



Michigan
Technological
University

COLLEGE OF FOREST RESOURCES AND ENVIRONMENTAL SCIENCE

RE:GENERATIONS

SPRING 2021

COMMITTED TO OUR FUTURE STUDENTS, CURRENT STUDENTS, AND OUR ALUMNI.



A MESSAGE FROM THE DEAN

ANDREW J. STORER

DEAR ALUMNI AND FRIENDS,

Who could have anticipated a year like this? It has been over a year since we asked students not to come back to campus after spring break due to the emerging pandemic, and we could never have imagined how long-lasting and severe the impacts of COVID-19 would be. We extend our sympathies to all who have lost loved ones, and give our heartfelt thanks to those who have been at the front line providing health care. This has been a year we will never forget, and one we aim to learn from going forward.

It has been a challenging year for students, faculty, and staff as people adjusted to working remotely, teaching students in the classroom alongside those attending virtually, and learning in such a different environment. We recognize the hardships people have been through and congratulate them on their successes. Classes were offered on campus in fall 2020 and spring 2021 with the ability to attend remotely. Summer camp 2020 classes were taught remotely to students who completed their field assignments in Michigan, Minnesota, and even New

Mexico. Students have continued to receive instruction and complete assignments in the field.

The pandemic has been met with a “can do” attitude—from shifting to remote instruction in a week to answering the question, “Is there any way we can offer summer camp remotely?” The work and adaptability of everyone in the College has been remarkable. At times it has, of course, been frustrating, but we have accomplished much—developing safe plans to carry out fieldwork, rethinking how classrooms operate, and doubling the number of sections in labs to ensure adequate physical distancing. In addition, CFRES faculty and staff assisted with implementing a COVID-19 testing lab at Michigan Tech.

As we look to the future and see the light at the end of the pandemic tunnel, we will learn from what worked well, return to practices we know are effective, and emerge as a stronger College.

Part of our strength before, during, and after COVID-19 stems from the extraordinary generosity of our alumni and friends. You make a difference! Whether it is sharing a story, supporting a scholarship fund, or giving your time to stay connected to us in other ways, we greatly appreciate it.

We welcome you to this latest issue of Re:Generations! In it we share stories of how students benefit from the scholarships we are able to offer through the generosity of alumni and friends. We also focus on the importance of diversity with personal stories from faculty and students, and how we are responding to the need to be a more inclusive College, University, and profession. We share some insights into the challenges we have faced during the pandemic with features on research and teaching in the pandemic, and celebrate the successes of the College over the last year.

Thank you for your support of the College, and your unwavering interest in what we do!

With best wishes,

Andrew J. Storer
Dean and Professor
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 @fresdean

On the Cover

Field skills: Learning continues during the pandemic

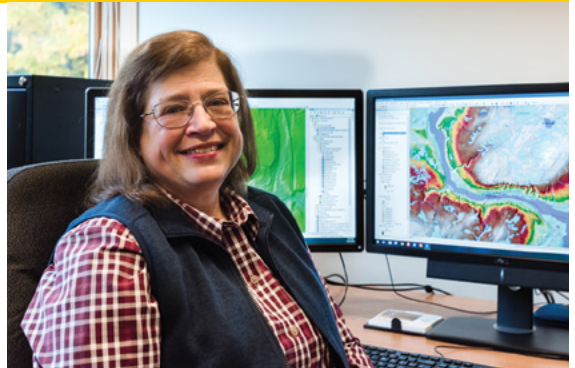
College of Forest Resources and Environmental Science

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RETIREMENT



We congratulate Ann Maclean on her retirement after 34 years in the College. Ann spearheaded our geospatial teaching program and conducts research that applies geospatial technologies to solve questions in natural systems. Since her retirement in May 2020, Ann has continued work on her active research projects, and we look forward to her continued involvement with the College as professor emerita.

Please note: Photos showing individuals without face coverings were taken prior to the COVID-19 pandemic.

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ECOLOGICAL RESEARCH DURING A PANDEMIC

By Andy Burton, Professor and Associate Dean



Who could have imagined that being alone in the woods would be so difficult? Normally, I enjoy fieldwork and the chance it provides to be outside in a peaceful, natural setting. During the pandemic, it seemed it would provide a chance to get away from all the extra stresses on campus—but only if fieldwork was allowed.

In March of last year, when campus first shut down, no fieldwork of any kind could occur. With three feet of snow on the ground, this wasn't a big issue for my ongoing projects. However, possible issues were looming, as after the snow melted, two long-term projects, one with more than 30 years of field sampling data collection, would be interrupted. This had potential impacts on the integrity of long-term data sets, the progress that graduate students could make in their research, and our ability to meet obligations to research sponsors, including NSF.

As May began, essential travel was allowed with vice presidential approval. Initially, only local day trips

were permitted, with samples collected then stored for future lab analysis. Fortunately, we were soon able to obtain permission for overnight travel, creating the chance to continue annual pre-leaf-out diameter measurements at four Michigan northern hardwood forests that have been part of a long-term nitrogen deposition experiment since 1987. The experimental nitrogen additions had ceased in 2017, essentially starting a new study of recovery from nitrogen saturation. Thus, making the annual measurements in the first few years of recovery was needed to gather critical data for understanding responses and for use in proposals for more detailed studies of the ecosystem processes involved.

The motor pool was closed, so University vehicles were not available. In addition, it was important to minimize contact with others on a trip to three Lower Michigan locations. The easiest way to do this was to pull a camper. With a bathroom and kitchen following a few feet behind on the drive and the use of pay-at-the-pump for

gas, contact with others was eliminated. But, all campgrounds were closed, creating another problem to solve. Fortunately, a relative's rural property at a location central to the study locations was unoccupied, creating a safe, remote location to set up camp and make day trips to the study sites.

Sampling for the second long-term project, however, created greater obstacles, and continues to do so today. A national-scale project examining coarse-woody debris decomposition since 2011 was due for sampling in 2020. Michigan Tech personnel were not allowed to travel to distant locations until late summer, and again needed vice presidential approval. By late July, such sampling could begin, but now the issue was how to get a crew of four students to Montana and Colorado over a two-week period in August while following all COVID protocols.

The motor pool opened just in time, but vehicle restrictions existed. Instead of one vehicle, students traveled in two vehicles, one person per row on opposite



It's been an adventure, but we've improved field safety training, including check-in procedures, in ways that will serve us well even after the pandemic ends.

sides, and wearing masks. Every night, each student needed to have their own room. In Montana, we were able to use a US Forest Service bunkhouse, as had been done in earlier years of the study. In Colorado, different regulations for the local US Forest Service facilities put their bunkhouse off-limits. Instead, the most cost-effective way to house four students in lodging that provided cooking facilities and individual rooms was to rent a condo in nearby Winter Park—one of the few times the pandemic caused an improvement over normal fieldwork conditions!

So, off the students went, two to a car, with their personal COVID kits containing disinfecting wipes, hand sanitizer, masks, a thermometer, alcohol solutions for sterilizing field equipment, and extensive lists of COVID-19 safety protocols. On travel days they brought their own food or used drive-through pickup. They regularly sanitized vehicles, tools, and surfaces in their lodging. They also regularly updated their progress and COVID symptom

status and checked in with me each evening to ensure that all were safe and at their expected location. At the field locations, they picked up groceries for the week and then cooked in their lodging facility to minimize public contact. They essentially were their own moving bubble of safety, but even within the bubble they maintained distance whenever possible and wore masks in vehicles, in common spaces at their lodging, and while doing field sampling.

Collecting soil cores with a slide hammer can be difficult enough, but becomes even more so at high elevation in Colorado and Montana while wearing a face covering. Still, the students worked hard and successfully completed the sampling. There is more to do, as COVID-19 hasn't fully cooperated. Not being able to travel out of state until August and COVID-19 spikes in other regions of the country have limited the number of sites sampled thus far to five out of nine. Plans are in place to do the other four, but we need to be able to fly to Arizona and



California, something we may not do until all involved are vaccinated. Travel restrictions placed on our US Forest Service collaborators on the use of their field facilities add additional uncertainty to our plans. Still, we hope to finish by midsummer of this year.

It's been an adventure, but we've improved field safety training, including check-in procedures, in ways that will serve us well even after the pandemic ends. We've also learned to appreciate even more the opportunities fieldwork provides for spending time outside, exploring the natural world, and relaxing, even though you're working hard.

INCREASING DIVERSITY IN OUR COLLEGE AND UNIVERSITY



The CFRES Diversity Committee aims to increase diversity, equity, and inclusion (DEI) in our College and wider University community. It was formed in fall 2019 and was charged by Dean Storer to provide diversity statements for our College—one to be placed in the atrium and a longer version on our website. The committee was further charged to identify actions that would enhance DEI in our College. More recently, in spring 2021, we were charged to produce the first unit diversity plan at Michigan Tech.

The CFRES Diversity committee is excited to take action and serve as a leadership example for other

units of MTU in regard to DEI. After delivering on the first set of charges, we have become more proactive. We have invited Justin Kunkle to present a seminar and hold meetings with students, staff, and faculty. Kunkle has pioneered improving diversity of undergraduate students in forestry at Michigan State University. We are also printing informational plaques for our local medicine wheel gardens outside the Michigan Tech forestry building and at the Ford Center in collaboration with members of the Keweenaw Bay Indian Community.

“The College of Forest Resources and Environmental Science has demonstrated a longstanding commitment to DEI, which I noticed from the very first day I stepped foot on campus. The faculty and administration go above and beyond to research, invest their time, and adjust their curriculum or practice throughout the changing tides of what DEI work looks like. They truly demonstrate leadership and proactive support for our ever-changing student identity landscape.”

—Amy Howard (they, them), interim director of the Center for Diversity and Inclusion

WHAT DO DIVERSITY, EQUITY, AND INCLUSION MEAN TO ME?

In spring 2021, four members of the CFRES Diversity Committee wrote short essays explaining how important diversity, equity, and inclusion are to them. Read them in their entirety on Unscripted, the University's research blog, at mtu.edu/unscripted



David Flaspohler

"In 21 years of teaching, I have had only two Black students. About 60 percent of Americans identify as white nationally, while 90 percent of MTU undergraduates consider themselves white; the

percentage of undergraduates identifying as Black at Michigan Tech is about 1 percent. This is not to say that MTU lacks other forms of diversity, from socioeconomic background, LGBTQ orientation and identification, and neural and cognitive abilities. The best part of my job is meeting and teaching these wonderfully different and interesting young people each semester. Yet when a university population so dramatically fails to reflect the wider population in important ways, we should be concerned."

mtu.edu/unscripted/embed-diversity



Kathy Halvorsen

"My passionate belief in the protection and enhancement of diversity, equity, and inclusion boils down to ensuring that we are preparing and attracting the best researchers that we can. As the

National Science Board of the National Science Foundation recently found, the 'missing millions' of underrepresented researchers is reducing US scientific competitiveness. Only with the most talented pool of researchers possible can we work together to understand and solve our problems, especially the vital natural resource and environmental problems creating arguably our greatest challenges as a species."

mtu.edu/unscripted/open-doors



Carsten Külheim

"Looking back, I wish I had become aware earlier of the many types of inequality (gender, sexuality, race). However, my past experience is why I provide active support and treat everyone equally, no matter their

background. I treat my undergraduate students the same way as my graduate students, my colleagues and higher administration—with respect and kindness, which is how I want to be treated myself. Quietly agreeing that inequality problems need to be solved without taking action is not a solution. Being an ally to those less privileged increases equity and diversity in academia, which leads to increased excellence in science."

mtu.edu/unscripted/help-others



E. Krause

"Forests represent a perfect world of diversity. While competition exists, it does not come from a place of selfishness. The things foresters call competition are versions of diversity, equity and

inclusion—unity, solidarity and togetherness. ... No crooked trunk, fat stump, flower, skinny branch, thorny bush or sly fox is less valuable in its ecosystem to the species next to it. The entire forest does not cease because of variation in a single spruce cell. The surroundings grow and adapt. If one being is struggling, the others find a way to make up for it."

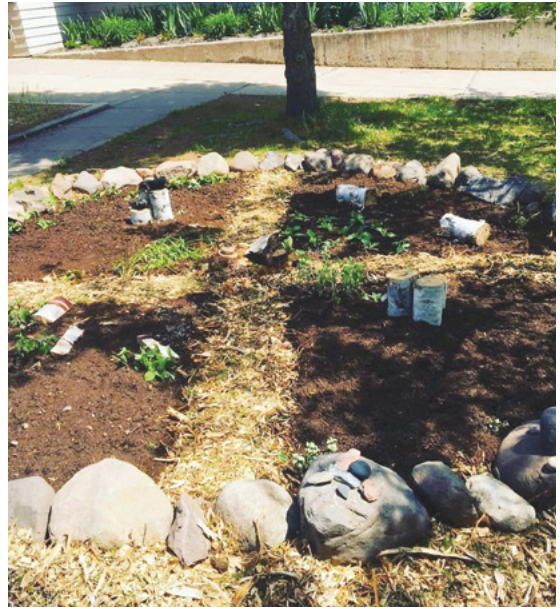
mtu.edu/unscripted/forest-dei

MEDICINE WHEEL GARDEN

By Valoree Gagnon, Research Assistant Professor and Director, University-Indigenous Community Partnerships

The CFRES medicine wheel gardens are waking up for their fourth spring season as part of our College landscape. The gardens were created in partnership with the Keweenaw Bay Indian Community Natural Resources Department and Youth Programs in 2017 to support traditional medicine practices and education from our Ojibwa neighbors and native plant relatives. Used as a symbol from Indigenous peoples worldwide, the medicine wheel is an interconnected system of teachings that relate to the four directions, seasons, elements, and the cyclical nature of life. Beginning in the east and moving clockwise, the life teachings aim for balance between and among time and space, and illustrate reciprocity between and among all beings. Balance and reciprocity is sustained when we first ask for permission and receive consent.

Each garden was constructed with Ojibwa medicine wheel teachings illustrating the four directions and gratitude for plant medicines. Starting in the east and representing spring's new beginnings, the most sacred of all medicines, asemaa (tobacco) is planted. In honor of the summer's south, giizhik (*Cedrus*, cedar) leaves outline the four directions and the circle to welcome goodness. To acknowledge the gift of the west, bashkodejiibik (*Salvia apiana*, sage) thrives as a reminder for cleansing and to ask for help. And in the north, representing winter, wiingashk (*Hierochloe odorata*, sweetgrass) grows, recognized for its ability to heal and to connect the



hearts and minds of humans. Other native plants, such as the blueberry, strawberry, coreopsis, and bee balm, are also included in the garden.

To learn more and reflect on the teachings of the plants, please visit one of two medicine wheel gardens in the upcoming seasons—one near the front entrance of the U. J. Noblet Forestry Building and the other at the Ford Center and Forest on the west side of the conference center.



NEW AND DEPARTING FACULTY

NEW FACULTY

Outstanding faculty members are key to the success of our students and the reputation of our College. In the past year we have welcomed five faculty members to new roles in the College.



Carrie Andrew has joined the College as a research assistant professor. Her PhD in Forest Science at Michigan Tech led her to varied teaching (US) and research (US, Norway, England, Switzerland, and, most recently, Sweden) positions. Focusing on

fungal ecology and plant interactions, her recent work emphasizes macroecology and global change influences to these organisms, as discoverable from spatiotemporal modeling with citizen science, herbarium, and other open-access data.



Tara Bal, assistant professor, holds a PhD in Forest Science from Michigan Tech and was previously a research faculty member. She coordinates our Master of Forestry program and teaches classes in forest health, maple syrup

production and culture, and insect ecology. Her research includes work on forest health issues such as forest entomology and pathology, diversity in natural resources professions, and natural resource education. She is a member of the Board of Directors of the Society of American Foresters.



Tao Liu, assistant professor, holds a PhD in Geomatics from the University of Florida, and most recently was a researcher at the Oak Ridge National Laboratory. His expertise is in remote sensing and using artificial intelligence and remote sensing techniques

to address issues in forests and other natural systems. He teaches classes in remote sensing. He is also interested in using unmanned aerial systems to collect large data sets in his research.



Jared Wolfe, assistant professor, holds a PhD from Louisiana State University and was previously a research faculty member. He teaches classes including wildlife habitats, human dimensions of wildlife, and wildlife research techniques. His research

interests include bird studies in North America and the tropics, and the integration of wildlife conservation into sustainable forest stewardship. He is also a cofounder of the Biodiversity Initiative, a conservation science and capacity building project in central Africa.



Yinan Yuan, assistant professor, holds a PhD from the Chinese Academy of Agricultural Sciences and has research experience at Purdue University and at Michigan Tech as a research faculty member. Her expertise is in molecular biology and

bioinformatics. She uses molecular techniques to address questions in plant biology, including regulation of wood production in poplars. She will be teaching classes in biochemistry, molecular biology, and molecular biology techniques.

DEPARTING FACULTY



Congratulations to **Yvette Dickinson** on her new appointment as a silvicultural scientist with Scion in Rotorua, New Zealand. Yvette left New Zealand in 2008 to pursue graduate studies and her career in the US, including as a faculty member in

silviculture in our College. She was promoted and tenured last year, and continues to collaborate in research in the College as an adjunct faculty member. We wish her every success in her return to New Zealand.

PERSPECTIVES ON ADVANCEMENT

By Jim Desrochers, Director of Advancement, CFRES

When the Michigan Mining School was founded in 1885, and when the first forestry degrees were awarded in 1940, very few could have imagined the Michigan Technological University we know today. Throughout the decades, we have created new traditions and degree programs, and adjusted our academic programs to reflect the needs of industry in Michigan and around the world. The reputation of Michigan Tech is based on the success of tens of thousands of Huskies demonstrating their professional abilities throughout their career.

Since 1940, the College of Forest Resources and Environmental Science has grown with the construction of new buildings, the addition of new degrees—including PhD programs—and millions of dollars of research, and a commitment to forests and sustainable natural resources.

When summarizing the success of the College, what we sometimes overlook are the individuals who help make it all happen. I want to thank them and give some examples:

- When you talk to a high school student about going to school in Houghton, you help advance the University.
- When you hire an alum, you help the University and your company.
- When you have a really challenging technical problem and our experts help find a solution, it helps the highly ranked Michigan Tech reputation.
- If you have the ability to invest some of your time or money, you help us achieve even more.

Over the years, some of the most transformative changes to the College have been made possible by collaborations between the University, companies, and individual donors who have had the ability to make financial gifts.

I have the pleasure of talking to our alumni about their life journeys, passions, disappointments, and successes. I cannot predict what the future holds, but I know you will help us create and achieve it. This issue of Re:Generations includes a focus on scholarships and how your support makes a difference in the lives of today's students. Thank you for your support in the past and the future.



SCHOLARSHIP STUDENT MACKENZIE CAMPBELL

By E. Krause, Outreach Assistant and MF Student



Name: **Mackenzie Campbell**

Major: Applied Ecology and Environmental Science

Projected Graduation: Spring 2022

Donations made to the College of Forest Resources and Environmental Science help students like Mackenzie Campbell, an applied ecology and environmental science major, achieve the education and experience it takes to land her dream career at the US National Park Service.

As a Michigander, Mackenzie found her passion for the outdoors early in her life. Her experience as a youth wilderness ambassador at Sleeping Bear Dunes National Lakeshore and a GIS intern working with invasive plants in the park solidified her love for natural resources before she left high school in Traverse City, Michigan. She took on college not knowing what financial struggles might come—

but she knew her passion for the outdoors would overcome all obstacles thrown her way.

What better place to reach her goals than the Upper Peninsula? As an avid backpacker and hiker, Mackenzie decided to explore the UP and all it has to offer. She began her degree in CFRES and joined Air Force ROTC, taking her passions even further by hiking part of the Appalachian Trail and some of the Manitou Islands in Lake Michigan. In the College, she is an Arnold Air Society member and an initiate of Xi Sigma Pi (as well as a hard worker and amazing student to have in group fieldwork).

Mackenzie was awarded the College of Forest Resources and Environmental Science Endowed Scholarship, a scholarship given to students who are academically deserving and need financial assistance, available because of donations made to CFRES.

Mackenzie's favorite project during her time so far at MTU was the 80-acre final project at Fall IFP camp. "Going out and having as much autonomy as we did was something we had not had before," she said. "It was

incredibly educational and fun!" (Of course, the fieldwork was her favorite part of the assignment.)

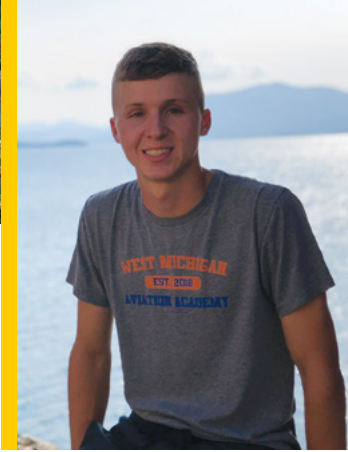
This scholarship is important because it came from the program I love so much.

The scholarship has helped Mackenzie in her journey in CFRES. "I am able to attend MTU solely because of the scholarships I have earned," she stated.

When Mackenzie graduates in spring 2022, she will be commissioned as an officer in the US Air Force. When she retires from her military career, she would like to dedicate the rest of her career to the National Park Service.

SCHOLARSHIP STUDENT ELI PAULEN

By E. Krause, Outreach Assistant and MF Student



Name: Eli Paulen

Major: Wildlife Ecology and Conservation

Projected Graduation:
Spring 2022

The College of Forest Resources and Environmental Science Scholarship Committee has been hard at work this year selecting students meeting criteria involving financial need and academic excellence. Students such as Eli Paulen have been awarded these scholarships, which are solely available because of donations made to the College.

A CFRES Endowed Scholarship has given Eli the ability to pay for college on his own with money saved from summer jobs, without needing to take out loans. The impact of this scholarship will affect Eli for the rest of his life.

Eli is working on his BS in Wildlife Ecology and Conservation and a minor in fish biology. He grew up in Pierson, Michigan, a small town near the Manistee National Forest on the west side of the Lower Peninsula. Lake Michigan, the

national forest, and the many other parks in the area allowed Eli to pursue his hobbies of camping, fishing, hiking, and hunting. This helped him figure out early in life that he wanted to preserve the lands he enjoyed so much for those in the future. After high school, our College was the perfect fit.

Eli has been most impacted as an undergrad by his Forest Ecology class, where he learned about the importance of different species of plants and trees, and gained an appreciation for the cohesiveness of the forest. His favorite trip in the class was to the Porcupine Mountains, where he learned about the incredible history of old-growth forests in the Upper Peninsula and around the US. He measured hemlock trees so large in diameter, three students could wrap their arms around the tree and barely touch fingertips. They don't call natural resources folks "tree huggers" for nothing.

The Isle Royale wolf-moose study is the longest-running predator-prey study in the world. Eli is part of it, measuring thousands of moose metatarsals and assisting in a microhistological study to determine the type of vegetation moose have fed on, adding his findings to over 60 years of data collected from the island.

The scholarship awarded to Eli has allowed him to attain the

education and experiences necessary for his future. As a regent of Theta Tau, a member of the mushing club, and an undergraduate in CFRES, he recently landed a position for summer 2021 as a fisheries research technician with South Dakota Game, Fish, and Parks, researching smallmouth bass diets and walleye tracking. These skills will help him achieve his dream career as a research biologist for the US National Park Service or the Department of Natural Resources following his graduation in spring 2022.



SCHOLARSHIP STUDENT VICTORIA PECK

By E. Krause, Outreach Assistant and MF Student



Name: Victoria Peck

Major: Forestry

Projected Graduation:
Spring 2022

“When I was a nurse, I found every moment of my life outside of the hospital being spent in the woods. I was booking flights for weekends in the Pacific Northwest, would backpack all weekend, only to find myself constantly dreading the flight home. I hated being inside.”

Victoria Peck is a nontraditional student earning her BS in Forestry at our College. The beaten path she took after high school was nursing—and she wanted off.

“My partner and I were on a weekend trip at Estivant Pines Nature Sanctuary in the Keweenaw,” she recalled. “We were having a serious conversation while we hiked about our future and how lost I was feeling at my job as a nurse. We stopped to read a sign that explained the creation of the sanctuary when it hit me... I could do this for the rest of my life.”

The seeds of forest management were planted.

Victoria returned home Monday as usual, but this time when she clocked in at Munson Hospital, she felt more hopeful.

Her partner landed a gig in Hawaii that summer, leading Victoria to one contract as a traveling nurse. When she wasn't hiking around the island, Victoria researched a word that had finally arrived on her radar: forestry.

The College of Forest Resources and Environmental Science at Michigan Tech came up, search after search, as one of the top five forestry schools in the US. She loved the Upper Peninsula, Victoria reasoned, and her family would be close by in Traverse City, Michigan. So, she came back to her beloved Michigan winters in 2019 to begin her education for the career of her dreams, for real this time.

Victoria received the James C. Lamy Scholarship in fall 2020. Jim worked with Gene Hesterberg—whom he respected greatly—and many other MTU forestry graduates. His son Jon got his BS in Forestry in '77. Jim's appreciation for the College led his wife, Marion, to create the scholarship in his name when he passed.

The scholarship was a complete surprise to Victoria and the timing could not have been better. She attended Fall IFP camp the semester she received the award. Before the semester began, she

thought she would have to work midnight shifts as a nurse at the hospital in Baraga, Michigan, between days at camp to make it through the semester financially. Receiving the scholarship helped preserve her mental and physical health, especially during the peak of COVID-19 in the UP. Victoria was able to focus on the classes and homework for camp because of the Friends-Established Scholarship.

One of Victoria's favorite classes has been Forest Ecology. Her favorite trip in the class was to Cliff Mine, where students learned about successional stages of the forest and saw each stage clearly in front of them as they hiked.

“I loved that everything our professor taught in the lecture, he showed us in the field,” she said. “We weren't just learning from the book.”

Victoria expects to graduate in spring 2022, and is contemplating her future. Her goal is to work for a state or federal agency near a large body of water (her partner, a hydrographer, would like this as well). Victoria's seed has sprouted and she is growing into the person she first dreamed she could be when hiking in the Keweenaw.

LEARNING FROM THE PANDEMIC

By David Flaspohler,
Professor and Director of Undergraduate Studies



Wilson's Snipe pictured above

A month into the advent of online teaching in April 2020, I had pretty much decided to cancel FW3620-Field Ornithology, a 1-credit field class that I have taught for 20 years. The class involves driving two vans from Houghton to Seney National Wildlife Refuge and then Whitefish Point Bird Observatory, camping and birdwatching along the way, day and night for three days.



When I mentioned this to my wife, she said: "Couldn't you just rework the class to teach it online?" My first thought was: "No...impossible".

That course is immersive; we are outside or packed into MTU vans for 48 hours straight, in rain, sun, snow, watching birds and

hiking through forests, wetlands, and beaches. Each year, just after dusk on the first night, we visit a recent clear-cut of jack pine with the hope of witnessing the sky dance of the American woodcock, an idiosyncratic sandpiper that prefers forests to sunny beaches. Students must crawl on their hands and knees with headlamps, duck behind saplings, and strain their eyes watching the sky for the twittering silhouette of a male woodcock as he repeats his dance in the twilight, hoping to attract a mate. Later in the cold night, students fall asleep to the soft gurgling of the Fox River, fished by Ernest Hemmingway a century before, and the turpentine scent of pines, and the calls of whip-poor-wills, white-throated sparrows, and saw-whet owls.

By the end of my spring FW3610-Ornithology class, necessity had forced me to come up with new ways of sharing images and sound files. I could no longer take students into the field, but they could go along with binoculars and a



... in this new online environment, students had to search for, discover, and share the sounds and images that became the raw materials for everyone's learning.

smartphone. In a typical outdoor lab, we spend three hours in the field, visiting local sites rich with birds and discussing how to distinguish a sparrow from a thrush by sight and song. With this unavailable to us, I decided to give the students the assignment of going outdoors with their binoculars and phones and finding birds to photograph or record. They would then share their still images, videos, or audio files, and I would play these during our synchronous Zoom class, asking each student to introduce the photo, video or audio file.

I soon recognized what was so powerful about this teaching tool: It used an everyday, individual experience of each student—a bird heard or observed on a walk across campus or in the backyard—and elevated it to a learning opportunity for the whole class. It didn't much matter if the photo was distant or a little blurry or if the song was hard to hear; that is precisely how we often experience nature, with poor lighting or with background noise. There was no pressure to secure a great bird artifact to share; the imperfections created challenges that paralleled the real experience of identifying birds in the field. You could hear the excitement as normally silent students introduced their photos (their discoveries) of song sparrows, bald eagles, and red-winged blackbirds.

I realized that as successful as my former field class had been, it asked little of students in terms of actively contributing to the learning environment. Instead of simply listening to my tips

and descriptions, in this new online environment, students had to search for, discover, and share the sounds and images that became the raw materials for everyone's learning. The novel constraints of the pandemic had forced us to come up with new ideas and solutions.

As we plan for the next semester and the next year of classes under these greatly compromised conditions, I will try to keep this hopeful lesson in mind. I look forward to seeing what my students will find, photograph, and record in their solitary wanderings in search of birds. And more importantly, I hope that in the experience of walking, watching, and listening to nature, they will find some solace to help them through these difficult days.



MAKING TRACKS

The Cleaning 'Engineers' of CFRES



Cindy Kela and Lori Carne have been hard at work this year, as the pandemic has created an entirely new system of facility management in our College. The two women run a tight ship around our building, assuring that students walk into a clean and hospitable environment every day. The CFRES community recognizes their commitment to keeping students safe and the adaptations they

have made. Because of these passionate women, students have continued to stay safe while achieving their education.

“We are here for the students,” said Cindy. “We are trying to keep them safe, and hope that students who see this take initiative to keep their classmates and us safe too.”

Cindy and Lori changed their routine to include sanitizing all touchpoints in the building twice a day. They are conscious of the virus and its capability to spread, working together and spending extra time to protect our community from sickness.

While CFRES recognizes these two outstanding and committed employees, Cindy and Lori also expressed their appreciation of those in our College who make it a pleasure to come to work. They feel like a “mother figure” to many students and take the time to chat as they pass in the halls. The inclusion they receive in CFRES is the reason they continue to come to work each day.

Kathy Halvorsen: A Leader in Research



Kathy Halvorsen has been appointed the associate vice president for research development (AVPRD). She continues as faculty in the College and in the Department of Social Sciences, retaining a 20 percent appointment that allows her to continue leading the National Science Foundation

(NSF) GCR Michigan Community & Anishinaabe Renewable Energy Systems (MICARES) project and serving as a team member on two NSF Navigating the New Arctic projects and one NSF Food, Energy, Water Nexus research team.

In her role as AVPRD, Kathy’s work is campuswide and includes overseeing research centers, institutes, and shared facilities as well as facilitating research development and promoting research excellence and integrity. As AVPRD, Kathy worked with faculty across campus to safely restart research after the initial break in most research activities at the start of the pandemic.

Doing Our Part



In spring 2020, the University developed a COVID-19 testing lab—a critical asset for the resumption of student residential life and in-person classes in fall 2020 and beyond. The extraordinary team that made this happen included Carsten

Küelheim, Kristin Brzeski, and Jennifer Sanders. In addition, graduate students, including James Rauschendorfer and Sam Hervey, provided expertise through their work in the PCR lab. They provided expertise to develop protocols and source equipment (including PPE) that helped ensure the success of the facility. Molecular biology equipment was moved from the College into the testing lab while we waited for newly ordered equipment to arrive, and we even had the first rounds of vaccines to arrive in Houghton held in -80°C storage in CFRES genetics labs.

Forest Succession

Mark Rudnicki will serve as the next director of the Ford Center and Forest. Mark's previously held leadership positions include serving as the executive director of the Michigan Forest Biomaterials Institute. He is also our coordinator of industrial research, innovation, and commercialization. His experience working in complex organizations and coordinating large multi-investigator research projects will be a great benefit in his new role.



District 5 Representative

Tara Bal has been elected as District 5 representative—covering Michigan, Wisconsin, Minnesota, and Iowa—on the Society of American Foresters (SAF) Board of Directors. As a certified forester, her work as a director has included participating in the Diversity and Inclusion Working Group, Forest Health and Genetics Working Group, and Executive Committee. Tara has over 15 years of experience in leadership roles in SAF, including serving terms as the Michigan SAF Upper Peninsula chair and vice-chair.



IN MEMORIAM

Ralph Swanson '42 Forestry



Ralph lived to be 100 years old and spent 74 years married to Harriett Swanson. He served in the US Army and raised four children in the Ashland, Wisconsin, area. He spent his entire career in forestry, working predominantly in the pulpwood industry, and was actively involved in paper and pulpwood associations, timber producers, and forestry associations. He was inducted into the Wisconsin Forestry Hall of Fame in 2020. Ralph took his kids into the woods any chance he could, sharing his love of hunting and logging. He felt his time at Michigan Tech helped shape his career, so he and Harriett created a scholarship to help defray the costs of college tuition for future generations of Huskies.

Steve Albee '86 Forestry

Steve served in the US Army and attended college later in life. He played a large role in the creation, development, and funding of the Keweenaw National Historic Park. After retirement, he was actively involved with the Keweenaw Land Trust, Trout Unlimited, and the Copper Country Community Arts center. He was affectionately known as the "Gardner of West Hancock" and was a member of our Honor Academy.

Jack Horak '59 Forestry

Jack joined the National Guard to help pay for his college education. He spent 39 years serving our nation and achieved the rank of full colonel. He loved to hunt and fish with family at his cabin.

Tom Gelb '57 Forestry

Tom was a member of our Honor Academy. He spent his career working for Harley-Davidson and was instrumental in helping restore the company to greatness. Tom's passion was fishing. He became a field editor of *Musky Hunter* magazine and is well known throughout the Northwoods of Wisconsin for catching record-size fish.

Barbara Clark

Barbara was a member of our Honor Academy and served on the Advisory Board. She grew up climbing trees and playing in the woods. This childhood love of the woods was the beginning of her love for and fierce commitment to the environment. Her career included teaching biology, helping student environmentalist clubs, advocating for Isle Royale, and being actively involved in government.

Bob Thayer '77 Forestry

Bob was married to Barb Wade ('78 Wood Science). After a long career with Weyerhaeuser, he enjoyed gardening and outdoor sports. Bob and Barb had lifelong friendships with many other Huskies. They shared their love of the outdoors by leading bike riding tours.

Kiril 'Bud' Spiroff '57 Forestry

Bud met Claudette ('58 Forestry) as a student and they were married for over 63 years. He served in the US Marine Corps and spent some time out in Oregon, but his love of the UP brought him home to Ispheming, Michigan, for many years—and later to Chassell, Michigan. Bud was a creator, a fixer, and an educator.





Michigan Technological University
**College of Forest Resources
and Environmental Science**

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The Way In Which We Meet



Photo by Todd Marsee

Michigan Tech, Keweenaw Bay Ojibwa Community College, and the Great Lakes Indigenous Peoples created Ge-izhi-mawanji'idiyang dazhindamang gidakiiminaan, "the way in which we meet to talk about our earth," in spring 2019. Led by CFRES Research Assistant Professor Valoree Gagnon, the seminar course brings together 12 Great Lakes Indigenous knowledge holders to share cultural, ecological, and governance knowledge critical to the resiliency of our shared environment. Students engage in timely dialogue about justice, equity, diversity, and inclusion. With an improved understanding of Ojibwa perspectives and practices, students graduate better prepared for impactful work as natural resource and environmental science and policy professionals.

Tomorrow Needs Indigenous Partners. Tomorrow Needs Michigan Tech.

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