The Missouri FFA has 26,716 members representing 356 chapters. The national organization has more than 850,000 members representing 8,995 chapters in all 50 states and Puerto Rico. The FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education. Mizzou hosted around 9,000 members, parents and guests. The forestry CDE tests the diversity of the FFA members’ knowledge of the forestry industry. Students must be proficient in tree equipment identification, forest management, forestry applications and also take a general knowledge exam. Sponsored by University of Missouri College of Agriculture, Food and Natural Resources, this CDE is one way the FFA prepares student members for career success. CDEs engage student learning and make a real connection to lifetime goals.
DIRECTOR MARKET – SNR ACTIONS

Met with USGS Coop Unit Supervisor for annual report and evaluation
Attended CAFNR Faculty and Staff Meeting at NextGen Precision Health Building
Attended AgBizKC Showcase 2023 at Union Station, Kansas City, Missouri, highlighting MU’s College of Agriculture, Food and Natural Resources and its impact on the state, region, nation, and world (Speaker, Vice Chancellor for Research & Economic Development, Tom Spencer)
Attended CAFNR Celebration of Excellence Awards Ceremony
Oversaw a weather balloon launch for K-5 students in Mexico, Missouri
Convened follow-up meeting with SNR faculty to discuss collaboration with The Nature Conservancy and Missouri River Relief
Attended Missouri Academy of Science Conference, with undergraduate and graduate students giving presentations, at Missouri Southern State University, Joplin, Missouri
Attended 2023 W.A. Albrecht Lecture
Met with CAFNR leadership to request return of core positions to SNR
Attended the President’s Distinguished Lecture
Attended CAFNR Website Redesign Reveal
Attended Annual Performance Review with CAFNR Deans
Met with Deans and other Division Directors to discuss Programs of Distinction Rankings
Had breakfast with Robert Dixon, Golden Quill Award Recipient
Continued work on Food Science Leadership Institute (FSLI) objectives and goals
Received edited SNR 5-Year Assessment Report from the Provost; revisions underway
Collaborated with CAFNR HR on format for the upcoming SNR Faculty retreat
Continued annual review meetings with SNR faculty

HONORS AND AWARDS

Research Professor Ranjith Udawatta’s work published in Soil Science Society of America Journal is among Wiley’s top cited papers and generated immediate impact in your community.
Grassland conversion to croplands impacted soil pore parameters measured via X-ray computed tomography
The ATM_SC 4210 (Broadcast Meteorology 2) class recently participated in the MAX University Challenge, competing with four (4) other universities in designing and creating meaningful weather graphics for on-air use. The task was to create two weather graphics (for on-air use) describing a recent weather event and then tie it into a climate perspective. The students in ATM_SC 4210 decided to focus on the historic flooding in St. Louis from July 2022, and submitted a weather event explainer graphic and then a climate explainer graphic to demonstrate what impacts were realized. Pictured below are the 1st place champions from Mizzou that won the competition from Eric Aldrich’s Broadcast Meteorology 2 class! L-R: Andrew Labit (bottom left), Patrick Herion, Matt Hefner, Ashley Cade, DJ Baker, Emmy Chirpich, Drew Smith, Nate Splater, Daniel McDonald, Joe Russell, Benjamin Kotthoff, Chloe Baker.

The National Science Foundation (NSF) Graduate Research Fellowship Program recognizes and supports outstanding graduate students in NSF-supported STEM disciplines who are pursuing research-based master’s and doctoral degrees at accredited U.S. institutions. The five-year fellowship includes three years of financial support including an annual stipend of $34,000 and a cost of education allowance of $12,000 to the institution. This year’s recipients included three CAFNR students and alumni: Daniel Lamm, BS ’20 (biochemistry); Joseph Fritsche, BS ’21 (biochemistry); and Chantelle Wimms, current graduate student in natural resources. Alyssa Smolensky, current graduate student in natural resources, received an honorable mention. Wimms and Smolensky are both members of the Halsey A.C.E. Lab, led by Samniqueka Halsey, Assistant Professor in the School of Natural Resources.

The second-place winner and recipient of a $250 scholarship as part of the 2023 University Libraries Undergraduate Research Contest is Sasha Goodnow, a junior studying environmental science. Her project, “Missouri Statewide Lake Assessment Program,” was written for an environmental science internship with Assistant Professor Dr. Rebecca North.
The College of Agriculture, Food and Natural Resources honors its outstanding faculty, staff, and students each spring at the Celebration of Excellence ceremony. Awards were given for academic accomplishments, teaching, research, advising, extension, inclusion and safety leadership SNR award winners:

**Eric Aldrich**, Assistant Teaching Professor, was awarded the Outstanding Early Career Teacher Award.

**Hannah Hemmelgarn**, Outreach & Education Coordinator, for the Center for Agroforestry, was awarded the Inclusion Cultivator Award.

**Robin Rotman**, Assistant Professor, was inducted into the CAFNR Teaching Academy.

**Hank Stelzer**, Associate Professor and State Forestry Extension Specialist was awarded the J.W. Burch State Specialist Agricultural Extension Award.

**Jeff Wood**, Assistant Professor, was awarded the Early Investigator Research Award.

Please see bios of all award winners at this link:

https://cafnr.missouri.edu/celebration-of-excellence-2023/

**PRESENTATIONS/PUBLICATIONS/RESEARCH HIGHLIGHTS**


“Stream nitrate enrichment and increased light yet no algal response following forest harvest and experimental manipulation of headwater riparian zones” by Johnson, S. L., Argerich, A., Ashkenas, L. R., Bixby, R. J., & Plaehn, D. C. (2023). Stream nitrate enrichment and increased light yet no algal response following forest harvest and experimental manipulation of headwater riparian zones. *PLOS ONE*, 18(4), e0284590. [https://doi.org/10.1371/journal.pone.0284590](https://doi.org/10.1371/journal.pone.0284590)

Assistant Professor **Robin Rotman** and her MS student Amber Spriggs (who is co-advised by Dr. Kate Trauth) appeared on the Value Driven Data Science podcast to discuss how open access GIS-based tools are being used to achieve environmental justice in the US today.

MU has issued its Atlantic Hurricane season forecast for 2023 (1 June to 30 November). You all might think hurricanes in MO? But occasionally we get the remnants of these. Also, a lot of people in MO obviously head south for vacations throughout the year. Basically, we are going for a little slower year. This is the 5th season we have entered them as part of a group that issues these forecasts through Colorado State University. We are the third university to enter our forecast. On the national news during May they will likely give out the forecast on a slow news day. They will say several groups contributed to this forecast. That includes us! For the last three seasons we have been nearly dead on for the number of hurricanes. (Submitted by **Tony Lupo**.)

[http://weather.missouri.edu/gcc/UniversityofMissouri2023TropicalForecast.pdf](http://weather.missouri.edu/gcc/UniversityofMissouri2023TropicalForecast.pdf)

[https://seasonalhurricanepredictions.bsc.es/](https://seasonalhurricanepredictions.bsc.es/)
The presentations below were done at the American Chemical Society Spring Conference, in Indianapolis, Indiana.

**Peter Mallet**, a senior in Environmental Sciences, presented a poster twice at ACS - Sci Mix (an interdisciplinary poster session) and the Environmental Chemistry section his poster was, "Dissolved organic matter (DOM) optical properties change over space and time in an intermittent Ozark Forest stream" on behalf of co-authors Sarah Fischer, Angel Colon-Santiago, Alba Argerich.

**Sarah Fischer** (right in the photo), Preparing Future Faculty Postdoctoral Fellowship Program (PFFFD) postdoc, presented a platform oral presentation in the Aquatic Redox Chemistry section entitled: "High-resolution carbon analysis for the study of redox reactions in a mine-impacted urban stream (Missouri, USA)" on behalf of co-authors Michael Gonsior, Elli Castonguay, Alba Argerich.

**Angel Colón-Santiago**, PhD student, presented the poster “Seasonal variations of nitrate and chloride in an intermittent stream in the Midwest Ozarks” by Angel Colón-Santiago, Peter Mallet, and Alba Argerich.

**Elli Castonguay**, undergraduate of Civil and Environmental Engineering presented the poster, "Characterizing carbon for heavy metal remediation in an urban, mine-impacted stream" on behalf of co-authors Sarah Fischer, Alba Argerich, Jessi Wilson, and Michael Gonsior. Elli was also an Eli Lilly and Women Chemist's Committee award winner and presented her poster twice. Also, KBIA's Darren Hellwege talked with Sarah Fischer and Elli Castonguay of the Civil and Environmental Engineering program at Mizzou about the research in water quality in urban areas that will be highlighted during Show Me Research Week at MU.

For more of the story: https://www.kbia.org/show/thinking-out-loud/2023-04-14/thinking-out-loud-show-me-research-week
The 22nd Biennial Southern Silvicultural Research Conference (BSSRC) was held in Nacogdoches, TX, with great representation from Mizzou. (Submitted by Ben Knapp.)

Missouri attendees at BSSRC, from left: Hope Fillingim (PhD student), Dan Dey (Forest Service), Isaac Hayford (PhD student), Ben Knapp (Associate Professor), Sloane Scott (MS student), Lauren Pile Knapp (Forest Service), Ian Goldberg (MS student), Jacob Grochowski (MS student), Dacoda Maddox (Forest Service)

Congratulations to Sloane Scott for receiving the Outstanding Graduate Student Poster award for her work on establishing pollinator habitat in log landings on National Forests. (picture above) Left: Jacob Grochowski explains his MS research project at Boggy Slough Conservation Area outside Lufkin, TX on the field tour of the BSSRC conference. Student presentations included:

- Fillingim, Hope (PhD student), Knapp, B., Kabrick, J. (oral) Insight into the roles of prescribed fire and hardwood competition in the survival and growth of shortleaf pine throughout its early life
- Goldberg, Ian (MS student), Knapp, B., Stambaugh, M. (poster) Aging the grass stage from a known-aged outplanting of longleaf pine using dendrochronological techniques
- Grochowski, Jacob (MS student), Knapp, B., Jack, S. (poster) Evaluating restoration treatment effects on regeneration demographics in East Texas upland mixedwoods using a chronosequence
- Hayford, Isaac (PhD student), Knapp, B. (oral) Factors affecting oak regeneration in bottomland hardwood forests in northern Missouri
- Scott, Sloane (MS student), Pile Knapp, L., Knapp, B., Chapman, A. (poster) Pollinator habitat in log landings (PHiLL) project
SNR was also represented at Show Me Research Week. Olivia Bongiovi (pictured, MS student) presented “Stream nitrogen concentration response to hydrological variability” and Jacob Moore (MS student) “Water willow (Justicia americana), an emergent freshwater stream macrophyte, could enhance surface-subsurface exchange and nutrient retention in the hyporheic zone of an urban stream” for which they got the first and second award, respectively, for the best graduate poster presentation in their category. (Submitted by Alba Argerich.)

New weather station for Ste. Genevieve area: A new weather station in Ste. Genevieve, Missouri, provides the agricultural community with real-time weather information. Ste. Genevieve, nestled in the hills between St. Louis and Cape Girardeau, lacked timely weather data prior to the new station going online, says Katie Kammler, University of Missouri Extension horticulturist. Previously, farmers had to rely on National Weather Service reports from Sparta, Illinois, more than 20 miles away on the other side of the Mississippi River. The station is part of the Missouri Mesonet weather network operated by MU Extension and the MU College of Agriculture, Food and Natural Resources. More than 40 weather stations across the state record weather data accessible on Mesonet’s webpage at agebb.missouri.edu/weather/stations. “The weather station helps the agricultural community get timely information for planting and spraying,” said John Travlos, co-manager of Missouri Mesonet. “It provides environmental monitoring for agricultural decision-making.” Kammler says she regularly hears from farmers who use the station’s information to make spraying and planting decisions in the county’s hilly terrain. At five-minute intervals, the station gives updates of temperatures, dew point, humidity, wind speed and direction, 2- and 4-inch bare soil temperatures and expected wind speeds and gusts. It also records time of sunrise and sunset. The weather station is a collaboration of MU Extension, Citizens Electric Corp. and the Ste. Genevieve County Community Foundation. The station is located on Citizens Electric Corp. property. Citizens Electric and the MU Extension Council in Ste. Genevieve County provide ongoing maintenance. The oldest permanent European settlement west of the Mississippi River, Ste. Genevieve is known for its historic French colonial buildings, wineries, mines, chestnut farms, festivals, and a national historic park. (Submitted by Pat Guinan.)

https://extension.missouri.edu/media/wysiwyg/Extensiondata/NewsAdmin/Photos/2023/20230427-stegwst-1.jpg

Excerpted from Writer Linda Geist; University of Missouri Extension
An exciting collaboration between three University of Missouri experts is opening the door to a unique learning opportunity for environmental sciences students, specifically those interested in studying weather. Eric Aldrich, Fang Wang and Xinhao Xu have combined their expertise in meteorology, virtual and augmented reality, and mixed-reality-based learning environments to help students gain a deeper understanding of mid-latitude cyclones, which are complicated systems that help drive most of the stormy and severe weather in the continental United States. https://cafnr.missouri.edu/?p=81056&preview=1&_ppp=0bb1de87d6

SPOTLIGHT ON SNR FACULTY, STAFF AND STUDENTS

The Mizzou Meteorology Club traveled to KMBC-TV in Kansas City for a station tour and a meet and greet with Chief Meteorologist Bryan Busby, and #MizzouMadeMeteorologist Neville Miller. It was a great evening of weather discussion (broadcast and operational) and networking. (Submitted by Eric Aldrich.)
The MU Soil Judging team placed 4th at the NACTA national contest in Modesto, California. Two SNR students place in the top ten: India Williams 6th (freshman) and Kali Dolson 7th (sophomore). The students and coaches saw duripans in soil for the first time as well as large scale alluvial fans. They also got to see road cuts of metamorphic and igneous rock that none had seen before. This includes serpentinite, marble, slate, granite, and pyrite-laden quartzes. The contest took place amongst pecan and walnut orchards and the students got a first-hand view of agriculture in the California central valley. They also visited the coastal redwoods and a grove of giant sequoias. Many said a highlight was a hike on Table Mountain in the Sierra Nevada foothills, made up of latite, from a pleistocene lava flow and covered with a wildflower bloom. All report that they learned more in the one-week trip than in a semester of classwork, which is a typical response of students who do soil judging. This trip was made possible due to funding from CAFNR, SNR, and donations from Perry Soil Labs and an area farmer. (Submitted by Kerry Clark.)
Pedology Class Visits American Southwest Soils: Pedology is a discipline within soil science which focuses on understanding and characterizing soil and landscape formation and evolution in the context of the natural environment. To better understand soil morphology and taxonomy within its place in the environment, the Soil Pedology 9422 class participates in a week-long trip to view soils across the U.S. Past trips have included the Platte River Valley in Nebraska, northern Michigan and Wisconsin, and the U.S. Southeast, including Georgia swamps and chalk deposits in Alabama.

For the 2023 class, the soils of the U.S Southwest were chosen and over spring break the class of seven students travelled to Kansas, Colorado, Utah, Arizona, New Mexico, and Oklahoma. The class was joined by four Iraqi soil scientists from Koya University in Kurdistan.

The students examined soil cuts across eight different soil orders and saw the five factors of soil and landscape formation in action across a variety of environments. The students, who camped along the way, braved temperatures from -7 at night in the Rocky Mountains and a windstorm with 70 mph gusts in New Mexico that flattened tents. They encountered up to five feet of snow at some higher elevations but always managed to find excellent soil profiles to study.

Pedology class at a soil profile in New Mexico. Back row, left to right: Will Rumpf, Dean Frossard, Michell Maile, Kerry Clark, Hunter Seubert, Joey Meinert, Alec Brown (missing is Rachel Nichols). Front row: Koya University soil scientists.
Photos: Top left: Pedology class digging for selenite crystals in the Great Salt Flat National Monument in Oklahoma (the white is salt, not snow). Bottom left: checking for columnar structure in a profile in SW Colorado. Top right: Determining if soil is an Aridisol or Entisol in Colorado. Middle right: Examining a petrogypsic soil in Oklahoma. Bottom Right: Looking at coarse fragments in a soil cut in New Mexico.
Celebrating a trip across Grand Staircase Escalante National Monument in Utah. From left to right: Lookman Gardi and Rastee Ali (Koya University), Alec Brown, Dean Frossard, Will Rumpf, Hunter Seubert, Rachel Nichols, Joey Meinert, Michelle Maile, all from MU, and Hassan Al-Asadi and Zahid Al-Ibrahim (Koya University)

(Submitted by Kerry Clark.)

The SNR Monthly Reader will be distributed electronically the last working day of the month (except during breaks). Please send announcements (or if you would like to unsubscribe) to Cindy Greenwood, Editor (greenwoodci@missouri.edu).