

FOCUS

THE MAGAZINE OF THE OSU COLLEGE OF FORESTRY

RESILIENCE

Adapting to new realities and
creating communities that thrive.

SPRING 2021



Oregon State
University



RESILIENCE • SPRING 2021

Natural disturbances and disasters have a long history of presenting opportunities for society to learn, adapt and thrive. The varied impacts, disasters and challenges of the last year have proven the need for society to be resilient, learn and adapt to new realities. Whether dealing with the COVID-19 pandemic or wildfires, the past year has forced us to overcome and look at new ways to live and work.

But what does it mean to be resilient? From forest landscapes to mass timber design, from communities to the individual, resilience exhibits itself in different ways across the College of Forestry. As a research, education, and outreach leader, we work every day to support healthier forests,

resilient ecosystems, and innovative products to benefit people throughout Oregon and worldwide.

This edition of *Focus* highlights stories of resilience.

Resilience, hard to quantify and often couched in conceptual definitions, moves towards an empirical definition with **Kreg Lindberg's** research.

Across landscapes, from the forest to the coast, researchers like **Ben Leshchinsky** and graduate student **Nick Mathews** evaluate landslide risk and the likelihood of an event to protect infrastructure, increase the resilience of local communities and ensure emergency responders

can navigate and react in case of a disaster.

Arijit Sinha, Andre Barbosa, and **Barbara Simpson** lead a multi-disciplinary research team to test next-generation seismic force-resisting systems, otherwise known as innovative lateral systems, within mass timber buildings. These systems improve a building's performance, safety and resilience during an earthquake and minimize the time buildings are out of service after large earthquakes.

More than a billion people, many of them the world's poorest, rely on forests and trees for their livelihoods. About a third of the world's remaining intact forest

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Focus is published by the Oregon State College of Forestry. Our goal is to keep our alumni, friends, faculty, staff and students informed about the college and its many events, activities and programs.

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landscapes are on Indigenous lands. **Reem Hajjar's** research examines how to support and create resilient, equitable forest-dependent communities and sustainable ecosystems.

Members of our college community, **Zowie DeLeon** and **Paul Oyier**, share their hopes for the future and their stories of resilience in the face of adversity.

One theme of resilience is about continuously bouncing back. I want to recognize what a challenging year it has been for many members of our College of Forestry community. I also want to emphasize my commitment to cultivating a community that will continue to thrive.

One way we do that is by supporting each other. Staying connected while we adapt and pursue the college's mission will enable us to reduce risks and improve ecological, economic and human health and well-being.

I encourage you to stay connected and continue to work with us as we seek approaches to a more resilient future for ourselves, our forest landscapes and our local and global communities.

Sincerely,

Tom DeLuca
Cheryl Ramberg-Ford and Allyn C. Ford Dean
Oregon State College of Forestry

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DESIGNED FOR RESILIENCE

MASS TIMBER BUILDINGS CAN WITHSTAND EARTHQUAKES

As the mass timber industry grows, a new generation of buildings has arrived. These multi-story buildings made of mass timber panels such as mass plywood panels (MPP) and cross-laminated timber (CLT) are designed to be resilient, withstand earthquakes, and offer a sustainable alternative to materials typically used for the construction of buildings in seismic zones.

But how do engineers know that massive timber structures can withstand an earthquake?

A multi-disciplinary research team, led by College of Forestry associate professor of renewable materials **Arijit Sinha** and associate professor **Andre Barbosa** and assistant professor **Barbara Simpson** of the College of Engineering are working together to answer that question. They are testing next-generation seismic force-resisting systems, otherwise known as innovative lateral systems, in multi-story mass timber buildings. These systems improve a building's performance, safety and resilience during an earthquake and minimize the time buildings are out of service after large earthquakes.

"As structural engineers, we've traditionally designed buildings to save lives and prevent collapse," Simpson says. "But that doesn't

mean your building is not going to be damaged."

Imagine, says Simpson, if you are Facebook or Google and housing all your servers in your building.

"The first thing you want after a disaster is for that building to have immediate occupancy," Simpson says.

When buildings can withstand seismic events and minimize damage, a company can immediately restart work, reducing direct and indirect economic loss, downtime and repair costs. If society applies these kinds of seismic systems on an urban scale, entire cities can experience the same benefits.

To test the innovative mass timber lateral systems, the research team, including Sinha, Barbosa, Simpson, post-doctoral student **Tu Ho** and two graduate students, **Fernando Orozco** and **Gustavo Araujo**, are building a near full-scale, three-story, 4,800-square foot building made of laminated veneer lumber (LVL) and mass plywood panels (MPP) at the A.A. "Red" Emmerson Advanced Wood Products Laboratory.

The systems, says Barbosa, are composed of a vertical gravity force-resisting system that directly supports floor loads and

a lateral force-resisting system that resists horizontal loads, like seismic events and winds. The vertical system is composed of mass timber floors, LVL beams and LVL columns. The lateral system is composed of MPP which acts as a structural elastic spine. When an earthquake strikes, the spine re-distributes the seismic forces across the building's height. Additional components are also included to dissipate energy and enable the building to re-center itself.

During the tests, the structure will be rocked back and forth with varying displacement amplitude to mimic the building's movement in an earthquake. Afterward, researchers will evaluate the structure for damage. The project is the first time a multi-story building entirely composed of veneer-based products, such as LVL and MPP, will be tested.

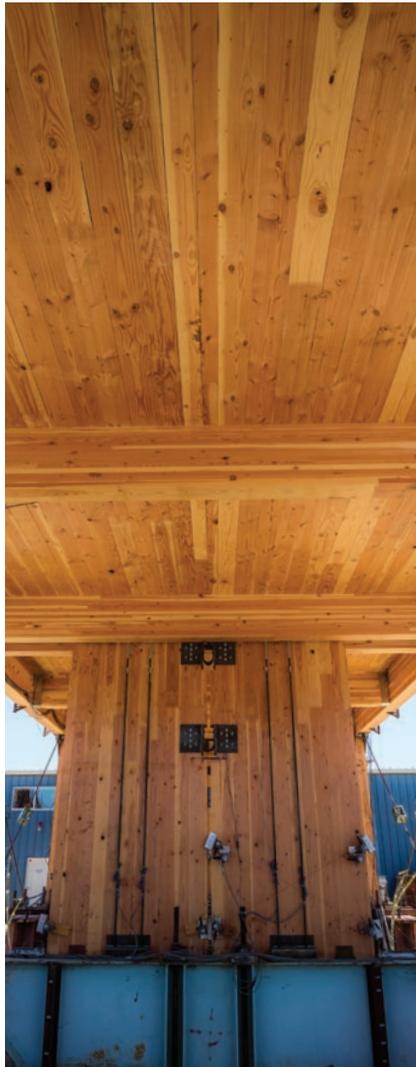
"Mass timber and hybrid systems that include components that dissipate energy are uniquely positioned to foster innovation. Not only do architects like working with wood because it is aesthetically pleasing and has great design flexibility, but wood construction is potentially more sustainable," Simpson says.

Based on the test results, researchers will evaluate and characterize the performance of mass timber lateral systems and provide guidance on efficient design and analysis strategies for wood building construction. An important aspect will be to evaluate the use of veneer-based panel products as the spine material of choice. The research will also produce a better understanding of the LVL beam and column compatibility with mass timber lateral solutions and demonstrate the performance of veneer-based gravity framing and lateral system to the engineering, architecture, and manufacturing community.



Andre Barbosa

This project results from a highly collaborative partnership between the OSU Department of Wood Science and Engineering, the College of Engineering, and industry partners. The research group is working with industry support to make sure the ideas proposed are feasible and will be done in practice. All wood material used in this project is manufactured in Oregon from Oregon fiber, predominantly Douglas-fir. The USDA Agricultural Research Service and TallWood Design Institute are sponsoring this project.



“Industrial support throughout key mass timber players in Oregon and neighboring states has been tremendous in terms of help with design and reviewing, material procurement, fastener and connections, and acting as a sounding board for the team,” Sinha says. ●



Photography by Erik Jepsen.



Arijit Sinha

Researchers study community resilience to improve understanding and prediction, as well as to enhance resilience in communities facing natural hazards, economic disruption and other challenges.

However, says Kreg Lindberg, associate professor of tourism, recreation and adventure leadership at OSU Cascades, much of the research literature covering resilience remains conceptual and difficult for communities to use. Lindberg’s goal is to change that. He wants to empirically evaluate resilience and the factors that contribute to it.

“There are significant challenges in doing so, and one often relies on subjective or indirect measures,” Lindberg says. “But improved empirical evaluation is fundamental to understanding issues such as how to enhance resilience and the degree of resilience generalizability. For example, if a community is resilient concerning natural hazard X, is it also likely to be resilient for natural hazard Y or economic challenge Z?”

Lindberg has recently completed two research projects involving community resilience.

On the Oregon coast, Lindberg and his team implemented a general population survey to assess community resilience perceptions across types of challenges, like natural disasters and economic disruption.

In the process of identifying a scale to assess perceived resilience, Lindberg noticed that the scales used in previous studies mixed indicators of resilience with the factors that might affect resilience. For example, a scale might include level of agreement with the statement “the residents of my town will continue to receive municipal services during an emergency situation” and with the statement: “my community has effective leaders.”

The first statement is a good indicator of a community’s resilience – how it will thrive in the face of challenges,

MEASURING COMMUNITY RESILIENCE



LINDBERG



such as natural hazards. The second statement reflects a factor that might enhance resilience, rather than reflecting resilience itself. To statistically evaluate how effective leadership contributes to resilience, leadership-oriented statements should be excluded from the resilience scale. By doing so, research will better inform “real world” priorities and decisions, such as whether to invest in leadership effectiveness as a means to enhance resilience.

Lindberg also conducted community resilience research in Norway. Lindberg and his Norwegian colleagues surveyed nature-based tourism firms and conducted in-depth interviews to

evaluate the potential for nature-based tourism to contribute to the resilience of destination communities. They identified mechanisms for ecological, economic and social contributions and worked to understand the firms’ involvement. For example, they recorded the level of employment these firms provided and associated contribution to local economic diversification. They also asked about each firm’s business networks and broader social networks in destination communities.

Assessment of community resilience is complicated, especially when the focus is the contribution of a specific sector,

such as nature-based tourism. Tourism is not a “silver bullet” for community resilience, but the analysis highlighted how nature-based tourism potentially contributes to communities beyond a traditional focus on employment generation. It was also a first step in collecting empirical evidence.

“Some aspects of resilience are technical and infrastructural in nature, such as the ability to restore utility services after a natural disaster,” Lindberg says. “My interest is in the broader aspects of communities thriving in the face of change. My research focuses on a better understanding of what contributes to that success.” ●



DURABLE WOOD FOR A STRONGER FUTURE

When the Oregon State University (OSU) College of Forestry had to fill the knowledge gap created by the departure of emeritus professor **Jeff Morrell**, it turned to **Gerald Presley**, who joined the college in 2019 after earning his PhD at the University of Minnesota and completing postdoctoral research at Oak Ridge Laboratory.

“The opportunity at Oak Ridge gave me a chance to work in a new field, bacterial genetics, where I worked on a project aimed at making value-added chemicals from biomass. At Minnesota, my work focused on the biology of wood decay,” says Presley, assistant professor of forest-based bioproducts. “OSU has been a leader in wood durability research for years and I plan to continue that program now that I am in a position here.”

Since joining the college, Presley finds himself performing a wide variety of research, the bulk of which is related to his role as leader of the Utility Pole Research Cooperative and the Environmental Performance of Treated Wood Research Cooperative.

“The Utility Pole Research Cooperative focuses on research to improve the durability of utility poles,” Presley says. “Many of the studies we perform are designed to compare



PRESLEY



different treatments that can be done to utility poles to extend their service life and improve their resilience.

This research, Presley says, can benefit the treated wood industry and utilities by improving the durability of commodities produced and used by these industries. It helps make wood products more competitive with carbon-intensive alternatives such as steel, which is important in the overall effort to reduce carbon emissions across all sectors.

The Environmental Performance of Treated Wood Cooperative studies how preservative chemicals leach out of treated wood. The cooperative also looks at ways to prevent leaching into the environment and provides outreach to the broader public. Data collected from this research is used to model the impacts of treated wood on the environment which helps builders determine whether treated wood structures are appropriate for a specific environment.

“The cooperative has performed extensive validation efforts for treated wood best management practices, which are voluntary procedures for manufacturers that can reduce leaching from treated wood products,” Presley says. “We

also are embarking on a significant research effort to measure the impact of treated wood used in agriculture and are developing an accelerated leaching and migration test to look at preservative movement from different types of treated wood with different types of water exposure.”

The research the cooperative pursues improves our understanding of these wood products’ environmental dynamics. The work provides insight into the pathways treated wood interacts with in the environment. The efforts can inform mitigation efforts that will improve products and reduce impacts to the environment.

The Creosote Council and several wood-preserving industry partners gave OSU a gift to study the environmental pathways of creosote-treated wood in recognition of Presley’s research capabilities and publication efforts.

The widely used wood preservative is used to preserve critical wood infrastructures such as utility poles, railroad ties, and marine pilings. It has a long history of practical use and is the oldest wood preservative originating from the industrial age.

This gift will fund a master’s student, **Skyler Foster**, for two

years and support a mixture of lab-based and field research studying the migration of polyaromatic hydrocarbons from creosote-treated wood with an intent to quantify the environmental impacts.

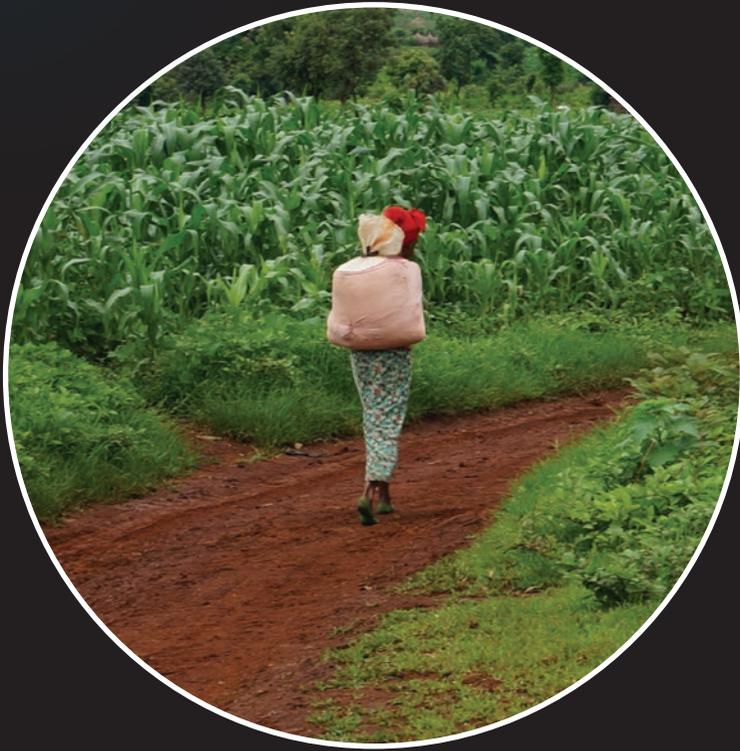
“This generous gift will allow us to perform research that will improve our understanding of how creosote treated wood impacts the environment,” Presley says. “We all rely on creosote-treated wood in some capacity, whether it be for the delivery of goods by rail or pilings that support a pier. Knowing the impacts of these commodities on the environment is essential for ensuring their continued use.”

Moving forward, there are many questions on the horizon the research cooperative will address.

“Opportunities will develop in the utility pole market due to the looming loss of pentachlorophenol (penta) as a utility pole treatment and our cooperatives will play an important role in assessing the viability of alternatives for western utilities,” Presley says. “These changes will come with questions about the environmental impacts of penta substitution, something we will continue to investigate as these changes unfold.” ●



Policies and practices that respect local rights and values are needed to create resilient and equitable forest-dependent communities and sustainable ecosystems in low and middle-income countries.



ENHANCING RESILIENCE

BY EMPOWERING LOCAL COMMUNITIES

More than a billion people, many of them the world's poorest, rely on forests and trees for their livelihoods. About a third of the world's remaining intact forest landscapes are on Indigenous lands.

Assistant professor **Reem Hajjar's** research examines how to support and create resilient, equitable forest-dependent communities and sustainable ecosystems.

"Particularly on Indigenous lands and lands that have been managed by local communities for generations, figuring out how we can best devise policies, practices, and interventions that respect local rights and values is crucial. Our goal should be to provide opportunities that support and empower local visions of development while also sustainably managing forests and conserving forest ecosystems that provide us all with critical services," Hajjar says.

Hajjar's research is at the nexus of conservation and development.

"I ask questions like, which mechanisms are best suited to ensure that we can use forests as sustainable pathways out of poverty and towards broader prosperity and a more resilient future? What are the livelihood and landscape impacts of various environmental policies, and how might that change related to who manages the forest? How do

power dynamics affect governance mechanisms and equity in outcomes?"

Her research primarily focuses on low- and middle-income countries, but she's starting to apply some of these questions in the western United States.

In 2020, Hajjar was a contributing member of the Global Forest Expert Panel (GFEP) on Forests and Poverty, organized by the International Union of Forestry Research Organizations (IUFRO). The panel synthesized existing knowledge related to forests, trees and eradicating poverty, producing the Forests and Poverty Global Assessment.

"The assessment comprehensively pulls together research on forest-poverty dynamics and the contextual factors that shape them, the tools we have for alleviating poverty, and how we see these dynamics being affected by global forces of change," Hajjar says.

Hajjar served as coordinating lead author for a chapter within the assessment that identified all the forest-related "levers," like policies, programs and interventions, that could conceivably alleviate poverty. She led a team of authors that then evaluated the available evidence for the effect that each lever has on reducing poverty.

"Essentially, this chapter asks, what has worked to alleviate poverty in

forests and tree-based systems? How strong is the evidence for that?" Hajjar explains.

Hajjar says the potential impact of the assessment is substantial. It synthesizes the current understanding of how forests and tree-based systems can contribute to poverty eradication – the first of the United Nations' sustainable development goals (SDG1). The work also uncovers knowledge gaps where more research is needed and includes several policy recommendations to help inform decision-makers as they navigate potential synergies and trade-offs concerning forests and poverty alleviation.

"IUFRO uses these kinds of reports to get information to policy-makers," Hajjar says. "Before COVID-19, this report was supposed to be presented at the 2020 UN General Assembly. That didn't happen, but IUFRO has set up several webinars and created shorter 'implications for policy-makers' documents to ensure that the information gets into the right hands."

Hajjar says it's necessary to figure out what just governance of natural resources looks like so that forests can help to alleviate poverty in an equitable way and support community resilience. "Moving forward, just outcomes need to be a part of how we define sustainability in social-ecological systems." ●



DETERMINING LANDSLIDE RISK TO PLAN + PROTECT

Landslides are a global hazard that take the lives of over ten thousand people a year and dramatically reshape our landscapes.

“The loss of lives is the most tragic consequence,” says **Ben Leshchinsky**, Richardson Chair in Forestry and associate professor of geotechnical engineering. “More often, however, the impact of landslides is economic and related to the costs of repairs or mitigation or moving people as well as impacts to emergency access.”

Leshchinsky studies various topics relating to geotechnical engineering, with a primary emphasis on landslides, slope stability, reinforced soil, and applying remote sensing techniques to assess geohazards.

Leshchinsky does some of his work in partnership with the Oregon Department of Transportation.

“They have lots of concerns about accessibility and emergency response, particularly following a big earthquake, rainstorm or change in climate,” Leshchinsky says.

When most people think of a landslide, they think of a sudden, abrupt failure and slope or hillside collapse. While those types of landslides exist, some landslides move more like a glacier than an avalanche.

“We do quite a bit of work monitoring slow-moving failures,” Leshchinsky says. “Understanding if there’s a pattern to their movement, like when they will move, how they will move, and how it might impact infrastructure. We also work to understand the risk or likelihood of an event.”

Determining the risk is key to planning and protecting communities and infrastructure. To support that effort, Leshchinsky and colleagues developed an approach to take landslide inventories, analyze their failure mechanism, understand their mechanical properties and use this data for regional-scale landslide hazard, susceptibility and risk assessment. These tools advance how we can use landslide databases to predict landslide hazards, which is essential to planners, engineers and scientists.

“The problem we were seeing before creating our tools is that people develop these databases that were missing key pieces of information,” Leshchinsky says. “I could, for example, see trends and other data in the database, but was missing information like how to mitigate landslide impacts, or how to evaluate how likely it is that a slope will fail.”

Leshchinsky is working with PhD student **Nick Mathews** to generate different potential landslide scenarios, like earthquakes or significant storm events, in the Oregon Coast Range to evaluate the susceptibility and vulnerability of infrastructure to damage or closures from landslides.

“One of the things I do is take inventories of landslides and back out information like shape, volume and strength to determine how slopes might fail,” Mathews says. “I also ask questions like does this location have ‘weak’ geology or ‘strong’ geology? I use those numbers to evaluate, in terms of forecast and predictive measures, to help determine what will fail next.”

“Documenting past slope failures gives us an idea of what will happen in the future,” Leshchinsky says.

Leshchinsky says we often associate landslides with human activities. While those can speed up or accelerate landslide activity, the fact is wherever there is a slope, there has likely been a landslide at some point in the past.

“These are natural processes connected to the environment, and they are the reasons our mountains, valleys and sea cliffs are the shape they are,” Leshchinsky says. “Landslides are the source of sediment and gravel that fish love to spawn in. They are one of the disturbances that work to produce a classic old-growth forest with a patchwork of vegetation and different types of trees.”

Landslides serve a role in our environment that’s not fully understood or appreciated. Leshchinsky says that while we know the basics of what drives landslides, there is incredible uncertainty in trying to predict where and when they will occur in the future.

“I tell my students that people say space is the final frontier. I don’t see it this way,” Leshchinsky says. “Down beneath our feet is the final frontier, and geological conditions we don’t know or can’t see often drive these landslides. Being able to take data from the surface and convert it to something meaningful from a perspective of understanding how things work is valuable worldwide.” ●



LESHCHINSKY



Maintenance of US 101 near Moolack Beach and repairs to an active landslide south of Otter Rock. Photography courtesy of ODOT.

STUDENT PROFILE

ZOWIE DeLEON



For **Zowie Blue DeLeon**, an undergraduate student majoring in natural resource management, resilience means having the mental, emotional and physical elasticity to see beyond the single experience of suffering.

“Bigger picture, things may be hard now, but they won’t be forever,” DeLeon says. “That perspective can provide strength during hard times.”

DeLeon, who uses both they and her pronouns, encountered many situations while growing up which required inner strength. However, at the time, they didn’t necessarily see themselves as being “resilient.”

“I grew up in a toxic environment, left home when I was sixteen. I had to grow up fast and learn a lot through trial and error. I am the first to break many cycles in my family and a first-generation college student. I’ve experienced estrangement, loss, death, being a caregiver, feeling alone and that if I failed, no one would be there to help me.”

DeLeon admits that when she was younger, they believed resilience was forged by putting up walls and being tough to make themselves feel safe. DeLeon doesn’t feel that way anymore.

“Over time, I have learned that resilience is moving through difficult or uncomfortable experiences with fluidity, softness and empathy,” DeLeon says.

Though outdoor recreation was not central to DeLeon’s childhood in the southeast, they were always outside and interested in plants, trees and bugs. After DeLeon moved to Corvallis, a friend who attended OSU inspired DeLeon to begin college, and at the age of 21, they joined the OSU community to study biology.

“As a first-generation college student, attending university was a big deal for me,” DeLeon says.

After working a season in an Alaskan fishery, DeLeon realized they wanted to pursue a career in natural resources with a specialization in fish and wildlife conservation. DeLeon is seeking an additional degree in anthropology and is interested in traditional ecological knowledge and Indigenous stewardship.

DeLeon received multiple scholarships from OSU and the College of Forestry.

“These scholarships allowed me to work less and focus more on my education as well as my personal and professional development. Because of the financial assistance, I can participate in fellowships, clubs, research, volunteer work and invest in myself.”

These opportunities outside of class helped them zero in on their focus, and DeLeon advises incoming students to seize every opportunity they can.

“Exploring is how I developed my sense of direction. I took a few classes just for fun, like pottery and yoga, attended free lectures, joined clubs, went to socials,

and found out wherever there was free food. These experiences are some of my favorite memories on campus and led me to new friendships and interests.”

DeLeon worked as a student employee in the Dean’s Office and was recognized and awarded for her outstanding contributions. Nominators noted that DeLeon approached her work with thoughtfulness and dedication and was a leader to her office mates.

DeLeon plans to graduate in the spring of 2022 and hopes to find a job with an agency or enroll in grad school. DeLeon’s dream job or graduate program would focus on ethnoecology or the intersection of Indigenous stewardship with aquatic ecology and fisheries.

DeLeon thinks that cultivating resilience requires both humility and vulnerability.

“The ability to communicate ‘I have no clue what I am doing’ and the ability to ask for help to find direction and solutions can help with navigating hard times,” DeLeon says. “Dropping your guard and your ego can help you gain the support you need to persist and find solutions during difficult times.” ●

To learn more about Oregon State University and OSU College of Forestry scholarships, visit:

forestry.oregonstate.edu

STUDENT PROFILE

PAUL OYIER



Growing up in Kenya, **Paul Oyier**, who is pursuing a PhD in sustainable forest management, quickly understood the importance education could play in his life. Born into a family where neither of his parents knew how to read nor write, Oyier did not have access to the opportunities or academic support afforded to others.

However, inspired by his uncle, who went to school and created a better, more secure life for himself, Oyier turned to education. He is where he is today because of his teachers.

“When teachers realize they have a good student, they feel they can’t let this person go,” Oyier says. “It’s the encouragement from those teachers that propelled me to my success.”

Oyier is grateful for his teachers and still maintains a connection with them.

“I appreciate the teachers who stood with me and encouraged me. Whenever I see them, I tell them that they are a part of my success.”

Oyier received his undergraduate degree from Moi University in Kenya in Wood Science and Technology. Afterward, he worked at an industrial wood products manufacturing company and became interested in timber harvesting operations because of their contribution to production activities in the factory.

“When you’re on a production line, your main objective is that the line doesn’t stop and that you produce as much as you can,” Oyier says. “If something in the

production process stalls, like supplies or materials, production becomes intermittent and people get laid off.”

Oyier was interested in creating production planning and control systems to ensure that material supplies were consistent to meet customer demands. This interest led him to pursue a master’s of forestry science with a focus on forest harvesting operations at the University of Canterbury, courtesy of the New Zealand Development Scholarship. After completing his degree, he was employed as a teaching assistant in Maasai Mara University, Kenya where he taught forestry harvesting and management before he came to OSU.

Oyier says he wanted to come to OSU because of its academic and research reputation. He is particularly grateful for his major professor, **Kevin Lyons**, the Wes Lematta Professor of Forest Engineering and the mechanized harvesting laboratory director who made it possible for Oyier to come to OSU through graduate assistantship.

“Lyons has been keen on ensuring that I master the requisite knowledge and analytical skills in forest engineering and operations,” Oyier says. “I lacked subject mastery in these areas, and he has devoted extra time over the last two years to teach me the needed skills in forest engineering and operations, and has never given up on me. It shows how committed College professors will go to ensure that their students succeed. I appreciate him for this effort.”

The pair are working together to study

how harvest machine simulators can be incorporated in training forest engineers, foresters and allied scientists.

Training forest harvesting professionals to make better harvesting planning decisions contributes to a safe, efficient, and economically viable operations in the supply chain’s success and resilience.

Oyier says education has changed his life in many ways, yet it is not easy to be separated from his loved ones in Kenya.

Oyier believes resilience is cultivated from within and says he’s had to make a choice every day where to focus his energy. Instead of focusing his energy on missing his family, he tries to focus on academics so that he will find success and his family will experience success, too.

“Being able to discover what you’re made of, and your ability to navigate through to the end, that is what resilience is all about,” Oyier says.

Oyier plans to graduate in 2021 and aspires to return to Kenya as an educator, researcher or industry expert in forest engineering and operations. The Jake Eaton Scholarship for Short Rotation Forestry and the College of Forestry Fellowship has provided Oyier additional support during his time here.

“My dream is to become a professor and share my knowledge with people,” Oyier says. “I want to experience the satisfaction of having the opportunity to change one’s destiny by giving knowledge. Teachers did that for me, and I want to do that for others.” ●

DONATE TO THE COLLEGE OF FORESTRY DURING DAM PROUD DAY

Once a year, Beavers from around the globe come together for Dam Proud Day, an annual 24-hour online fundraising event dedicated to building a better, stronger, more influential Oregon State University.

Funding gathered during this event directly supports College of Forestry students, who have the highest reliance on self-help loans when paying for tuition and basic needs while at OSU.

During its first Dam Proud Day in 2019, the university raised more than \$600,000 from approximately 2,700 donors, including \$16,410 from over 70 donors to the College of Forestry. These funds helped support transformative educational

experiences, life-changing research, and other vital programs.

This year's Dam Proud Day will be on **April 28th, 2021**. During the event, you will have the ability to give directly to College of Forestry scholarships.

A donation to the College of Forestry will help our students afford a world-renowned education. Your gift will ensure they graduate with the skills and knowledge necessary to improve our forests, ecosystems, and communities.

For more information about Dam Proud Day and how to donate to the College of Forestry, please visit osufoundation.org.

IN MEMORIAM

The Oregon State College of Forestry mourns the loss of these alumni, friends of the college and former faculty. We wish peace and comfort to their family and friends.

Furthermore, we recognize that many people within the college and college community have lost loved ones this past year. We offer sincere condolences to all who are grieving during this time.

Robert Alton Boyd
Class of 1962

Feb. 22, 1939 – June 8, 2020

Robert Ethington
Former Department
Head, Forest Products

Feb. 13, 1932 – Dec. 25, 2020

Susan Noella
Wells Emerson
Friend of the college

May 15, 1954 – July 31, 2020

