



Nelson Institute for Environmental Studies UNIVERSITY OF WISCONSIN-MADISON

December 2021

THE COMMONS

For alumni and friends of the Nelson Institute for Environmental Studies at the University of Wisconsin–Madison

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At U.N. Climate Conference, UW observers look to civil society to save the planet



By Ann Grauvogl

University of Wisconsin-Madison graduate student Nova Tebbe, who works across disciplines from the Nelson Institute for Environmental Studies to the La Follette School of Public Affairs, calls herself a climate newcomer. Yet, in early November, she joined 300 people who walked out of the United Nations Climate Change Conference of the Parties (or [COP26](#)) to protest the lack of significant commitment to combat climate change.

That last Friday in Glasgow, Tebbe was inspired by a People's Plenary session. "Solidarity, camaraderie, community: I was able to be in the room, and I felt so driven and passionate by everyone else's energy," she says. She joined those who walked out of the COP venue to meet up with the outside protestors led by Fridays for Future, the youth climate movement spearheaded by Greta Thunberg.

Attending her third COP, Sumudu Atapattu, director of Research Centers and senior lecturer at the UW-Madison Law School, says the value of COP is the convergence of civil society—the groups representing youth, women, Indigenous people, island nations and more—to support each other and put pressure on climate negotiators.

"The civil society coming together. The many like Nova who haven't been before. The talking. The connections. The youth putting pressure on states to show they're doing something. It's heartening to see everything going on," Atapattu says.

"There's so much attention to the issue: I think we need to keep the momentum going."

What is COP26?

In late October 2021, Tebbe and Atapattu participated in a UW-Madison [Global Health Institute](#)-hosted panel discussion, "[What to Expect from COP26: How the U.N.](#)

[Climate Talks Impact Everyone](#)," to explore opportunities and challenges for the 2021 U.N. Climate Conference. COP26 brought 200 nations together in early November to forge an agreement to accelerate action toward mitigating climate change, adapting to it, investing in infrastructure and technology, and working together to find solutions to benefit health for all. After the conference, COP President Alok Sharma called the Glasgow Climate Pact a fragile win. U.N. Secretary-General Antonio Guterres



Nova Tebbe at COP26 Glasgow. Photo credit: Nova Tebbe

"We still have a long way to go to talk about why climate affects health. This space gave us a space to pitch it, and that's huge."

– Nova Tebbe

urged nations to go into emergency mode to reduce the use of fossil fuel, reduce greenhouse gas emissions and help low-income countries offset the cost of a changing climate.

Tebbe was an observer at the conference through the University Corporation for Atmospheric Research. She's pursuing a dual master's degree in public administration and public health in the La Follette School of Public Affairs and works with Jonathan Patz, director of the Global Health Institute (GHI), to research climate change policies rooted in climate and equity. She also is completing an Energy Analysis and Policy Certificate.

Atapattu, a member of the GHI Advisory Committee and a Nelson Institute affiliate, has spent her career working for human rights across the world. She joined the climate conference as part of the delegation from the Raoul Wallenberg Institute for Human Rights in Sweden, where she is affiliated faculty. She spoke about climate adaptation and human rights at a side event in the Nordic pavilion.

Finding some success at COP26

They saw small victories in the final agreement.

In terms of health, Tebbe sees including the "right to health" in the preamble as a win. She also applauded the COP26 health program to decarbonize the health sector and, for the first time a health pavilion at a COP. She appreciated the opportunity to talk to country delegates about how climate change impacts health. "We still have a long way to go to talk about why climate affects health," she says. "This space gave us a space to pitch it, and that's huge. There's not another opportunity for me to talk to people from different countries about health."

Atapattu found hope in Scotland's \$1.4 million pledge to support victims of climate disaster—a world first. Overall, she saw little movement on human rights or financial assistance for low-income and island nations facing the worst consequences of a warming planet. She knew going in that states would be reluctant to include human rights in decisions. COP gave her the opportunity to promote human rights to negotiators.

"Even people working in this space don't understand how important it is to include human rights as an umbrella," she says. The women agreed the Glasgow Pact did not go far enough and could lead to two or three degrees warming.

"It's tough to expect these international agreements, which require consensus, to be these bold, ambitious things," Tebbe says. "The global north can afford to take their time to 2050 (to reduce emissions). The global south and island nations cannot afford that. ... The climate crisis is already here. People are dying because of it. There are no options."



Sumudu Atapattu at COP26 Glasgow. Photo credit: Sumudu Atapattu

Tebbe and Atapattu look to civil society—ordinary citizens and organized groups—to pressure governments for change. "We also need to get more action at the local level and state level and put pressure on the university to divest," Atapattu says. "We're still investing in fossil fuel companies. That's unacceptable."

Tebbe calls for rethinking systems, from the economy to energy to transportation. "We need to get rid of this extracting economy where we're continuously using and wasting," she says. "That's not what's going to fix the climate crisis. We need a circular economy."

Civil society can push the world toward sustainability, Tebbe and Atapattu agreed. But civil society can only go so far. "We really need to get the major countries on board," Atapattu says. "Or there's no future, especially for small island states."

Other Global Health Tuesday panelists weigh in

GHI Director Jonathan Patz moderated the October 26 Global Health Tuesday panel hosted by the UW-Madison Global Health Institute. Dekila Chungyalpa, director of the Loka Initiative at the Center for Healthy Minds, and Greg Nemet, professor with the La Follette School of Public Affairs and Nelson Institute for Environmental Studies, served as panelists with Tebbe and Atapattu. They also looked back on COP26. Read the Q & A with the panel [here](#).

Climate change collaboration continues to gain momentum



By Bekah McBride

As 2021 comes to an end, the [Wisconsin Initiative on Climate Change Impacts \(WICCI\)](#) is preparing for another big year in 2022. A state-wide collaboration of scientists and stakeholders working together to help Wisconsin policymakers and citizens understand the impacts of climate change, WICCI was formed in 2007 as a partnership between UW-Madison's Nelson Institute for Environmental Studies and the Wisconsin Department of Natural Resources. Over the past 14 years, WICCI has become a resource on climate change, providing information to the Governor's Task Force on Climate Change and publishing a [climate change assessment report in 2011](#).

The science-based strategies put forth by WICCI are the result of working groups that include scientists, experts, and practitioners in more than 14 areas including forestry, wildlife, recreation, and coastal resilience. These

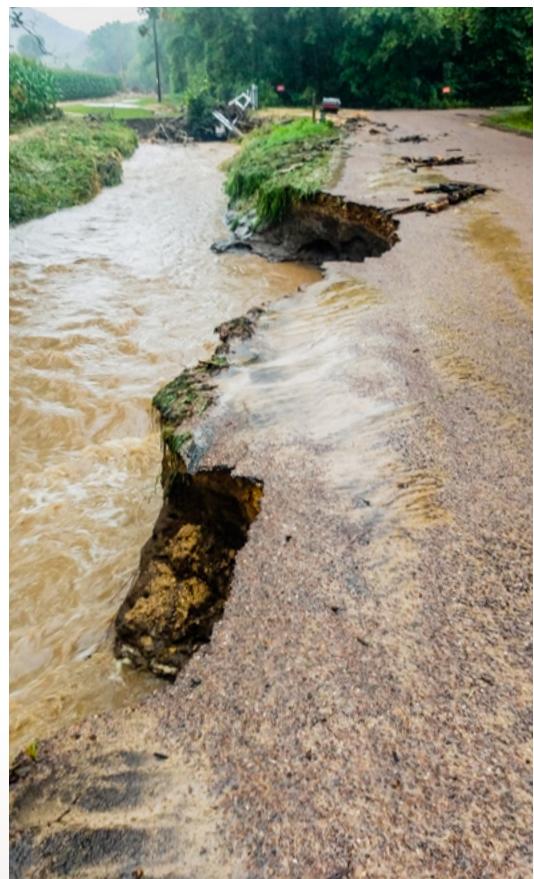
efforts are led by [Dan Vimont](#), professor, Atmospheric and Oceanic Sciences, director, Nelson Institute Center for Climatic Research (CCR), and [Steve Vavrus](#), CCR senior scientist, and Pamela Porter, policy advisor, Office of the Secretary, Wisconsin Department of Natural Resources, who serve as tri-directors of WICCI.

Together, the team has been working on a variety of projects, including a new, updated climate change assessment report that is set to be published in the coming weeks. Additionally, WICCI launched a new and improved website in 2021 with additional resources and material for everyone from policymakers to outdoor enthusiasts. The team has also been busy working with the [Governor's Task Force on Climate Change](#). Chaired by Lt. Gov. Mandela Barnes, the task force brings together state agencies and legislators, tribes, business leaders, and economic and conservation organizations from across the state to explore topics such as how climate change affects infrastructure, the Great Lakes, tourism, and tribal nations.

Look for more information and an updated climate change assessment report from WICCI soon and be sure to check their [website](#) to stay up-to-date on WICCI research and news.



Neighbors belongings after flooding at the far end of Rosa Road. Photo credit: Greg Fries



Herrick's Dairy Farm - 2018 Flood pictures.



The Nelson Institute trains people, impacts communities, and serves the University of Wisconsin-Madison, but at its core, it is designed to advance research. And not just any research, but research that matters in the world: decision-ready science. That's why we are doubling down on our grant administration and research support and by creating new positions to help faculty and students get grants out the door and world-changing work done. This includes the Institute's new investment in financial services, grant submission support, and program management. We look forward to an upcoming period of ferociously productive science.

A look through this issue of *The Commons* shows why this kind of investment is so important. Take the forthcoming assessment report from the Wisconsin Initiative on Climate Change Impacts (WICCI). This nationally recognized collaboration of scientists and stakeholders has been developing the foundational research for a new report for a decade. The results will help policymakers and citizens understand the impacts of climate change in agriculture, health, and wildlife, and beyond.

Or consider the work of the Dr. Holly Gibbs' GLUE lab (recently featured in the *New York Times*), which partners with National Wildlife Federation (NWF), the World Wildlife Fund (WWF), and the Leather Working Group (LWG) to track the impacts of global supply chains on critical tropical forests. The labyrinth of cascading impacts

tracked by GLUE spiral outwards from American car seats to impact workers, firms, and biodiversity throughout the Amazon. Gibbs is solving a fascinating puzzle, and one with critical international significance.

In the area of abating climate change, Nelson and UW-Madison also lead. Team members from our Energy Analysis and Policy program just received a top award from the \$5 million XPRIZE for Carbon Removal Student Competition. Awarded for work that combines direct air capture (DAC) and carbonization, the research seeks to draw carbon out of the atmosphere and convert it into limestone for long-term storage. This kind of innovation will inevitably be a part of any global strategy to fight catastrophic global change.

Finally, I would be remiss if I didn't acknowledge the financial support the Institute gets to do this sort of work and train the next generation of environmental leaders. Among other recent generous supporting gifts, the Institute's friends Kathy and Bjorn Borgen offered a \$100,000 match for funds to support biodiversity conservation. This will support students from around the globe doing research to help stem the tide of extinctions world-wide. This kind of generosity valorizes the research and training we do here. It is incredibly gratifying.

Paul Robbins
Dean, Nelson Institute

The creation of *becoming-Feral*



becoming-Feral. Photo credit: becoming.ink

By Bekah McBride

Explore the complex relationships between humans and other-animals through *becoming-Feral*, a collection of poetry, visual art, essays, and more—all focused on understanding the shifting categories of ‘feral’ and ‘domestic’ within a landscape that is being altered by global transformations of climate and capitalism. Co-edited by Nelson Institute and School of Education doctoral candidate Alexandra Lakind, the book, which was released on November 10, features the work of over 80 contributors from a variety of genres and disciplines. To showcase multimedia contributions the book release also included a digital companion collection available on the [becoming-Feral website](http://becoming-feral.com).

As the book release coincided with the [United Nations Climate Change Conference \(COP26\)](https://cop26.org.uk/) taking place in Glasgow, Scotland October 31 through November 12

the [*becoming-Feral book launch*](#) included an online and in-person public event that featured presentations from a number of *becoming-Feral* contributors.

“I think the launch was a wonderful moment,” said Lakind. “Firstly, it was amazing to see so many of the contributors gathered together. We are so lucky to have found so many supportive and inspiring people eager to engage with this project. Secondly, it was also very exciting to see how many people joined the in-person Glasgow-based event virtually from around the world. I was happy to be able to have an intimate and COVID-considerate in-person launch that invited in dozens more people from all over. From the Netherlands to Russia to South Australia we had people celebrating across landscapes, time zones, and seasons”.

The creation of *becoming-Feral* was made possible in part through support from the Nelson Institute [Center for Culture, History, and Environment \(CHE\)](#). The [CHE Research Initiative](#) provides sponsorship of working groups engaged in transdisciplinary collaborations that examine human dimensions of environmental issues. In spring 2021, the multidisciplinary and multi-institutional CHE working group, “Feral Worlds,” collected [submissions for the becoming-Feral publication](#). *becoming-Feral* is the second book in a series called “**BECOMING**,” which includes creative research publications that investigate the diverse reciprocal relationships between humans and Others. What resulted from the *becoming-Feral* call for submissions was over a hundred contributions from across the globe—from India to Argentina. These submissions span a variety of mediums and topics, from atomic bees to viral rabbits. Once submissions were gathered, the Feral Worlds working group began the editorial process of creatively forming contributions into a cohesive and vibrant display of feral meanings.

“What the Feral Worlds CHE working group has done with the creation of *becoming-Feral* is nothing short of astonishing,” said CHE assistant director, Rachel Gurney. “The *becoming-Feral* book is just one example of what can emerge when scholars, scientists, artists, and others are provided support for collaboration. CHE is a proud supporter of such endeavors and the collaborative work of our Associates broadly.”

The Feral Worlds working group was led by Nelson Institute and School of Education doctoral candidate, Alexandra Lakind, and included UW-Madison graduate students [Addie Hopes](#), [Emery Jenson](#), and [Sabrina Manero](#), as well as [Josh Armstrong](#) (Royal Conservatoire of Scotland), [Chessa Adsit-Morris](#) (University of California, Santa Cruz), and [Rebekka Sæter](#) (Independent Artist). The Feral Worlds working group ap-

proached the editorial process from divergent perspectives and interests, which led to the creation of a publication that embodies a diversity of styles and expressions.

“Through a diverse range of entries, we have compiled a ‘book of beasts’ that shifts our attention from the panic of ever-coming catastrophe towards a strategy for living and dying on a planet in need of maintenance and repair,” shared Lakind.

In addition to CHE’s support of the creation of *becoming-Feral*, the [Royal Conservatoire of Scotland](#) offered support through their [Research & Knowledge Exchange program](#), which—along with the CHE—helped fund the first book in the BECOMING series, *becoming-Botanical*. This additional funding enabled [Objet-a Creative Studios](#)—a charitable arts organization based in Glasgow, Scotland—to oversee the production and publication of *becoming-Feral*, under the artistic direction Josh Armstrong.

“I was very pleased to be able to work with the Center for Culture, History, and Environment,” said Objet-a Creative Studio artistic director and lecturer with the Royal Conservatoire Scotland, Josh Armstrong. “It was really fruitful to have other voices join thanks to the formation of the Feral Worlds working group, which fostered deeper, more critical engagement with the topic, and enabled us to create robust linkages across organizations, institutions, and individuals.”

Learn more about [becoming-Feral](#).



During the virtual Glasgow book launch, Hannah Imlach, a *becoming-Feral* contributor, shared her entry on the Elephant Hawk-moth. Photo credit: Alexandra Lakind



Coal-mine canary, *becoming-Feral*. Photo credit: becoming.ink

“Through a diverse range of entries, we have compiled a ‘book of beasts’ that shifts our attention from the panic of ever-coming catastrophe towards a strategy for living and dying on a planet in need of maintenance and repair.”

—Alexandra Lakind



Holly Gibbs Land Use and Environment Lab to support new traceability and transparency efforts in the leather supply chain

By Bekah McBride

Addressing deforestation and its links to leather supply chains is the goal of a new partnership between the Gibbs Land Use and Environment Lab (GLUE) at the University of Wisconsin-Madison, National Wildlife Federation (NWF), the World Wildlife Fund (WWF), and the Leather Working Group (LWG). The project is led by Holly Gibbs, a professor in the Nelson Institute Center for Sustainability and the Global Environment (SAGE) and Department of Geography, and Lisa Rausch an assistant scientist with SAGE.

“Over the last decade, we have been developing and using data science tools to help save the Amazon. We now have a massive property-level database that allows us to track cattle transactions across key Amazonian states and understand how ranchers, slaughterhouses, and tanneries respond to public and private sector policies.”

– Holly Gibbs

GLUE will leverage their scholarship and expertise to support the project by sharing the latest data, maps, and assessments related to deforestation in the Brazilian Amazon and Cerrado, and the Paraguayan Chaco. Using this information, the group will develop a framework that will help leather industry stakeholders to assess deforestation risks and ensure accountability.

“Over the last decade, we have been developing and using data science tools to help save the Amazon. We now have a massive property-level database that allows us to track cattle

A farm on the edge of a burned area near Cacoal, in Rondônia, Brazil.

Photo Credit: [The New York Times](#)

transactions across key Amazonian states and understand how ranchers, slaughterhouses, and tanneries respond to public and private sector policies,” Gibbs said. “The database allows us to conduct cutting edge academic research while also producing the solutions that can be used by the private sector.”

Gibbs and her team are known for their pioneering work to track deforestation, particularly in South America. They are currently utilizing cattle movement and supply chain data to track outcomes from the Zero-Deforestation Commitments in the Brazilian Amazon. The team of researchers and data engineers have used these findings to create a free, cloud-based supply chain traceability tool called [Visipec](#) designed for use by Brazilian meatpackers within the cattle sector. Visipec allows meatpackers to see, for the first time, which indirect suppliers with deforestation on their properties sell cattle to the properties that directly sell cattle to slaughterhouses. Increased visibility of these indirect suppliers to the meatpackers is essential to efforts to fully remove deforestation from beef supply chains and to reduce overall deforestation driven by expansion of cattle pastures, which is a leading cause of soaring deforestation rates in the Amazon.

This project aligns with GLUE’s previous work and goals as this project will facilitate traceability and transparency in the leather supply chain. In fact, that goal of the group is to work toward fully deforestation and conversion free (DCF) leather supply chains.

Rausch explained, “Leather is a key value chain linked to the cattle sector. This initiative will play an important role in motivating meatpackers to increase their ambition for reducing deforestation and to accelerate full implementation of their existing commitments.” [Read more](#)

Anna Gade was featured speaker at the Hamad bin Khalifa Symposium on Islamic Art

By Bekah McBride

Nelson Institute associate dean for research and education and Vilas Distinguished Achievement Professor Anna Gade, was a featured speaker at the virtual symposium [Environment and Ecology in Islamic Art and Culture](#). This event was hosted by [The Virginia Commonwealth University School of the Arts in Qatar](#) and the [Qatar Foundation](#), November 8-15, 2021.

"With a focus on climate change ethics, the paper looks at infrastructure, aesthetics, and water resource management against the backdrop of Muslim understandings of environmental change, like sea level rise."

- Anna Gade

Gade, who is the author of the book [Muslim Environmentalisms: Religious and Social Foundations](#), spoke on the in-

teraction of mosques and water flow during her November 9 presentation entitled, "Truth of Consequences: The Floating Mosque and Material Ethics."

"With a focus on climate change ethics, the paper looks at infrastructure, aesthetics, and water resource management against the backdrop of Muslim understandings of environmental change, like sea level rise," shared Gade. "The examples come mostly from islands of Southeast Asia, the region where I do much of my research."

Other papers presented at the multi-day symposium explored topics such as Rights of Nature in Islamic Perspective, climate justice and art in the Middle East, ecologies of refugee crises, 'green' building and global eco-Islam, and much more.



Center for Climatic Research (CCR) associate director, Michael Notaro presents on climate change at the UW-Madison WARF Soundwaves concert

By Bekah McBride

Climate change impacts were the focus of Nelson Institute Center for Climatic Research (CCR) associate director, Michael Notaro's presentation at the 2021 SoundWaves event. SoundWaves is a [Wisconsin Institutes for Discovery](#) series that looks at the relationship between science and music. The theme of SoundWaves 2021 was "The Science and Music of Cities: Specimen New York." In alignment with the theme, Notaro presented "Climate Change in New York City: The Growing Storm," a 15-minute non-technical talk on climate change impacts within the city.

"I discussed projections of extreme heat and heat waves, increased precipitation, more extreme precipitation events and flooding, declining snowfall, sea-level rise and pro-

jected shrinking of Manhattan, and increased vulnerability of minority/low-income/elderly/disabled populations," Notaro said. "I ended my presentation with the statement, 'The threat is real. The science is clear. The time to act is now. We cannot allow the greatness of New York City to fall to the rising sea and devastation of a warming climate."

The event, which took place on October 24, was led by University of Wisconsin-Madison School of Music professor Daniel Grabois and included presentations by Notaro, Civil and Environmental Engineering Vilas Distinguished Professor Hussain Bahia, professor of Law, Political Science, Public Affairs and Sociology and director, COWS Joel Rogers, and Robbie Webber of the State Smart Transportation Initiative.

Nelson Institute academic staff host first NSF-supported WELCOME teacher professional development workshop

By Bekah McBride

Nearly 20 educational leaders from the [School District of Beloit](#), [Beloit College](#), and [Welty Environmental Center](#) attended a development workshop led by Nelson Institute Center for Climatic Research (CCR) associate director, Michael Notaro and CCR outreach director, Rose Pertzborn that aims to increase diversity in geosciences and foster hands-on STEM (Science, Technology, Engineering, and Math) education within Wisconsin communities.

The workshop, held on October 12-14 in Beloit, Wis., was the first in a series of workshops associated with the National Science Foundation (NSF) GEOPAths-funded project entitled, Wisconsin Educational Leadership for Community Outreach and Mentoring for the Environment (WELCOME). This project brings together educational and environmental leaders throughout Beloit with faculty/staff from the University of Wisconsin-Madison Nelson Institute who offer trainings, mentorships, hands-on experiences, and more, to increase student interest in STEM, improve achievement gaps, and increase diversity within STEM degrees and careers.

“The workshop brought members of the School District of Beloit, Beloit College, University of Wisconsin-Madison, and Welty Environmental Center to the table to tackle the vast STEM diversity and equity challenges in Beloit.”

– Michael Notaro

This initial training focused on youth citizen science data collection and analysis as it relates to the atmosphere, hydrosphere, pedosphere, and biosphere protocols of the Global Learning and Observations to Benefit the Environment ([GLOBE](#)) international program.

“The workshop brought members of the School District of Beloit, Beloit College, University of Wisconsin-Madison, and Welty Environmental Center to the table to tackle the vast STEM diversity and equity challenges in Beloit,” Notaro said. “We are making a stand that all children, no matter their race, ethnicity, gender, disability status, or economic status, are valuable, loved, and deserving of the opportunity to succeed. The fact is that the fields of geoscience has experienced no increase in diversity over the last several decades, and this is unacceptable.”



Notaro also shared that the WELCOME program plans to offer in-school presentations and question and answer panels with scientists from different stages in their career over the next few months. The schools will engage in student-led data collection and development of locally relevant scientific projects for presentation at the upcoming Midwest GLOBE Student Research Symposium.

Additionally, the WELCOME project is working with [Achieving Collaborative Treatment](#) to find ways to address the needs of the autistic youth.

Notaro shared, “We will be developing a summer STEM camp for autistic youth, creating a safe environment that fosters and welcomes their neurodivergence.”



Andrea Hicks

Ask Andrea

A monthly column from Andrea Hicks, Director of Sustainability Education and Research, an assistant professor in the Department of Civil and Environmental Engineering, and the Hanson Family Fellow in Sustainability

This month I am excited to introduce a new format for this column, where I answer your questions about sustainability. This write-in column will alternate every other month with my regular column, where I talk about the exciting work being done at the Office of Sustainability.

TO GET US STARTED:

Question: When I try to make an environmentally conscious decision, I like to read up on it. But there is a great deal of conflicting information out there. How do I make sense of all of it?

Answer: This is a great question, and it often comes down to scope, assumptions, comparisons, and locations. In the 1990s there were two life cycle assessment (LCA) studies on disposable versus reusable baby diapers (LCAs are systematic tools for determining environmental impact). One study found that reusable diapers have a lower environmental impact while a second study found that disposable diapers have a lower environmental impact. These dissimilarities could be attributed to differences in where the bounds or fence around the study were drawn, and various assumptions made by the researchers. For example, we might ask: How were the reusable diapers laundered? Is a single reusable diaper equivalent to a single disposable diaper? The answer is more complicated than just one option being sustainable while the other is not. And these are the types of questions we can explore together.

This question-and-answer column will seek to address everyday sustainability questions from readers. In doing so we will talk about ideas such as *environmental breakeven points*, the conditions in which two options have the same environmental impact. We will consider *environmental payback period*—for example, how many times do you need to use that reusable grocery bag in order for it to be better for the environment than using the paper or plastic single use bag available at the store? We will also explore the role of human behavior in sustainability and environmental impact; for instance, the largest environmental impact of a car occurs during the use phase, i.e., when it is in service. How people use products and technologies has the potential to shift environmental impact.

I look forward to answering your sustainability questions. To submit a question, please email info@sustainability.wisc.edu with the subject line “Ask Andrea question”.

“The implications are enormous”: graduate student’s innovative climate research could change building design

By Marek Makowski

Gesangyangji, who goes by Gesang, is a Nelson Institute for Environmental Studies graduate student studying climate change. Her advisors include Tracey Holloway, the Gaylord Nelson Distinguished Professor who leads The Holloway Group within the Center for Sustainability and the Environment (SAGE) and Dan Vimont, professor and the director of the Nelson Institute Center for Climatic Research (CCR).

Gesang’s way of thinking about climate and building design seems obvious. But it hasn’t been considered before—because “it’s really hard to change industry standards,” Vimont said, and because it involves complex data modeling and coding. Other researchers have only studied certain design metrics or limited themselves to specific buildings. Gesang’s research, however, covers the city of Madison and will expand to the buildings across the east coast before projecting how climate change will affect building design in the entire United States. While other studies typically use a single climate model, which causes biases, Gesang’s averages from 24 models and global models for climate change don’t produce accurate hourly variations in data, so Gesang blends them with localized observations, which allows her to calculate metrics for building design. Vimont, an expert in large-scale climate dynamics, called this methodology “novel.”

“There are so many gaps in research where two fields bump up against each other,” she said. “Really interesting research questions come out of practical information needs.”



Gesang

“I found that climate change is not only about climate. It is a huge, complicated, interdisciplinary topic that involves every aspect of our lives.”

- Gesang

Gesang’s project also responds to a problem previously unacknowledged by scholars. Different disciplines do not educate themselves about each other’s problems, according to Holloway, who leads a team at NASA that listens to public health organizations’ challenges and considers how they could apply research to help resolve concerns about air quality.

Gesang’s research has succeeded thus far because she works with an interdisciplinary team. She’s a doctoral student in the Environment and Resources Program in the Nelson Institute for Environmental Studies, which has allowed her to assemble a variety of experts on her committee: Vimont; Holloway, whose work considers air quality; Stephanie Henderson, who works on climate data in Atmospheric and Oceanic Sciences; Doug Ahl, the executive vice president for research at Slipstream, a company in Madison working

Gesang presented her research at the 100th American Meteorological Society annual meeting held in Boston in January 2020. Her poster was also named outstanding student poster at the conference.

on building energy modeling; and Morgan Edwards, a professor who researches policymaking responses to climate change for the La Follette School of Public Affairs. The Nelson Institute—along with sponsorship from the Office of Sustainability—have allowed Gesang to bring the experts together to advance her work.

"I found that climate change is not only about climate," Gesang said. "It is a huge, complicated, interdisciplinary topic that involves every aspect of our lives."

Every aspect—the professional and the personal. Gesang could have accepted a job in Beijing after completing her master's, but she decided to continue her research at UW-Madison. When she first moved to Madison, it "was very disastrous," as she fell behind in classes and struggled with English. She was self-funded then, so she worked a part-time job in Union South to make money and adapt to the English-speaking environment. She forced herself to attend workshops and

ask a question in her graduate seminar every week. She made friends; she went on hikes at state parks.

And she danced. She does not own a television, but she hung a big mirror in her apartment so that she could watch her technique. Whenever she felt "anxious, or happy, or sad," she would dance, watching herself in the mirror. "I would take videos of myself and share it with my parents," she said, "so that they would think I am living a happy life here and they could worry less about me."

Holloway emphasized that she wanted to ensure that Gesang could use her research to help communities at home. Gesang expects to finish and graduate in May 2023. The next phase of study will connect design metrics to changes in energy consumption, which she hopes will soon change building design, draw fewer resources from the earth, and prevent the remainders of snow atop the mountains in Lhasa from vanishing forever.

Undergraduate student combines environmental studies with social work



Le (center) volunteering at Freedom Inc. Photo credit: Cleo Le.

By Anica Graney

Having grown up in southern California, undergraduate student Cleo Le said she was in for a shock when she moved to Wisconsin during her freshman year of high school. "I moved to Wisconsin in February having never seen snow before. It was so cold, and I was not prepared at all," Le said.

After getting accustomed to Midwest climate and culture, Le decided to stay in Wisconsin and enroll in the University of Wisconsin-Madison. Le said she decided to go to college because of the faculty support she had at her high school. "I'm a first-generation student so I wasn't really expecting to go to a university, but eventually I realized that it was an option for me," Le said.

"I focus a lot of my studies on disparities. Specifically, in how people receive funding, like in Supplemental Nutrition Assistant Programs (SNAP)."

- Cleo Le

Le arrived at college planning to major in philosophy but was eventually led to the Nelson Institute as she felt the Environmental Studies major paired nicely with philosophy. After taking some classes, Le discovered philosophy wasn't for her, but decided to stick with environmental studies.

Needing to pair her Environmental Studies major with another area of interest per the degree program requirements, Le chose social welfare as her second major. "I was interested in social welfare because of the classes I was taking for environmental studies," said Le. "I was interested in environmental racism and the types of food and environmental inequities people face. That eventually led to a desire of how I could be personally involved in alleviating



Le (right) tabling at the Fall 2021 Student Org Fair for the American Civil Liberties Union Student Alliance. Photo credit: Cleo Le.

those kinds of disparities." Le was accepted into the Bachelor of Social Work Program for the 2021-2022 school year.

Le's interests also led her to earn certificates in both global health and leadership. She said a common theme among her majors and certificates was government structures and how they have helped or burdened marginalized people.

"I focus a lot of my studies on disparities. Specifically, in how people receive funding, like in Supplemental Nutrition Assistant Programs (SNAP)," said Le. SNAP is a United States Department of Agriculture's program that supports family purchases of healthy foods and move towards self-sufficiency. Le said that connects back to her global health certificate in that she studies the correlation between types of food and how they determine how advantaged someone is later in life.

For Le's field experience, a course that fulfills the outdoors requirement for the program, she chose to take Principles of Environmental Science with Nelson Institute affiliate Tim Lindstrom. "He was a really amazing instructor. He taught us so much about life skills. How to look at a utility bill, how the trash and recycling system works, things you never even really think about," said Le. "Taking that class has been one of the most memorable things I've done in the Environmental Studies program."

Lindstrom shared that Principles of Environmental Science is a unique course that explores issues related to sustainability through the lens of the UW-Madison campus. "Most of the lecture content and laboratory activities make direct use of campus systems, data, processes, etc. to learn about sustainability and connect local issues and impacts to global implications," said Lindstrom. "Ultimately, the goal of this course is to give students the tools to see the world in new ways, noticing things you may have missed and encouraging them to seek paths that care both for themselves and for all with whom they share this planet."

Learn more about the [Environmental Studies major](#) and how you can [support the program](#).

Nelson Institute students and faculty win XPRIZE for Carbon Removal Student Competition

By Bekah McBride

Nelson Institute [Energy Analysis and Policy \(EAP\)](#) faculty and students were among the University of Wisconsin-Madison team members who received a top award from the \$5 million XPRIZE for Carbon Removal Student Competition.

The team, which includes co-advisor Rob Anex, a Nelson Institute affiliate, EAP program chair, and Environment and Resources graduate program advisor, were awarded \$250,000 to fund their continued work on developing a two-part system that consists of a direct air capture (DAC) unit that traps carbon dioxide from the air, plus a carbonization component that converts the captured CO₂ into limestone particles.

This early award is a part of the larger \$100 million XPRIZE for Carbon Removal supported by the Musk Foundation, a non-profit research foundation established by entrepreneur Elon Musk. As the team continues their work on this project, they will have the opportunity to submit the project to future rounds of the competition, which will go through Earth Day 2025.

Read more and view the team video featuring EAP students Keerthana Sreenivasan, Eri Amezcu Cuellar, Mikhaila Calice, Matilyn Bindl, and more [here](#).

APPLY NOW
2022
GLOBAL
HEALTH
GRANTS

Applications due 1.24.2022

The UW-Madison Global Health Institute (GHI) is pleased to announce the application period is open for its 2022 grants and awards program. GHI grant awards range from \$1,500 to \$20,000 and are designed to support global health efforts of faculty, staff, clinicians, and graduate students across campus, fostering a spirit of collaboration with local and global colleagues and communities. The application deadline is January 24, 2022. Learn more about eligibility and how to apply, along with past grant awardees, [here](#).



Left: Lebowitz outside Memorial Union Terrace. Photo credit: John Zwick
 A white bark pine overlooking Lower Grinnell Lake at Glacier National Park. Photo credit: Ben Lebowitz

Undergrad finds framework for change through economics and environmental studies

By Rachel Carrier

When Nelson Institute undergraduate student Ben Lebowitz arrived at the University of Wisconsin-Madison four years ago, he had one goal in mind; to help the environment. Although the landscape of how he aims to do that has changed with time, Lebowitz's passion for changing the course of our environmental future hasn't wavered.

Lebowitz originally sought a degree in environmental engineering, but then switched to environmental science during his freshman year. He eventually landed at the Nelson Institute for Environmental Studies and College of Agriculture and Life Science where he is working towards his degree in agriculture and applied economics. Lebowitz has flourished in his respective programs.

Although he didn't intend on studying economics in such depth, his combination of majors gives him a framework to contribute to environmental change.

"I didn't see economics as very powerful or moving by itself, but this combination works really well for me," Lebowitz said. "I see economics as a framework to view the world in, whereas environmental studies shows us where we want the world to be."

A natural outdoor-enthusiast, Lebowitz has a strong passion and respect for land and the environment. His passion stems from his interests in the teachings of Aldo Leopold, environmentalist, conservationist, and author of the famous *A Sand County Almanac*. Leopold was the first professor of wildlife management at the University of Wisconsin in 1924, and his teachings are echoed at the school to this day.

"I see economics as a framework to view the world in, whereas environmental studies shows us where we want the world to be."

- Ben Lebowitz

Moved by Leopold's messages of taking care of the earth and strengthening the relationship between land and its people, Lebowitz has made an effort to inform others of Leopold's ideas. This fall, he returned to speak at an event

for GreenHouse, a freshman living and learning community dedicated to environmental issues.

Stan Temple, professor emeritus, forest and wildlife ecology, College of Agricultural and Life Sciences, environmental studies, Nelson Institute of Environmental Studies and senior fellow at the Leopold foundation gives a talk to the group each year echoing Leopold's messages of land ethic and ecocentrism. GreenHouse asked alumni of the group to speak as panelists this year, and Lebowitz jumped at the opportunity. He co-taught the lecture this year with Professor Temple.

"I'm excited to show them someone their age that cares so much about this work and show them it's not just old and dated concepts." Lebowitz said, speaking before the event. "I think it's awesome that I get to keep moving Aldo Leopold's message forward and to get to do it with a community I was a part of is the best way to start out."

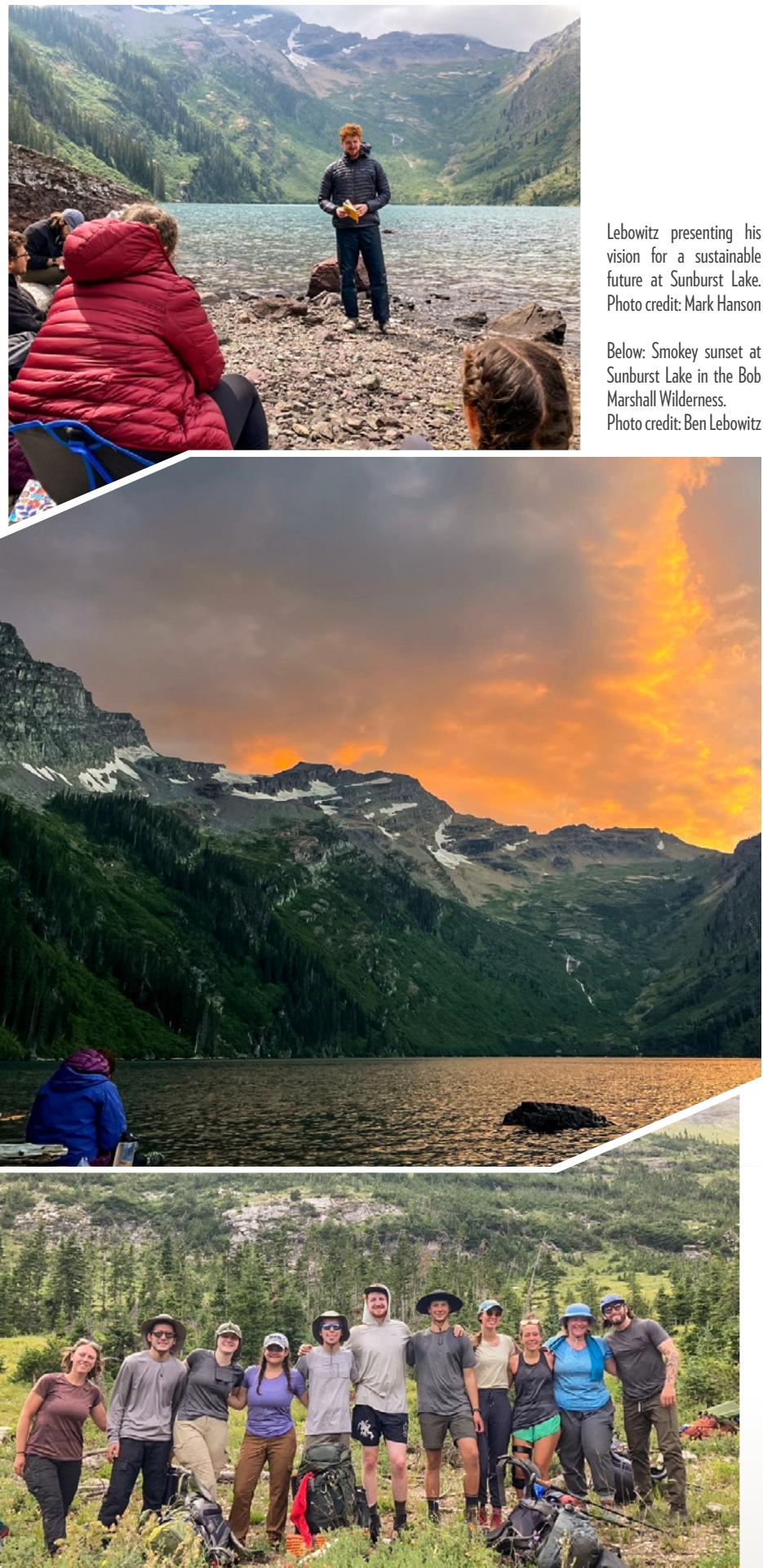
Although he is unsure of where his post-graduate work will take him, he is comfortable in the uncertainty.

"If there's anything we can take away from the pandemic it's that we never know what to expect, not even what comes for the next day," he said.

"I want to be passing knowledge to people. I don't know what level that will be at but spreading knowledge that's important for the betterment of our tomorrow is what's important to me."

Learn more about the [Environmental Studies major](#) and how you can [support the program](#).

Class photo from Environmental Ethics with Wild Rockies Field Institute. Photo credit: Mark Hanson



Lebowitz presenting his vision for a sustainable future at Sunburst Lake. Photo credit: Mark Hanson

Below: Smokey sunset at Sunburst Lake in the Bob Marshall Wilderness. Photo credit: Ben Lebowitz

Nelson Institute launches

The Global Ark Project

thanks to a gift from Kathy and Bjorn Borgen

By Bekah McBride

The Nelson Institute for Environmental Studies is pleased to announce the launch of the Global Ark Project Fund, thanks to the generous support of Kathy and Bjorn Borgen. Their \$100,000 gift will serve as the seed funding for the Global Ark Project which will seek to reverse the tide of mass species extinction by diversifying the field of environmental studies, providing leadership training, and supporting conservation and restoration science activities.

The Borgen family are longtime supporters of conservation efforts and along with the Nelson Institute, invite those interested to contribute to the Global Ark Project through a matching gift opportunity.

I've been involved in the ecojustice movement, but it's human based and humans can speak for themselves. We need to speak for the systems and those that can't speak.

– Kathy Borgen

Led by Nelson Institute Dean, Paul Robbins, the Global Ark Project was created in response to the 2019 United Nations report that one million species are nearing immediate extinction. The project will be a multipronged approach to solving this issue and more of today's most pressing environmental challenges.

"Given that a million species are on the brink of extinction and one third of all bird life in North America has vanished since 1970, investments into the future of conservation, preservation, and habitat restoration are critical," Robbins said. "That's why we created the Global Ark Project initiative. Kathy's investment in this effort is critical for the next generation of environmental leadership."

The Global Ark Project will include a full state effort to biobank Wisconsin's genetic diversity, new projects on urban food and environment through the Nelson Institute

Office of Environmental Justice, workshops, and collaboration with scientists from around the globe, and the continued recruitment of highly diverse conservation professional students who will be key to solving these challenges.

"The Nelson Institute really has captured my attention because the University of Wisconsin-Madison is an outstanding university with outstanding scholarship and people," said Kathy Borgen. "With that in mind when I'm funding, I look at projects from a position of trust and to the integrity in the people who are conducting the research. I'm willing to trust their judgment of what needs to be done and is critical to the project's outcome. When Paul states a goal, I figure the research is impeccable and the effort expended is efficient and is reachable. He's shared his goals for the Global Ark Project, and I agree with them as they are broad; encom-



Paul Robbins, Dean, Nelson Institute, Kathy and Bjorn Borgen. Photo credit: Kevin Berger

passing the molecular level (Biobank), natural habitat level (Wildlife), and human level (EcoJustice), and they all interact.”

Borgen, who has a degree in bacteriology and chemistry from Smith College and a master’s degree in Theology from the Iliff School of Theology, is a director of the Borgen Family Foundation and a member of the Betty Ford Alpine Gardens Board of Trustees. Along with her husband, Borgen has supported conservation and environmental education efforts including board service for Walking Mountains Science Center in Avon, Colorado, Rachel’s Network, which supports women environmental leaders, and the Colorado Chapter of the Nature Conservancy.

“I’ve been involved with environmental education for years and this work with the Nelson Institute is an extension of my interest in environmental education,” Borgen said. “I grew up in the environmental movement carrying with me the intense grief of seeing the destruction happening to the earth. I never thought climate change would be upon us so quickly and that is frightening and deepens the grief. So, I’ve shifted my philanthropic priorities and made my overarching goal to work on addressing climate change. I will not fund, and discourage our foundation, from funding, any organization that does not have a well thought out strategy on how to address it. Then, I assess whether the people running the organization are really doing it. The Nelson Institute goals and mine align, and it makes for a joyful partnership.

One of the key aspects of the Global Ark Project is to invest in student support that will attract and retain talented individuals who live in and around international conservation areas of concern. Borgen, who has been involved in a variety of ecojustice initiatives is pleased to be helping with this goal of building pathways to the UW-Madison for diverse populations. Perhaps just as important for Borgen, however, is the Global Ark Project’s biobank which will provide a safety net for Wisconsin’s diverse flora and fauna.

“I’ve been involved in the ecojustice movement, but it’s human based and most humans can speak for themselves. We need to speak for the systems and those that can’t speak,” Borgen said of her interest in the biobank. “I remember Gaylord Nelson and I remember how active he was in the early years of the environmental movement. And I frequently still quote him when I talk to people about the environment. The one thing I think he encapsulated for a lot of people is his statement “The economy is a wholly owned subsidiary of the environment.” I use that quote often with people who may be oblivious to what their economic prosperity rests on. It tickles me to see the surprise on their faces, and then their dawning agreement.

Borgen hopes that this gift will further the movement that Nelson started and the work that Borgen and her family have contributed to over the years. She said she is proud to support science and encourages others to give their time, talents, and when possible, financial support to projects like this that further our knowledge while improving the world.

“People in science are doing sacred work,” Borgen said. “They are looking to discover how we as humans and the rest of the world interact, and that’s beautiful. Every time we find more information, we put that piece into that infinite mosaic that is the universe. One thing that we can do is support that goal and work in areas we feel we have the most to give, not necessarily with



The Borgen family is proud to support the “outstanding scholarship and people” at the Nelson Institute and UW-Madison. Photo credit: Kathy Borgen

money, but just where you can be most helpful.

Those interested in learning more about or donating to the Global Ark Project should contact [Dan Fallon](#), Senior Director of Development, Nelson Institute for Environmental Studies.

—Support— NELSON

Interested in supporting the Nelson Institute? There are many ways to contribute to the Nelson Institute – participating in our events, mentoring our students, providing connections to your personal networks, and making financial gifts. All of these are necessary and important to us and we invite you to invest in our community in the way that makes the most sense to you. [Learn more about all of the great academic programs, research centers, and public programs we offer.](#)

Gifts in any amount are needed and appreciated!

Jim Rink joins the Nelson Institute Board of Visitors

By Bekah McBride

Creating partnerships between the Nelson Institute and businesses is just one of the many things that community leader and business consultant Jim Rink hopes to do as a new member of the [Nelson Institute Board of Visitors](#).

A graduate of the University of Wisconsin-Madison College of Engineering, Rink says he is a Badger at heart and has always wanted to find a way to give back to his alma mater.

While Rink spent much of his career working in manufacturing and business management, he says his interest in the environment has grown and he is honored to have this opportunity to work with UW-Madison while also using his skills to contribute to environmental efforts.

"I'm a Badger, I'm a Wisconsin grad," Rink said. "I always felt I wanted to give back

and my passion as I've retired and work in my second-half career, is toward environmental issues."

Rink says he has been interested in the environment ever since he attended the first Earth Day when he was a child. He noted that Wisconsin, and Madison in particular, have a strong connection to the environmental movement and that this deeply impacted his own relationship with nature.

"I worked for Caterpillar and moved between manufacturing operations and advanced technology leadership. Large factories are like a small community," Rink said. "You have wastewater treatment plants, power plants, water systems, and significant impact on the surrounding community. Through my involvement in various plants, I become very sensitive to being a good steward of the environment."

Rink, who now runs a business consulting and executive coaching organization called Integris 360 Leadership (i360L), says he often thinks about the ways that businesses impact the environment and how more engagement between businesses and environmental professionals could have a positive impact on the planet. So, he connected with Nelson Institute Dean Paul Robbins through

the University of Wisconsin Foundation. Dean Robbins shared his vision for the Nelson Institute, which included a desire to better connect with businesses. As a business consultant and executive coach, Rink felt he could help the Nelson Institute faculty, staff, and students in this area.

"When I was talking to Paul, we discussed the strong relationship Nelson Institute has with NGOs, and his desire to grow similar relationships with businesses. There is a place for partnership with the business world and I was excited by that thought and I wanted to help build those bridges," Rink shared. "A gift I have is being a connector. I'm a connector of ideas and people – ideas to people, people to people, and there are so many opportunities for the Nelson Institute. The more I get to know the Nelson Institute, the more I see the profound impact the Nelson Institute can have. Of course, it already does in the NGO world, but the Nelson Institute could also have a stronger impact in the business world and the Wisconsin business community."

"I always felt like I wanted to give back and my passion as I've retired and work in my second career, is toward environmental issues."

- Jim Rink

Following his discussion with Robbins, Rink joined the [Nelson Institute Board of Visitors](#), which advises and assists Robbins in accomplishing the institute's mission and vision. As a part of his new role, Rink joined a subcommittee working to connect the Nelson Institute and the business world.

"My subcommittee is working on ideas to partner closer with businesses and to raise awareness," Rink said. "The Nelson Institute has great partnership opportunities, and we continue to meet as a subcommittee, discussing opportunities for outreach, where we can engage with businesses, and how the business world needs people with a deeper environmental sense who can create and execute policy, influence strategy, and change the world."



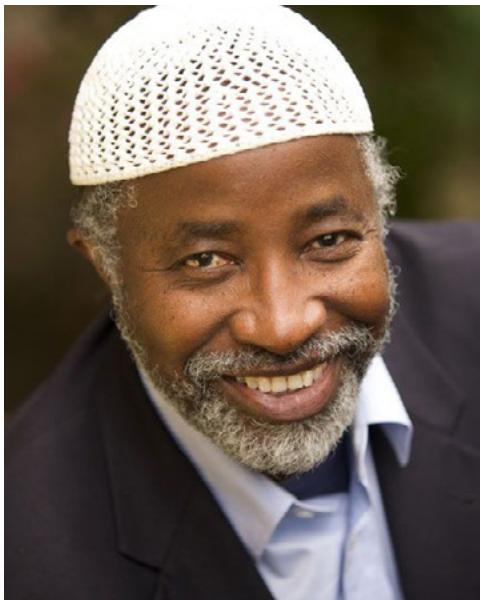
Jim Rink



Winter Commencement Celebration

The Nelson Institute invites you to join us in a virtual celebration of the Nelson students who will be receiving their degrees this December! We are asking alumni and friends to join us in supporting these graduates by posting congratulatory remarks to our virtual graduation [discussion board](#) beginning December 16.

Nelson Institute alumnus John Francis featured in the *New York Times*



John Francis

The work of John H. Francis III, a Nelson Institute emeritus Board of Visitor member, alumnus, and [2020 Distinguished Alumni Award winner](#), is featured in the recent *New York Times* article, ["Who gets left out of the 'Great Outdoors' story?"](#)

The article, which discusses diverse individuals who have been a part of or inspired outdoor adventure stories, highlights Francis and the role he has played in moving environmental conservation and human rights forward.

In particular, the author discusses Francis' 22-year journey walking across the United States, which he began in response to an oil spill he witnessed in 1971. Additionally, the

article showcases Francis' time as a National Geographic Society Explorer and Education Fellow and his organization Planetwalk, a non-profit committed to raising environmental consciousness and earth stewardship.

In addition to a discussion of Francis' work, the article also notes his successful completion of a PhD at the Nelson Institute, which took place during a 17-year vow of silence he conducted to protest the destruction of the planet.

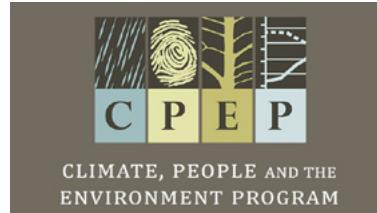
We invite you to stay connected by updating your contact information by joining [Badger Bridge](#) or making simple updates [here](#).

Video library of past lectures is available on demand

If you missed a Nelson Institute hosted event or lecture this fall, you can view recordings in our new [video library](#).

The [Weston Roundtable Series](#) is designed to promote a robust understanding of sustainability science, engineering, and policy. Past lecture recordings are available [here](#).

Each semester the [Climate, People, and the Environment Program](#) (CPEP) hosts a weekly seminar featuring lectures by visiting speakers as well as presentations by CPEP faculty, scientists, and students. Past lecture recordings are available [here](#).



Please join us in congratulating Professor Monica White! (front row, red blazer)

Monica is the first African American to earn tenure in the Nelson Institute for Environmental Studies. Her work on environmental justice, food justice, and Black farmers is inspirational and world-renowned.

She is the inaugural director of the Nelson Institute's Office of Environmental Justice and [recently named](#) the Gaylord Nelson Distinguished Chair in Integrated Environmental Studies.

Monica is featured with students and teaching staff associated with the Nelson Institute's Community Environmental Scholars Program (CESP) - a transformative, cohort-based program for historically underrepresented students that she also directs.

Learn more about Monica and the Office of Environmental Justice [here](#).



Join us

in celebrating the Nelson Institute year-round by [purchasing branded merchandise](#), shirts, sweatshirts, jackets, bags, and more.



Feedback or questions about *The Commons*, please email: communications@nelson.wisc.edu