him well in his future ventures.
How did I get here? That is a question I ask myself frequently, and what I have been asked to share with you in this issue of the UMN Earth Sciences department’s annual newsletter. The path has definitely been winding, but I think that the detours in life should be embraced, not feared. Where exactly is “here”?

Well, in this context it is my office at NASA Headquarters.

I have always been a huge space nerd. From about the age of 10, I made it clear to anyone who would listen that one day I would work for NASA. Of course, the original plan was astronaut. Doesn’t every 10 year old want to be an astronaut? But, somewhere along the way, at some point in college, I got distracted by science. And when I say “distracted by,” I mean “fell in love with.”

I started my college career at the U as an aerospace engineering major, because (and this is true) it was the only major with the word “space” in it (yep, serious space nerd), but I quickly found that I was much more interested in science than engineering. I stumbled into Geology 1001 one day, and fell in love with it. Dr. Kirkby made it all seem like so much fun. Knowing my passion for all things space related, as I progressed in my studies, my professors steered me towards planetary geology. I remember Dr. Weiblen bringing in thin sections of lunar rocks and letting me go to all the labs that week so I could spend as much time staring at them as I wanted.

It wasn’t just geology though, I had a lot of passions in college, and I ended up minoring in both political science and studio arts alongside my geology major. I remember a lot of people asking me why, why was I was wasting time on all these classes I didn’t need, — what good were they going to do me? At the time I didn’t have a good answer, I just knew I wanted to learn. But in retrospect, the knowledge I gained and the interactions I had with people who have different ideas and perspectives, made me a better person, a better citizen, and a better scientist. Don’t be afraid of detours.

My first research experience was as a summer intern at NASA’s Johnson Space Center in Houston doing research on meteorites. I had finally made it to NASA! I was immediately hooked on research. I loved the feeling of figuring out something new, something no one else, ever in the history of the world, had figured out before. I was adding to the collective knowledge of humanity, whoa.

After grad school, I put my political science minor to good use and spent a year working for Congress doing space policy for the House Committee on Science and Technology — a fascinating experience in a very different world. I was preparing for hearings, writing speeches, instigating investigations, I even got to write a few lines in a bill that eventually became law. It was all very exciting, a detour that left me with some valuable skills and contacts, not to mention an in depth knowledge of how Congress works. But the science pulled me back in and I returned to Johnson Space Center, this time as a NASA Postdoc, where they paid me (paid me!) to study the Moon.

My research is largely about understanding the physical and optical effects of space weathering. I use electron microscopy to study lunar rocks and soils at the micro- and nano-scale to understand the physical changes the surface undergoes over time as it is exposed to the space environment and how those changes relate to the spectral changes we see remotely.
My time at Johnson Space Center was just the beginning of what I like to refer to as my “NASA-nomad” phase. After two years at JSC, I spent a year at NASA Headquarters, then two years at NASA’s Marshall Space Flight Center in Alabama, then another four years dividing my time between Headquarters and NASA’s Goddard Space Flight Center in Maryland. Finally, a couple of years ago, I was hired permanently by Headquarters as a Program Scientist in the Planetary Science Division. No longer a nomad, I have finally decided to put down some roots, I even bought a house in D.C. last year.

I thought I would be a research scientist for my entire career, after all, I loved the science and I worked really hard to become a scientist. My career path has not been a straight line, I have stepped away from doing research, first to work for Congress, then again at HQ, and I wish there had been more people telling me that that was okay, that getting a tenure-track faculty job wasn’t the only correct path, that I wasn’t “throwing away my science career”. I have no regrets about those decisions, they were the right ones for me, and I love my job. There are lots of ways to be a scientist, and all of them are valid career choices if you end up happy and fulfilled.

I don’t have a lot of time or opportunity these days to work on my own research, and I admit that sometimes I miss it. But, as a Program Scientist, I get to help shape the future of planetary science research. I am surrounded and immersed in planetary science all day every day. It is my responsibility to help find and fund the most important and innovative science, and to seek out and nurture promising graduate students and early-career scientists. I have a much larger impact on my community now than I ever did as a scientist, and it turns out that is more important and rewarding to me than simply doing science.

I also get to work on missions. The Planetary Science Division sends robot explorers to every corner of our Solar System, and sometimes I get to go along for the ride (at least figuratively). I was the Program Scientist for the recent LADEE (Lunar Atmosphere and Dust Environment Explorer) mission to the Moon, and the Deputy Program Scientist for our next Mars Rover, the Mars 2020 mission. NASA recently selected two new planetary missions, Lucy and Psyche, and I am very excited to be the Program Scientist for Psyche (https://psyche.asu.edu/). A program scientist is the liaison between Headquarters and the mission’s science team. It is our job to make sure that the science happens; that the science team has everything it needs to be successful and that they are delivering the data and science that they promised they would. Being a part of these mission teams is inspiring and amazing. Watching people who have dedicated years — in some cases even decades — of their lives to these missions finally be rewarded with the data they have been waiting for, and watching them turn that data into science, building up our knowledge of the Solar System — it’s the best thing ever.

Oh, and I do put that art minor to use as well. I assume that my mural in the undergraduate lounge in Pillsbury Hall is gone now that the department has moved, which is tragic, but I cannot be stopped. If you ever make it to NASA Headquarters, come by and check out our kitchen galley (which we’ve renamed the “gallery”) to see some of my artwork, it was a tight squeeze but I managed to fit the whole Solar System into that space.
Awards & Other Noteworthy News

Josh Feinberg was awarded a GSA Fellowship and was recognized as an exceptional member of the geoscience community. As a GSA fellow, Josh will continue to engage with the GSA community, help shape the Society, and inspire the next generation of geoscientists.

In 2017, *Flyover Country*, a geoscience outreach app, developed by researchers in our department received the NSF and Popular Science ‘Vizzie’ Award. The annual Vizzies competition is a national competition sponsored by Popular Science magazine and NSF celebrating the use of visual media to artfully and clearly communicate scientific data and research.

David Fox was selected as a Visiting Fellow in University College, University of Oxford for the academic year while on sabbatical 2016-17.

David Fox is the 2018 recipient of the Horace T. Morse-University of Minnesota Alumni Association Award for Outstanding Contributions to Undergraduate Education. This award recognizes a select group of faculty members for their excellence and outstanding contributions to undergraduate education. This honor is awarded annually to exceptional candidates nominated by their specific colleges.

Chris Paola is the 2018 recipient of the Award for Outstanding Contributions to Graduate and Professional Education. This award recognizes a select group of faculty members for their excellence and outstanding contributions to graduate and/or professional education. This honor is awarded annually to exceptional candidates nominated by their specific colleges.

Chris Paola has been named as a 2018-2023 George and Orpha Gibson Chair in Geoscience.

Crystal Ng is the recipient of the McKnight Land-Grant Professorship. The McKnight Land-Grant Professorship Program is designed to advance the careers of promising assistant professors. Ng will hold the designation of “McKnight Land-Grant Professor” from 2018 to 2020. She will receive a research grant for each year of the professorship to further aid her in her research areas. Dr. Ng hopes to use the professorship to expand her current research projects, including researching wild rice and sulfates in Minnesota waterways and the impacts of climate change on glacier melt in Ecuador and how that impacts local water resources.

Cara Santelli was awarded the NSF CAREER Grant. The title of her project is “Genome-enabled investigations into the mechanisms and ecological controls on selenium tranformations by fungi.”

PhD Candidate Gerard Salter is the 2018 recipient of the Alvin G. Anderson Award for his research titled, “Controls on the Flux Distribution of Delta Networks.” His research is focused on how water and sediment are partitioned at bifurcations within river deltas. He has used a combination of theory and experiments to investigate how deltas switch their dominant flow pathways over time. Better understanding of the flow partitioning in deltas is important for efforts to use sediment to naturally build new land to counteract relative sea level rise.

Christian Teyssier has been named as a 2018-2023 George and Orpha Gibson Chair in Geoscience.

Harvey Thorleifson received the President’s Award of the Association of American State Geologists in 2017.

Researcher Anette Von der Handt was elected to the directorial board of the Microanalytical Society and will serve as director from 2018-2020.
We wish to express our gratitude to alumni and friends who continue supporting the department with generous donations. Your financial support provides scholarships and fellowships enabling students to carry out their studies, conduct field and analytical research, and present papers at professional meetings. Listed on these pages are gifts received from 2016 to Spring 2018. Many of those listed here have given multiple donations.

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Continued on the next page....
Driven to address some of the most pressing challenges facing our world, our faculty and students in Earth Sciences understand that what begins as a question can lead to innovations in science and new technologies. As we embark on the University’s $4 billion Driven: The University of Minnesota Campaign, your gift to the School of Earth Sciences will:

- Ensure that a diverse and talented group of students will be able to study Earth Sciences regardless of their financial circumstances through scholarship and fellowship support.

- Transform the educational experience of our students by providing them with hands-on, real world experiences through field camps, study abroad opportunities, and internships on and off campus.

- Develop a work force pipeline of scientists through scholarships, fellowships, internships, outreach initiatives and mentoring opportunities.

With your philanthropic commitment, you will assure that students of today and tomorrow will be able to lead, innovate, and create as you and those who came before you did. Every gift, in any amount, in support of the School of Earth Sciences will count toward the success of our campaign and moreover, the success of our students and faculty.

To learn how you can participate, please contact Shannon Weiher, Senior External Relations Officer, at seweiher@umn.edu or at 612-624-5543.
Scott Rice Memorial Scholarship in Earth Sciences

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Scott Rice, BS 1984, passed away in May of 2016 after a lengthy illness. In an effort to honor his memory and carry on his legacy of love of the outdoors and its environmental issues, Scott’s wife, Judith Friedman, BA 1984, established the Scott Rice Memorial Scholarship in the Department of Earth Sciences.

Judy and Scott met as undergraduate students who were both interested in environmental geosciences, before the environment became a major focus of research and teaching at UMN and elsewhere. Given Scott and Judy’s ‘geological history’ in Pillsbury Hall, it was special yet bittersweet that we awarded the first Rice Scholarship at the final awards ceremony held in Pillsbury Hall. At the ceremony, the Dean of the College of Science and Engineer, Samuel Mukasa, presented Judy with the University of Minnesota Foundation’s Presidents Club Certificate for her generosity in establishing the scholarship.

The first recipient of the Scott Rice Memorial Scholarship in Earth Sciences was Michelle Qian, a senior who is working toward her BS degree. The second annual Rice scholarship, awarded in May 2018, went to Noah Slade, a rising senior working towards his BS degree.

We are grateful for the generosity of Judy, as well as many friends and family of Scott and Judy. This scholarship, established in memory of Scott Rice, will help many talented students in the years to come.

If you wish to donate to the Scott Rice Memorial Scholarship in Earth Sciences you can do so online at www.give.umn.edu and reference Scott’s name in the ‘other search field’; or mail a check to the department. Please contact Sharon Kressler (kress004@umn.edu, or 612-625-5068) if you have questions.
Fellowship and scholarship support has grown significantly over the last decade because of our alumni. Your generosity has been the tipping point in many cases, in which better financial packages enable us to attract and retain the best undergraduate and graduate students to the University of Minnesota and to the department.

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**Fred Swain Fellowship**
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Hannah Blatchford

Francis Gibson Fellowship
Christie Cino

Samuel Goldich Footsteps Award
Peter Schuemann

John Gruner Fellowship
Avishek Rudra

Junior F. Hayden Fellowship
Megan Korcinski

Allan and Eleanor Martini Fellowship
Mathieu Pythoud

V.R. Murthy/Janice Noruk Fellowship
Jen Caseres

V.R. Murthy/Janice Noruk Fellowship for Women Graduate Students
Jen Caseres

Harold Mooney Fellowship
Meng Sun

Fred Swain Fellowship
David Birlenbach

H.E. Wright “Footsteps” Award
Tatsuro Tanioka

Zoltai Graduate Fellowships
Patricia Kang
Morgan Monz

UNDERGRADUATE STUDENTS

Thomas & Margaret Aldrich Award
Joe Rippke

Robert R. Berg Scholarship
Nathan Pukal
Willa Samuelson

Fred Donath Honors Scholarship
Ethan Kurak

J. Chris Kraft Scholarship
Ethan Kurak

McMillen Undergraduate Scholarships
Jack Lange
Walter Biglow
Collin Murphy

Rita Paquette Memorial Awards
Michelle Qian

Sidney A. Parkans Scholarship
Willa Samuelson

Gregory and Beatrice Parker Scholarship
Stephen Harrington

Walter and Joyce Rembold Scholarship
Ethan Kurak

Scott Rice Memorial Scholarship
Michelle Qian

2017 Field Camp Scholarships
Like An
Stephen Harrington
Long Ho
Ethan Kurak
Curie Lee

2016-2017 Outstanding TA Awards
Garrett Diedrich
Megan Korchinski
Rachel McLaughlin
Jacob Zahn
**Departmental Fellowships, Scholarships, and Awards 2018-2019**

**GRADUATE STUDENTS**

Thomas Andrews Fellowship
Tian “Sunny” Qin

Subir Banerjee Fellowship
Kathryn Hobart

Dennis Graduate Fellowships
Kathryn Hobart
Dalton Leprich
Max Longchamp
Mary Sabuda

Warren Fisher Memorial Fellowship
Evan Whiting
Fernando Medina

Forest Fellowship
Morgan Monz
Patricia Kang

Francis Gibson Fellowship
Leila Saberi

Samuel Goldich Footsteps Award
Clem Hamelin

John Gruner Fellowship
Jen Caseres
Hanna Blatchford

Junior F. Hayden Fellowship
Kerry Callaghan
David Birlenbach

Allan and Eleanor Martini Fellowship
Natalie Raia

V.R. Murthy/Janice Noruk Fellowship
Jen Taylor

Harold Mooney Fellowship
Hwaju Lee

H.E. Wright “Footsteps” Award
Kerry Callaghan

Zoltai Graduate Fellowships
Avishek Rudra
Joshua Torgeson

**UNDERGRADUATE STUDENTS**

Thomas & Margaret Aldrich Award
Michelle Qian

Robert R. Berg Scholarship
Trey Brink
Noah Slade

Fred Donath Honors Scholarship
Frances Gibson

J. Chris Kraft Scholarship
Kayla Nelson

McMillen Undergraduate Scholarships
Willa Samuelson
Rachel French

Rita Paquette Memorial Awards
Natasha Peterson

Sidney A. Parkans Scholarship
Morgan Johnstone

Scott Rice Memorial Scholarship
Noah Slade

2018 Field Camp Scholarships
Trey Brink
Blaze Ettlinger
Rachel French
Morgan Johnstone
Abraham Lange
Noah Slade

2017-2018 Outstanding TA Awards
David Birlenbach
Emily Erhart
Mary Sabuda
Michelle Qian

College of Science and Engineering
E.G. Flora Grant Scholarship
Trey Brink
Departmental Fellowships, Scholarships, and Awardees

2016-2017 Awardees
R1 (Front Row L to R): Stephen Harrington, Jen Caseres, Morgan Monz, Amy Sullivan, Tian “Sunny” Qin
R2: Mitchel Awalt, Akemi Berry, Ashley Breiland, Ethan Kurak
R3: Mathieu Pythoud, Avishek Rudra, Collette Wilfong
R4: Tatsuro Tanioka, David Birlenbach, Rachel McLaughlin, Kerry Callaghan, Julia Nissen
R5: Alexi Besser, Patrick O’Hara, Fernando Medina Ferrer, Elizabeth Witte

2017-2018 Awardees
R1 (Left Lower Row from the back): Willa Samuelson, Ethan Kurak, Stephen Harrington
R2: Nathan Pukal, Tatsuro Tanioka, Avishek Rudra, Morgan Monz, Hannah Blatchford
R3: Peter Scheuermann, Megan Korchinski, Colleen Hoffman, Christie Cino, Olivia Beaulieu, Liz Roepke
R4: David Birlenbach, Shane Loeffler, Kerry Callaghan, Jack Lange
R5: Evan Whiting, Fernando Medina, Josh Torgeson

2018-2019 Awardees
R1 (Front Row L to R): David Birlenbach, Morgan Monz, Clem Hamelin, Jen Caseres, Kathryn Hobart, Evan Whiting, Hwaju Lee, Mary Sabuda, Natalie Raia, Jen Taylor, Patricia Kang
R2: Morgan Johnstone, Kerry Callaghan, Willa Samuelson, Trey Brink, Fernando Medina, Josh Torgeson, Noah Slade, Max Longchamp
Degrees Granted in 2016

Graduate Degrees

Spring 2016
Mellissa S. Cross, PhD, Earth Sciences, Geology Track, May 2016, New Insights into Great Basin Hydroclimate: Past and Present, Advisor: Larry Edwards

Katherine F. Fornash, PhD, Earth Sciences, Geology Track, August 2016, Fluid Processes in Subduction Zones: Insights from the Sivrihisar (Turkey) Subduction Complex, Advisors: Donna L. Whitney and Christian Teyssier


Becky Stauss, PhD, Earth Sciences, Geophysics Track, August 2016, Characterization and Modeling of Materials Responsible for Planetary Crustal Magnetism, Advisor: Joshua M. Feinberg

Abigail M. Williams, MS, Earth Sciences, Geology Track, Plan A, July 2016, Late Holocene Sediments of the Western Sea of Galilee, Advisor: Emi Ito

Fall 2016
Sara Kowalke, MS, Earth Sciences, Geophysics Track, Plan A, September 2016, Apparent Attenuation Beneath the United States and its Correlation to Lithospheric Provinces, Advisor: Maximiliano Bezada

Aysegul Kuzulu, MS, Earth Sciences, Geology Track, Plan B, December 2016, Advisors: Christian Teyssier and Donna L. Whitney

Roxanne N. Renedo, PhD, Earth Sciences, Geology Track, September 2016, The Role of Shear Zones in the Exhumation of the Ultrahigh-Pressure Western Gneiss Region, Advisors: Donna L. Whitney and Christian Teyssier

Zhou Zhang, PhD, Earth Sciences, Geology Track, October 2016, Iron-Nickel-Sulfur-Carbon Systems Under High Pressure, with Implications to the Earth’s Mantle, Advisor: Marc M. Hirschmann

Roman Zoss, MS, Earth Sciences, Biogeology Track, Plan A, September 2016, Microbial Communities Associated with Phosphoclast-bearing Sediments of the Benguela Upwelling Zone, Advisor: Jake Bailey

Undergraduate Degrees

BS Earth Sciences
Spring 2016
Janine Andrys
Anne Gapinski
Anne Longar
Patrick O’hara
Sasha Ryan
Jessica Scholz
Jacob Sherman
Amy Sullivan
John Swieciechowski Jr.
Amanda Wolff

Fall 2016
Garrett Diedrich

BA Earth Sciences
Fall 2016
Matthew Chatterton
Jessica Palazzolo
Troy Zimmerman
Degrees Granted in 2017

### Graduate Degrees

**Spring 2017**

**Anant Agarwal**, MS, Earth Sciences, Geophysics Track, Plan B, May 2017, Advisor: David Yuen


**Amanda R. Yourd**, MS, Earth Sciences, Hydrogeology Track, Plan A, February 2017, *Using Reactive Transport Modeling to Link Hydrologic Flux and Root Zone Geochemistry at Second Creek, a Sulfate Enriched Wild Rice Stream in Northeastern Minnesota*, Advisor: Gene-Hua Crystal Ng

**Fall 2017**

**Chris H. Crosby**, PhD, Earth Sciences, Biogeology Track, October 2017, *Calcium Phosphate Mineralization as a Nexus of Geosphere-Biosphere Interactions*, Advisor: Chris Paola


### Undergraduate Degrees

**BS Earth Sciences**

**Spring 2017**

Alexi Besser
Sam Braun
Zachary Engle
Keenen Francois-King
Curie Lee
Joseph Rippke
Peter Schroedl
Zach Skelly
Jamie Snider
Collette Wilfong
Elizabeth Witte
Abigail Yulga

**Fall 2017**

Walter Biglow
Andrew Hayes
Kate Kleinman
Nathan Pukal

**BA Earth Sciences**

**Spring 2017**

Kyle Hoyer
Jacquelyn Smale

**Summer 2017**

Kyle Hoyer
Curie Lee
Cheng Shi

**Fall 2017**

Stephen Harrington
Kevin Schmidt
Zongyi Wang
Earth Sciences Student Research Symposium

Our undergraduate and graduate students took part in the 4th annual Earth Sciences Student Research Symposium in April, 2018. Organized by a committee of graduate students, the event gives students an opportunity to present their research to students, staff, and faculty through poster presentations and talk sessions.

The symposium has grown in size and attendance over the past few years and plays an important role for students to gain confidence in presenting their research. This year marks the second year of the addition of a keynote speaker chosen by the Symposium Committee to the day long conference. In 2017, the committee invited Dr. Carrie Jennings, the Research and Policy Director at Freshwater Society. In 2018, the committee invited Dr. Laurel Woodruff, a Research Geologist at USGS.

The 2018 Symposium Committee members were graduate students Harsh Anurag, Michelle LaGarde, Max Longchamp, and Nick Rodgers. The symposium continues to be a wonderful opportunity for all Earth Sciences students to give a presentation in a friendly environment, get feedback from students, researchers and faculty, and build confidence in their research presentation skills.

We would like to thank the Symposium Committee for all of the hard work they do planning and executing the Annual Earth Sciences Student Research Symposium.
The whole gang from the 2018 ESCI undergraduate trip to Colorado in front of Dream Lake at Rocky Mountain National Park! From left to right: Rashel Williams-Schaetzel, Ben Popken, Aubrey Dunshee, Josh Feinberg, Willa Samuelson, Zachary Roecker, Sally Nguyen, Kelli Cook, Nathan Pukal, Jada Csikos-Monroe, Janelle Ruth, Ethan Kurak.

Jada Csikos-Monroe, Kelli Cook, Sally Nguyen, and Ben Popken marvel at a pegmatite dike exposed in Black Canyon of the Gunnison National Park, Colorado.

You can find the following components and affiliates of the School of Earth Sciences on Facebook:

Department of Earth Sciences:
https://www.facebook.com/groups/81943157076/

Institute for Rock Magnetism:
https://www.facebook.com/pages/Institute-for-Rock-Magnetism/214991911849169

LacCore:
https://www.facebook.com/laccore

Minnesota Geological Survey:
https://www.facebook.com/MinnesotaGeologicalSurvey

Polar Geospatial Center:
https://www.facebook.com/polargeospatial

St. Anthony Falls Laboratory:
https://www.facebook.com/saflumn

College of Science & Engineering:
https://www.facebook.com/umn.cse/?fref=ts

UMGS/Geoclub:
https://www.facebook.com/groups/364483183631510/
We bid adieu to Pillsbury in May 2017 with several activities over a two-day period: the spring awards potluck, spring picnic on the grounds of Pillsbury and a two-day open house that included tours of Tate Hall under construction, campus, research labs, Pillsbury Hall and its attic!

THANK YOU for helping to make the event a success!

A few shared memories:

I remember how great it was to have the undergraduate lounge in Pillsbury Hall as a refuge from the vastness of the U of M campus, to hang out, study, and play cribbage during the day. It really felt like a home away from home, especially after I earned my own storage drawer in my sophomore year.

Dwight Gustafson, BS 1972

My advisor, Dr. Hans-Olaf Pfannkuch, had the northwest corner office on the lower level. He called it the fish-bowl because we could all look in as we walked by. My other memory is an office that I had on the top floor. I must have been in the habit of bringing an extra pair of shoes for walking around in the building. One afternoon I went to put my boots on to go home, but couldn’t get my foot in. It seemed like there was a sock wadded up in the toe of the boot. When I went to remove it, I was surprised to find it was a bat! I can only imagine what the bat must have thought about that.

Susan (Nourse) Mullen, MS 1986

SGE initiation ceremonies in the attic dome with Carl and Mark!!! Field camp with [Seeland].

John Guenther, EM 1961

Too many people to fit in the Reading Room so the Awards were presented in 110 and the food was set up in the 2nd floor hallway. Above, Dean Mukasa presented Judith Friedman (BA 1984) with University of Minnesota Foundation’s Presidents Club Certificate.

We are always looking for your memories and updates!

www.esci.umn.edu -click the Alumni tab or send to esci@umn.edu

The attic, looking south.

The Reading Room, a.k.a. Winchell Library, looked good that day!
We wish to acknowledge the donations from Dr. Carl S. and Ruth Benson (Carl: BA 1950, MS 1955) and Dr. Daryl Scherkenbach (PhD 1982) and Susan Zerwick (MS 1982) who could not make it to the festivities but contributed funds toward the picnic. Because of their independent Alaskan connections... well, let’s just say that the salmon burgers were good. Thank you!

Commemorative Pillsbury Hall water bottles are still available for $15 plus shipping. All proceeds go to the GeoClub!
Welcome to Tate Hall...

It has been a year since we officially moved into our new home in John T. Tate Hall in August of 2017. We are excited to have a central location in a newly renovated building. The official grand opening for Tate Hall was on March 7th and 8th of 2018. For those of you who were not able to attend, here are some pictures of our new home!

Above: The Mall entrance to Tate Hall.

Right: The renovated Church St. entrance.

Above: A view of one of the “Science on Display” areas in Tate Hall.

Right: One of new class-rooms in Tate Hall designed to create an interactive classroom experience.

Right: The new graduate students space and office area

Below: Graduate students using their new work collaborative work space

Above: Our New Microscope lab featuring new technology and Microscopes for students to use.

Right: The Atrium
Above and Right: The new Aqueous Geochemistry Lab space

Right: The new shielded room in the Institute of Rock Magnetism

Right and Below: The new lab space for Lac-Core

Above: The new lab space for Experimental Petrology
In Memoriam

In our search for current addresses for the Pillsbury Hall Farewell event last spring, we learned of the deaths of many alumni not previously noted in our records. We are sorry to list so many names of colleagues who have passed away over the past 10 years.

**Alumni in order of degree received**

1930s

1940s
Otto A. Poirier, MS 1940 – d. 2014
Fred J. Ronicker, EM 1940 – d. June 27, 2014
O. Milt Hackett, BS 1948 – d. October 22, 2013
Kenneth H. Holmes, BS 1948 – d. April 7, 2011

1950s
Robert L. Sundeen, EM 1950 – d. unknown
Thomas P. Bigwood, BS 1951 – d. September 6, 2014
Theophilus Griffith, EM 1951 – d. July 2013
William E. Richardson, BS 1951 – d. March 20, 2013
Charles W. Lindberg, BS 1952 – d. May 2, 2011

Dr. Terence T. Quirke, Jr., MS 1953, PhD 1958 – d. May 10, 2016. Terence Thomas Quirke, Jr. was born in Minneapolis, MN in 1929, the youngest son of three children born to Terence and Anne Quirke. He was raised in Urbana, IL and attended the University of Illinois, Champaign-Urbana and received his PhD in economic geology from the University of Minnesota, Minneapolis. He met his wife, Ruth Carter, in Minneapolis and they married in 1958. He was an assistant professor of geology at the University of North Dakota, Grand Forks for two years. In 1960 he joined the International Nickel Company of Canada (INCO) as a senior geologist and they, with their daughter, Grace Anne, moved to Thompson, Manitoba. By the time the family left Thompson he was in charge of all field exploration in western Canada. In subsequent years the family lived in Milwaukee, WI & Denver, CO. After 30 years of service, Terry retired from INCO in 1990.

In retirement he pursued his interest in genealogy and became a certified genealogist and a member or fellow of Canadian, United Kingdom & Irish genealogical societies. He authored four genealogy books on his family lines and in 2006 the National Genealogical Society presented him with the “Award for Excellence: Genealogy and Family History” for his book Quirke Genealogy and Family History of Clonmel, County Tipperary, Ireland. He served as vice-president of the Colorado chapter of the Association of Professional Genealogists and the Colorado Genealogical Society. He also served on the Board of Directors of the Wales, Ireland, Scotland and England Family History Society and on the Board of the International Society for British Genealogy and Family History.

Dr. Ronald A. Burwash, PhD 1955 – d. August 1, 2011
Gerald E. Anderson, MS 1956 – d. unknown
Paul E.J. Engel, MS 1956 – d. January 6, 2017
Donald P. Plapp, EM 1956 – d. unknown
David D. Alt, BS/MS 1958 – d. April 26, 2015
James A. Ulseth, BS 1959 – d. February 12, 2016

1960s
David H. Peterson, MS 1962 – d. May 7, 2011
Vernon D. DeRuyter, BS 1967 – d. May 24, 2008
John W. Morse, BS 1969 – d. November 23, 2009

1970s
Peter Berzins, BS 1971 – d. 2014

Dr. Subbaraman (Vis) Viswanathan, PhD 1971 – d. March 16, 2017. After receiving his degree, Vix returned to India and had a long career with the India equivalent of the Nuclear Regulatory Commission.

Dr. Bor-ming Jahn, PhD 1972 - d. December 1, 2016. Distinguished Chair Professor, NTU, Taiwan. For those who know Bor-ming, please visit the following link to leave messages for him and his family. http://geo-ntu.blog.ntu.edu.tw/home/


1980s
Joseph J. Melnyk, MS 1983 (geotechnology)
Mark E. Miller, BS 1984 – d. April 15, 2013
Scott Rice, BS 1984 – d. May 24, 2016. Scott was born in Saint Cloud, Minnesota in 1961 and was a resident of Sacramento, CA for 28 years. Scott had many accomplishments and interests including photography and cycling, but above all he found joy in the small pleasures of life and was a positive influence in the lives of all who knew him. Scott’s wife, Judith Friedman (BA 1984), established the Scott Rice Memorial Scholarship in Earth Sciences which is awarded to an earth sciences student whose interest aligns with Scott’s passion of environmental studies. If you wish to contribute to the newly established scholarship, please go to www.give.umn.edu reference his name in the “other search field”.

David O’Hanley, PhD 1986 – d. February 16, 2018. This photo was taken of David at the Pillsbury Hall Farewell. “Attached is a photo of me, in John Gruner’s Ph.D gown and hood, holding the polyhedral model of the amphibole Grunerite, named in his honor. Tibor Zoltai, my Ph.D. Advisor, who followed John Gruner as professor of mineralogy, gave me the academic regalia.

Faculty and Staff

Johnson, Doug - d. April 11, 2018. Doug was an accountant in the Department from 2011 – 2017 and was key to the transition between the old and new financial systems.

Dr. Frederick John (Sam) Sawkins – d. October 6, 2016. Please read Bill Seyfried’s write-up about Sam found on page 26.

Dr. Joseph Shapiro – d. March 1, 2017. Joe was the Associate Director of the LRC, from 1964-1997. He was diagnosed with ALS and passed away on March 1, 2017.

Correction from 2016 Newsletter:

Charlie Matsch, MS 1962 - d. April 18, 2014. Below is a story about Charlie Matsch and Allan F. Schneider that Allan had written shortly after Charlie had passed away.

It’s Good To See Old Friends

By: Allan F. Schneider, PhD 1957

The 1972 GSA Pleistocene field trip was co-led by Charlie Matsch, Bob Rutford, and Merlin Tipton. One of Charlie’s stops (Stop 1, second day) was in eastern South Dakota to examine a faceted and striated boulder pavement at the top of his Granite Falls till, overlain by New Ulm till. Despite the miserably cold weather, we were excited with the stop, as most of us had never seen such a beautiful boulder pavement before. Many of us snapped photographs of the site.

Two or three years later I showed my kodachrome slides of the pavement at our weekly geology seminar. One of them in particular caught the attention of my colleague, Professor James Shea, longtime editor of the Journal of Geological (now Geoscience) Education. Jim requested that I have an enlarged black and white copy made for possible use in the Journal. The photo appeared on the front cover of the September, 1976 issue of the Journal, accompanied by my explanation of the photo on page 128.

A few days after the Journal was sent out by the printer, I received a note in the mail from Professor Matsch regarding the pavement. It simply read: “Al, it’s good to see an old friend again. Charlie”

On the very same day that I read Charlie’s note I received from McGraw-Hill a complimentary copy of his great little book “North America and the Great Ice Age.” By chance, I opened it to page 39 and was surprised to see my map of “Moraines and Drumlins of Central Minnesota” from my PhD dissertation, and which had previously appeared in the widely used Minnesota geology textbook by Emmons, Thiel, Stauffer, and Allison, as well as in Minnesota Geological Survey Bulletin 40 and a GSA field-trip guidebook. Charlie was, of course, perfectly free to use the figure without my knowledge because McGraw-Hill now owned the copyright.

Just as Charlie was surprised to see a photo of his boulder pavement on the front cover of the Journal, I was equally surprised to see my figure in his book. All I could do was send him a note. “Charlie, it’s good to see an old friend again. Al”.
It is with sadness that I convey to the Earth Science community at the University of Minnesota the passing on October 6, 2016 of Fredrick “Sam” Sawkins. Sam was a professor of Economic Geology from 1967 until his retirement in 1991. For those of us on the faculty who knew Sam well, we remember him as an exceptional scientist and inspiring teacher. His work in science was largely focused on understanding the linkage between magma composition and the composition and location of ore deposits in the overlying crust. I think it is fair to say, in fact, that Sam was one of the first to truly understand the now clear association between plate tectonics and ore deposits, which long guided his field work at plate boundaries on Earth. Working with graduate students, such as Dave Norman, Danny Rye, Stuart Simmons, Daryl Scherkenbach, Kimball Forrest, and Roger Kuhns, and many others, Sam expanded the use of fluid inclusions in rocks and minerals in tremendously creative ways to unlock clues to the origin and evolution of ore deposits in places as diverse as Canada, Chile, Japan, Mexico, Peru, Philippines, South Africa, and throughout the United States. Although the chemical and isotopic composition of fluid inclusions provided key constraints for his research, it really was an uncanny intuition gained by carefully observing rocks in the field from varied locations around the world that perhaps played the more important role in the success he achieved as a geologist and professor.

His scholarship manifested itself in many forms. For example, Sam was the lead author with other faculty in the Department of Geology and Geophysics at the University of Minnesota of The Evolving Earth (1974, 1978), an introductory text for non-science majors. The book emphasized the role of plate tectonics in shaping virtually all aspects of the Earth and its changes over vast time spans. The fact that he graduated so many students, many of whom went on to very successful careers of their own in academia and industry, provides compelling evidence of the skills he had as teacher and mentor.

In addition to being an outstanding research scientist, Sam was also an unusually effective teacher. Having sat in on a number of his lectures, I was always impressed with how effectively he made use of his slides (projected images of photographs-things we used at the time) from all over the world to make geology “real” and informative on so many levels to all of his students, most of whom had not traveled and seen what he did. Once I remember Sam coming into my office with a Geology 1001 student’s answer sheet from one of his tests. The question was, What is a lahar? (volcanically induced mudslide). The student’s answer: “Well a lahar is French for rabbit”. Sam gave the student full credit— for “creative juices”, he said.

The fact that he graduated so many students, many of whom went on to very successful careers of their own in academia and industry, provides compelling evidence of the skills he had as teacher and mentor.

Sam took full advantage of his retirement. He always wanted to sail, which he did with the same passion that characterized his tenure as a scientist and teacher at the University of Minnesota. He sailed the Atlantic and the Pacific Oceans, and all manners of water in between. I learned that he logged something like 26,000 miles on the water before he settled down in Urbanna, Virginia. Urbanna is by the Rappahannock river, and Sam soon purchased a small craft with a striking copper sheathed bottom of the hull. It will last forever, he claimed. One day while charging the battery on the boat he somehow misdirected the ground wire and when he returned the craft was close to sinking as the copper bottom was being electrochemically removed (dissolved), potentially on its way to forming an ore deposit— as close to home as you could get. I am sure Sam appreciated the irony.

In retirement Sam looked forward to writing opinion pieces in the local newspapers railing about one thing or another. He loved to show up at the local Chamber of Commerce meetings and discuss his thoughts on climate change and carbon taxes with folks that seldom heard such opinions, but were probably better for it. I am sure it was entertaining.

Until very recently, I would talk to Sam on the phone every other Friday. He would tell me what he just learned about the energy potential of the new lithium batteries, how thorium is a much better fuel for nuclear reactors than uranium, and how he loved to play and coach Rugby at the University of Minnesota. As I write this memorial reflection about Sam, it happens to be a Friday. I really miss the phone calls, his wit, and the pleasant conversation. Along with his wife Ginny, Sam is survived by his son Peter (Christine), daughter, Annamaria, and grandchildren, Emma and Cate.
Please join us for the University of Minnesota alumni gathering on Monday, November 5th, 2018 held during the GSA Annual Meeting in Indianapolis, Indiana.

1950s

Carl Benson, BA 1950, MS 1955, was identified as a “Nanook Legend” in Fall 2016 at the University of Alaska. The University of Alaska celebrated its 100th anniversary of the territorial Governor signing the bill that authorized existence of the University in 2017. To read the article written on the “Nanook Legend” please visit: https://news.uaf.edu/lifetime-on-ice-fall2016/

1970s

Lance Grande, M.S. 1979. The Distinguished Service Curator at the Field Museum in Chicago was honored with having a newly discovered bird fossil found in Wyoming by Sterling Nesbitt and Julia Clarke named after him. The fossil is called Calciavis Grandei, which means “Grande’s Stone Bird”.

Dr. Thomas C. Winter, Ph.D. 1976. Winter’s daughter, Shelley Hall, set up a new fund, the Dr. Thomas C. Winter Graduate Student Award, with GSA honoring her father who passed away in 2010. Dr. Winter is an alumnus of the University of Minnesota and the Department of Earth Sciences, completing his Bachelors, Masters and PhD with us. The fund is going to support research grants to graduate students working on hydrogeology/hydrology research project. To learn more about this fund and how to donate, please contact GSA or visit: https://gsafweb.org/funds-and-awards/

1980s

Mohammed Badri, Ph.D. 1985. Today, he holds the position of Managing Director of Research and Development with Schlumberger located in Dhahran, Saudi Arabia. His inspiration to research and innovation started in his student days at Pillsbury Hall. Currently, he holds 12 US patents and 16 US patents have been filed.

Mike Berndt, BS 1980, PhD 1987, retired from MN DNR in 2016.

John H. Guenther, BA 1989. After nearly 20 years in the environmental consulting & engineering industry, he is currently a hydrogeologist and project manager for the Washington State Department of Ecology in Bellingham, WA and happy as a clam. Guenther says, “What are billable hours?”

Susan Mullin (nee Nourse), M.S. 1986. Mullin finished an MA in Religion and Theology from United Theological Seminar of the Twin Cities in 2010, was ordained as a Deacon in the United Methodist Church in 2015, and is now serving as Minister of Faith Formation and Community Outreach at Faith United Methodist Church in St. Anthony Village. She continues to work on environmental issues within the global church, serving as the North American representative on our Global Creation Care Team, consulting on the development of an “Earthkeepers” program within the church, and advocating for fossil fuel divestment.

1990s

Nate Groebner, BS 1999, MS 2000, went on to get his medical degree and is currently practicing radiology at the New Ulm Medical Center. Nate wrote an article for the River Valley Woman magazine explaining 3D mammography. You can read the article on page 39: http://www.rivervalleywoman.com/?p=310.


Paul Kelso, MS 1990, PhD 1993, received the Distinguished Teaching Award during Lake Superior State University’s commencement ceremony on May 5, 2018.

2000s


Dan Maxbauer, Ph.D. 2017, was given an Outstanding Student Presentation Award for his presentation at AGU in December, 2016 before graduating with his Ph.D. The title of Dan’s presentation was “Magnetic minerals in soils across the forest-prairie ecotone in NW Minnesota”.

Please Send Us Your News and Comments

We need more alumni notes! Please send comments, memories, and/or news of your career or family via

- email to <esci@umn.edu>,
- Google Form at http://goo.gl/forms/FU4fhapvWs, or
- postal mail.

Thank you!
In this familiar photo of a geology and botany field trip, we have learned that it is likely from the 1890s (not the 1880’s) and folks in the UMN Archives have identified three people!

1: Christopher Webber Hall- Professor of Geology, Mineralogy, and Biology (1880-1892); Dean of College of Engineering, Metallurgy and the Mechanical Arts (1892-1897); Chair of the Department of Geology (1900-1911).

2: Josephine Tilden- Instructor of Botany (1st female faculty in the sciences) (1899-1903); Assistant Professor (1903-1910); Professor of Botany

3: Conway MacMillan- Instructor of Botany (1887-1890); Assistant Professor (1890) & State Botanist; 1891-1906 Professor of Botany & State Botanist.