

ESE

MAGAZINE

WINTER 2020

For Alumni and Friends
of the SUNY College of
Environmental Science
and Forestry

A Torch Song

Jeffrey Rainforth '97
Brings Lady Liberty
Into New Century

Page 14



PICTURE THIS

Up on the Roof

This stunning bird of paradise bloomed in an ESF greenhouse in December, bringing a touch of the tropics to what is typically the cloudiest month in Syracuse. The flower's scientific name is *Strelitzia reginae*, after Charlotte of Mecklenburg-Strelitz, who was queen of England and Ireland, and wife of King George III. The species is native to South Africa. At ESF, the plant spends the winter in a greenhouse atop Illick Hall but, in the summer, Greenhouse Manager Terry Ettinger moves it outside to the roof to drink up some Central New York sunshine. The College's teaching and research greenhouse complex consists of nine gutter-connected glass greenhouses totaling nearly 7,000 square feet of growing space.

Photo by Wendy P. Osborne





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Cover

An aerial view of Liberty Island during the construction of the Statue of Liberty Museum.

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FROM THE PRESIDENT’S OFFICE



In the last eight years climate change has reduced the Mendenhall Glacier in Alaska by one-third of a mile. Photo taken by David C. Amberg on his trip to Alaska this past summer.

Dear ESF Family and Friends,

It has been a notable six months since the summer edition of ESF Magazine, and I continue to marvel at the achievements of our faculty and students, and the support they receive from our staff.

These combined efforts are behind the rankings and recognitions for the College, including being noted for enrolling and graduating the highest percentage of women engineers in the country, having the ninth-highest four-year graduation rate in the United States, and being named for the fourth year in a row the second “Greenest College” in North America in recognition of our sustainability programs.

Our graduates are coveted by employers in the environmental sector as indicated by the 99 percent placement rate of our graduates from 2018, with 87 percent in jobs directly relating to their fields of study.

We have completed the ESF Discovery Challenge to identify cross-cutting initiatives that leverage our faculty’s strengths, address the pressing environmental concerns of our time, and position the College to continue to lead as the premier environmental college in New York state, the country and world. On page 6 is an article about the initiatives our faculty developed working collaboratively across departments in multi-disciplinary teams. These initiatives are inspirational and timely. To jump-start development of these initiatives, SUNY has committed \$3 million in pilot funding over the next three years to fuel the development of new externally funded research projects, new educational programs, and additional outreach programs with our state and federal partners.

Bias-related events this fall at Syracuse University have us thinking deeply about how to best support our students including eliminating bias on our campus in what feels like an increasingly cruel world. Specifically, how do

we become a more resilient community in support of all members of the ESF family but in particular targeted diverse members of our community?

One aspect of resilience is eliminating food insecurity among our students. One in five college students in this country suffers at some point during their college careers from hunger and food insecurity. Last summer we lost Beth Ann Newkirk, an EFB student, in a house fire in the Westcott neighborhood. Beth had been using the Syracuse University food pantry because ESF did not have one of its own. Working with Beth’s family, the ESF College Foundation and Division of Student Affairs, we have established an ESF food pantry in Beth’s name. You can learn more about this new program and the issues it addresses within these pages.

This issue also includes stories about a new partnership between ESF’s Center for Native Peoples and the Environment headed by Dr. Robin Kimmerer and the Sloan Foundation to fund several new Ph.D. stipends for indigenous scholars, and the work of alumnus Jeffrey Rainforth in restoring and rehabilitating the Statue of Liberty and her environs.

With the pace of climate change and environmental degradation accelerating at a frightening rate, there is no more important institution at this time than the College of Environmental Science and Forestry. This generation of students is intensely focused on tackling the breadth of challenges associated with climate change, and there is no better college than ESF to prepare them to do this. Know that we at ESF stand committed to continuing the development of the leaders and change agents required to address these environmental challenges and develop the research and technical innovation to discover solutions to these pressing issues.

Sincerely,
David C. Amberg, Interim President



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We invite you to check out the online ESF Magazine at www.magazine.esf.edu



A New Future for ESF

By Claire B. Dunn

Consider a future shaped by a new generation of environmental leaders skilled in data science. Envision cities built from wood, broader and more sophisticated approaches to solving environmental health problems, developed landscapes that contribute to a net-zero carbon future, and a wide-ranging effort to restore degraded ecosystems and rebuild humans' relationship with the land.

ESF is addressing each of these issues and expanding its role as a global leader in environmental science with the launch of five new research projects identified through the College's Discovery Challenge.

Set in motion by a directive from SUNY Chancellor Kristina Johnson, the Discovery Challenge established a framework for the ESF community to identify initiatives that will build on ESF's strengths to position it for future success. The Discovery Challenge was conducted to move the College toward growth, enhanced prominence, increased funding streams, new academic/industry/government relationships and global impact.

At the end of a yearlong process, the College selected five project proposals to each receive \$600,000 in SUNY seed funding over three years. ESF also plans to pursue funding support for another eight research proposals that were developed as part of the Discovery Challenge process.

"The ESF Discovery Challenge brought virtually all of our faculty together to think collaboratively and dream about how ESF could position itself in a visionary way to address the significant global challenges resulting from climate change and environmental degradation," said Interim President David C. Amberg. "The 13 resulting initiatives are a testimony to our faculty's creativity, and they position ESF to be a global leader in developing sustainable solutions at the nexus of carbon, water, land and energy well into the future."

Initiative in Environmental Data Science

In the last decade, intensive data collection and processing have become woven into ordinary parts of life. For example, travelers might think nothing of checking traffic congestion on a phone while, behind the scenes, millions of GPS receivers in cell phones are being tracked, processed and instantly fed to web maps. However, this same capacity to collect and process data has not been fully incorporated into the solution of environmental problems.

The research team working on this initiative envisions a sophisticated melding of data with environmental science. ESF's new Initiative in Environmental Data Science will be responsive to emergent data science themes pursued by the National Science Foundation and the National Institutes of Health. The center will foster synergies with the newly formed Center of Excellence in Healthy Water Solutions and coordinate new course offerings, seed grants, graduate student support, campus computing, innovative faculty training and new partnerships with other academic institutions, government and industry. The initiative has already completed the first Environmental Data Science Bootcamp for graduate students at the ESF Adirondack Ecological Center and established two environmental data science Ph.D. fellowships.

"Our goal is to develop a new, specialized form of the broader field of data science and enact it here at ESF," said Dr. Hyatt Green. "Environmental data needs special attention because it is our most helpful tool at mitigating and adapting to climate change; it now comes from a diversity of collection methods, including drones, satellite imagery and hand-recorded measurements, as well as terabytes of microbial sequence data. It can be difficult for traditionally trained

environmental scientists to bring all this data together and make sense of it. We will use this messy data as well as the remarkable environmental science foundation already at ESF as a training ground to give students relevant skills needed to do most any job that requires the generation, manipulation and interpretation of data."

Mass Timber Construction

"We are changing the way that we build. Our future cities will be built from timber," said Dr. Paul Crovella '16, who helps lead this project. "This moves us from combusting and releasing carbon to build our buildings, to capturing and storing carbon in our buildings."

This initiative aims to implement a system that removes barriers, lowers costs and reduces risk for mass timber construction. The project reaches beyond ESF to not only share results, but to implement, demonstrate and educate decision makers about the vast potential of mass timber. The project will bring ESF forest properties to a starring role in transforming the built environment in cities such as New York. The project also includes a digital fabrication lab that would be a hub of exploration for innovation in developing new cross-disciplinary applications in materials science, manufacturing and design.

Crovella and colleague Dr. William Smith '76 said the project highlights the benefits of building with wood: its positive health effects include lower blood pressure, lower heart rate and lower nervous system stress levels; the resource is renewable and sustainable; wood construction is strong and durable; its insulating characteristics mean buildings made from wood require less energy to construct and operate.

Crovella has organized a Mass Timber Construction Symposium for April 2020 in Syracuse that will feature speakers from the United States, Canada and the United Kingdom. The event will be part of the annual New York State Green Building Conference.

Center for Environmental Medicine and Informatics

With a significant portion of human disease influenced by environmental exposures, an improved understanding of these links along with rapid translation of such findings into public health policy and clinical practice is critical. Experts at ESF, SUNY Upstate Medical University and Syracuse University will work together to fill this gap by creating a formal structure for collaboration centered on the application of big data, artificial intelligence, scientific computing and informatics to pressing environmental health problems.

On a national level, Dr. Mary Collins said, leadership is needed in the area of translational research as applied to environmental medicine. Experts at the three Syracuse-area universities are well-positioned to begin filling this gap. Collins said the center's initial research portfolio will include environmental links to cancer and Parkinson's disease; health disparities in morbidity and mortality, and small area variations in environmental quality; and the relationships between environmental stressors, such as toxicants and discrimination, and cardiovascular disease risk.

Pathways to a Net-Zero Carbon Future: Landscape Design for Sustainable Energy and Climate Change Mitigation

To avoid catastrophic climate change, industrialized nations must make rapid and fundamental changes to their energy systems and land use practices in ways that eliminate most greenhouse gas emissions, and offset the remainder through sequestration and storage. Renewable energy and land-based "natural climate solutions" such as forest carbon sequestration are therefore essential to achieving the goal of a "net-zero carbon" future. However, the pathways that lead toward this more sustainable future are largely uncharted, while the real-world landscapes that can allow these pathways — and other societal goals — to be achieved have not yet been conceived.

"We recognize the urgency to act to prevent catastrophic climate change, and although much has been done to set the stage, there has not been enough action," said Dr. Colin Beier, a leading team member.

"But New York's new climate bill can be a game-changer because it demands action. To achieve its ambitious goals, we must design and implement realistic solutions for reducing emissions through clean energy and natural climate solutions. By bringing together ESF's strengths in land stewardship, sustainable energy and landscape architecture, we are seeking practical ways to reimagine and ultimately adapt our current landscapes to not only slow down climate change, but also be resilient to near-term changes we are likely to experience."

ESF Restoration Science Center

This initiative will lead a hands-on transdisciplinary restoration effort to regain ecological function from degraded systems, restore threatened and endangered species, and rebuild our cultural relationships with the land using adaptive methodology and science. ESF students and scientists will work side-by-side with research partners and communities to test, develop and apply novel technologies to deliver ecosystem restoration, incorporating biocultural and food system restoration while drawing strongly on indigenous knowledge and land stewardship practices.

"We're launching a regional to global initiative to restore degraded habitats and species from small wetlands and streams to whole forests, lakes and beyond. We also plan to rebuild how people interact with restoration and restored environments by facilitating healthy biophysical relationships with the environment and the sustainable food the land provides," said the team's Dr. John Farrell '91.

"We want to bring research and teaching closer together in an applied setting," Farrell said. "This will prepare future generations for dealing with the challenges of environmental decline with technology and science solutions while developing strong biocultural and sustainability foundations."

Claire B. Dunn is a freelance science writer in the Syracuse area.

ESF Excels in College Rankings

ESF topped a number of college rankings this past fall, proving the College is a leader in not only teaching sustainability and environmental science, but practicing it as well.

ESF is once again ranked one of the top green colleges by The Princeton Review. The education service company features the college in "The Best 385 Colleges in America: 2020 Edition."

ESF is ranked No. 2 in the Top Green Colleges. It is the only SUNY school in the Top 50 and one of only four colleges in New York state to make this year's list.

The College is also featured in the listing of Best Northeastern Colleges that were chosen for being "academically outstanding." ESF is listed as a Best Value College based on a combination of institutional and student survey data, including academic rigor, affordability and career outcomes for graduates.

For the third year in a row, ESF is ranked among the nation's top "Cool Schools" by Sierra magazine, the national magazine of the Sierra Club. Sierra puts the College at No. 3 among more than 280 schools surveyed.

ESF is the highest-ranked school among all colleges and universities in New York state.

ESF was recognized as a top performer in the 2019 Sustainable Campus Index, achieving high marks in curriculum, public engagement, purchasing and research.

The Sustainable Campus Index, a publication from the Association for the Advancement of Sustainability in Higher Education (AASHE), recognizes top-performing sustainable colleges and universities overall and in 17 impact areas as measured by the Sustainability Tracking, Assessment & Rating System (STARS).

In the Overall Top Performer category for a doctoral-granting institution, which looks at



the highest overall scores among the institutions, ESF is ranked No. 9.

The Overall Top Performer ranking is based on the College's overall STARS score of 81.7.

ESF is ranked No. 5 in the curriculum category, tied with College of the Atlantic. AASHE examined courses, programs and learning outcomes in sustainability, as well as living laboratory initiatives, immersive experiences, sustainability literacy and faculty development.

The College came in at No. 2 for public engagement which looks at community and inter-campus partnerships, continuing education, community service, public policy participation and trademark licensing.

The College's purchasing practices resulted in a No. 5 ranking. Purchasing examined general and commodity-specific sustainable purchasing policies, life-cycle cost analysis and purchase of electronics, paper and cleaning products.

ESF is tied with a number of other institutions for its No. 2 ranking in research which covers faculty and department sustainability research and initiatives for open-access research.

ESF achieved top performer status by earning a high score overall in the doctoral institution subcategory in STARS.

Specchio to Lead Office of Communications and Marketing



Stephanie Specchio joined the ESF leadership team as associate vice president for communications and marketing Feb. 1. Specchio comes to ESF from Corning Community College where she served as the director of marketing and communications for the past five years. Prior to this, she held the position of director of communications at Cornell University School of Veterinary Medicine. She holds a Master of Science in integrated marketing communication from West Virginia University.

Specchio brings a breadth and depth of relevant experience to ESF's unique marketing and communications needs. "I look forward to working with Stephanie and leveraging her talents as we position the College for increased national and international visibility of our research, academic programs, faculty, staff and students," said Interim President David C. Amberg.

ESF Inducts Inaugural Class into Athletics Hall of Fame

A national championship cross-country team and its coach, a U.S. Collegiate Athletic Association (USCAA) All-American cross-country runner, a professional timber sports athlete and administrators who started a new era of athletics at the College constituted the inaugural class of inductees into ESF’s Athletics Hall of Fame Sept. 13.

The ESF Athletics Hall of Fame was developed to honor former students, coaches, administrators, faculty, staff and members of the ESF community whose contributions have brought distinction, honor and excellence to ESF Athletics, and to familiarize the entire community and alumni with ESF’s rich athletics history.

“Our student athletes are competitive academically and athletically,” said Dr. David C. Amberg, ESF interim president, during the induction ceremony held in the Gateway Center. “Our athletics program has produced outstanding student athletes and some of our athletics teams have earned national championships. They are coached by knowledgeable and passionate coaches. All are supported by the ESF administration and the ESF community.”

The class of 2019 included Timmy Callahan ’14, cross-country; Dr. Robert C. French, administrator; Robin Perkins, administrator; John View, cross-country, and track and field coach; Nathan Waterfield ’04, timber sports; and the 2011 men’s cross-country national championship team.

Callahan ’14 was the College’s first USCAA National Champion. He received the SUNY Chancellor’s Scholar Athlete Award and set two cross-country and five track and field school records.

French, former ESF vice president for enrollment management and marketing, was the key player in establishing the College’s athletics program. He believed an athletics program would help ESF recruit more and better students, help retain students and increase school spirit and College visibility. He built an athletics program that now comprises timber sports, soccer, cross-country, track and field, golf, bass fishing and basketball.

Perkins played a vital role in establishing ESF Athletics. She took on extra duties far beyond those as secretary to French, managing many behind-the-scene details, such as the program’s



Top row, from left, Ethan Washburn ’15, Maxwell Woelk ’15, Cody Wilkes, Timmy Callahan ’14, Jacob Wolfgang ’15 and Owen Hunter ’12. Bottom row, from left, John View, Robert French and Robin Perkins.

budget, arranging team transportation and processing team purchases and payrolls.

View was the first coach of ESF’s cross-country, and track and field teams. He coached the cross-country team to four national championships. As the USCAA’s winningest cross-country coach, he was inducted into the association’s Hall of Fame in 2018.

Waterfield was first introduced to timber sports when he attended The Ranger School in 2003. He improved his skills when he attended ESF, becoming a strong competitor during his two years on the ESF Woodsmen’s team. He graduated ESF in 2006 and became a successful professional

national timber sports competitor in the Stihl Timbersports Series.

The 2011 ESF men’s cross-country team secured the USCAA National Championship Nov. 11, 2011, in Lake Placid, New York. The championship was a first in ESF Athletics program history. Members of the team were Matt Allen ’13, Collin Bartholomew ’13, Brian Busby ’15, Callahan ’14, Matthew Deluca ’14, Dylan Foti ’15, Joseph Gerchman ’15, Matthew Glaub ’15, Nicolas Grieco ’15, Andrew Gritzmacher ’15, Daniel Hohl ’12, Owen Hunter ’12, Sean Kernan ’13, James McKenna ’14, Michael Miles ’12, Nathan Sleight ’15, Ethan Washburn ’15, Cody Wilkes ’19, Maxwell Woelk ’15 and Jacob Wolfgang ’15.

Dr. Herrington Honored with Lifetime Achievement Award

Dr. Lee Herrington, SUNY Distinguished Teaching Professor Emeritus at ESF, received the Lifetime Achievement Award at the New York State Geographic Information Systems Association (NYS-GISA) Annual Meeting in October 2019.

Herrington was one of the founders of the New York State Geographic Information Systems (NYSGIS) Conference more than 30 years ago and saw it develop from a small user group to a major professional development opportunity for more than 500 practitioners each year. He was chair of the Advisory Council for the NYSGIS conference for more than 12 years. Among his many research projects, he generated a geographic database for the northern forest lands area of New York state, creating a digital image of the 6 million acres north of the Mohawk River. Herrington has mentored numerous undergraduate and graduate students, leading to a long list of GIS professionals in the field, many of whom became active members of NYSGISA as well as members of its board of directors.

Herrington earned his bachelor’s degree in forestry from the University of Maine and his master’s degree and doctorate from Yale University. He joined the ESF faculty in 1965, teaching meteorology. He later became interested in the newly emerging field of geographic information systems and became a professor of information resources management. Growing interest in the technology at the College led him to establish and direct ESF’s Laboratory for Applied Geographic Information Systems. The widespread use of GIS technology in New York is, in part, the result of Herrington’s work developing course material and professional networks.

Photograph | Wendy P. Osborne



Food for Thought

New ESF food pantry helps keep students eating so they can keep learning

By Margaret McCormick

Tucked away in the basement of Bray Hall is a small room, accessible yet private, with metal shelves and plastic bins filled with non-perishable food items for students who are not getting enough nutritious food on a daily basis. Food insecurity among college students is a growing problem and, on the ESF campus, leaders are working to alleviate this stress for students struggling with it.

The food pantry, Beth’s Bounty, is named in memory of Beth Ann Newkirk, an ESF student who died as the result of a house fire on Buckingham Avenue in Syracuse in June 2019. Newkirk transferred to ESF in the fall of 2018 and was working toward a degree in environmental and forest biology.

At the time of her death, Newkirk was a work-study collections intern at ESF’s Roosevelt Wild Life Collections. In the months following her death, the College received a number of financial donations in her memory. In speaking with her family, ESF’s leadership learned that Newkirk struggled with food insecurity and made regular use of the Syracuse University food pantry in Hendricks Chapel.

As part of Governor Cuomo’s “No Student Goes Hungry” initiative to address food insecurity on SUNY and CUNY campuses, discussions were already underway regarding the creation of a food pantry at ESF, according to Dr. Anne Lombard, vice provost and dean for student affairs. The desire to do something to honor Newkirk pushed the pantry idea forward. “It just made perfect sense for us to do this in her honor,” Lombard said.

Much credit goes to Laura Crandall ’05, director of student involvement and leadership. She suggested the space in the basement of Bray Hall, developed a relationship with the Food Bank of Central New York, recruited

student volunteers and secured the necessary shelving and storage bins. “It all just kind of came together,” Crandall said.

Exact data is hard to come by, but it is estimated that one in three college students nationwide is food insecure. Food insecurity is defined as not having the money and resources to afford nutritious food on a consistent basis. Experts say the problem is growing and tied to the financial strains of tuition, housing, textbooks and other expenses.

In one survey, nearly half of 86,000 students at two- and four-year colleges and universities nationwide identified as food insecure at some point in the previous year. More than a third of students surveyed said they skipped meals or reduced the size of meals because they couldn’t reliably afford food.

What does hunger on campus look like? It means not being able to afford basics such as milk, eggs and bread. It means your stomach might growl loudly during class or in the library — and it means not knowing what and when your next meal will be. It means not being able to concentrate on your studies because both your belly and brain are hungry and your anxiety about food is constant.

Environmental studies major Donnell Vivian Monk ’20 who has been involved in helping to launch the pantry, said she experienced food insecurity during significant parts of her life while growing up in Cleveland, Ohio. Even with loans and part-time jobs, she said, she was a regular at the Salvation Army food pantry in Syracuse and the Syracuse University food pantry when she arrived at ESF.

“I understand the importance of access to pantries, hot meals and (food) drives because without them, I would not be here today,” said Monk, who has used the pantry several times

since it opened. “I believe with food, I am a better student. I also know that it is hard to afford your everyday needs. Food insecurity is a threat to the success of a student because it affects your body through lack of appropriate nutrition. Without nutrition, students are less likely to succeed, which is why a food pantry on campus is vital.”

Emily “Em” Rodriguez, a junior from New York City, has experienced food insecurity periodically and signed up to volunteer at the ESF food pantry as soon as she learned about it. She has taken advantage of the SU food pantry in the past and said she worked several jobs this past summer and was able to set aside money for food this year. “This is a state school, not exactly for rich kids,” Rodriguez says. “I have seen students eat nothing but ramen noodles and pasta. You need more healthy food, so you are able to pay attention and succeed.”

Beth’s Bounty is open to any student who is experiencing hunger and/or struggling to obtain food and eat regularly because of financial hardships. The pantry is stocked with rice, pasta, canned fruits, vegetables and legumes, soups, cereal, cooking oil, herbs and spices and other non-perishable items from the Food Bank of Central New York. The pantry also offers some household and personal care items, such as dish soap, laundry detergent, dog food, shampoo and feminine hygiene products.

ESF students can visit the pantry once a week during drop-in hours (or by appointment). Students are asked to fill out an intake form each visit and bring their own shopping bags. The pantry is open 9 a.m. to 5 p.m. Monday to Friday and staffed by members of the honor society Alpha Xi Sigma, who donate their time.

Crandall says Beth’s Bounty is in its formative stages and they are figuring things out as they go. She would like to see some gluten-free, allergy-sensitive and ethnic foods on the pantry shelves. In mid-September, she said, about 20 students a week were using the pantry. She expects that number to grow as word about the pantry spreads.

“This, in my opinion, is just the beginning,” Crandall said. “It’s win-win. I really haven’t heard anything except, ‘Wow, this is awesome.’ I think people are really just appreciative.”

Margaret McCormick is a freelance writer in Syracuse.

If you are interested in making a donation please visit www.esf.edu/foodpantry/ and click the “GIVE NOW” button.

You can also mail a check to:
ESF Development Office, 214 Bray Hall,
1 Forestry Drive, Syracuse, NY 13210

Checks can be made payable to:
ESF College Foundation, Inc.
Re: Food Pantry

At top, Laura Crandall ’05, director of student involvement and leadership, helped establish the ESF food pantry.

Chemistry



Dr. Avik Chatterjee
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I am pleased to be able to provide an update on the Department of Chemistry.

In March 2019, in recognition of his contributions as a teacher and scholar in the field of chemical oceanography, **Dr. David Kieber** was elevated to the rank of SUNY Distinguished Professor. This is a distinction that is bestowed upon only a select group of individuals.

In fall 2019, **Dr. Erica Majumder** joined our faculty as an assistant professor of biochemistry from the Scripps Research Institute. We are pleased to welcome her both to our department and to ESF.

We are excited to share the news that **Dr. Ivan Gitsov's** research group was the first in the world to achieve enzymatic synthesis of perfectly alternating copolymers. The unique feature of the copolymerization strategy was that the process was mediated by two enzymes

co-compartmentalized within a micelle or a hydrogel. Moreover, the copolymerization was conducted in aqueous medium and the comonomers were not water-soluble. Of similar significance is their reported controlled synthesis of a new family of linear-dendritic copolymers capable of forming films with a honeycomb morphology upon deposition on solid surfaces. These findings were reported in "Unprecedented Enzymatic Synthesis of Perfectly Structured Alternating Copolymers via 'Green' Reaction Cocatalyzed by Laccase and Lipase Compartmentalized Within Supramolecular Complexes," *Biomacromolecules*, 20(2), 927-936 (2019); D.M. Scheibel, I. Gitsov, and "Controlled ATRP Synthesis of Novel Linear-Dendritic Block Copolymers and Their Directed Self-Assembly in Breath Figure Arrays," *Polymers*, 11(3), 539 (2019); X. Liu, I. Gitsov.

Environmental and Forest Biology



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Dr. Don Leopold, our fearless leader of more than 14 years, stepped down as department chair in spring 2019. He is already involved in many projects that include summer travel to Russia and playing an integral role in a funded Discovery Challenge grant regarding restoration science. Our long-time department secretary, **Sandra Polomino**, also left her position this past spring after more than 49 years at the College; she had been with EFB since 1985. She has graciously remained with us part time to train her replacement, though she is most definitely irreplaceable.

At the May 2019 Academic Governance meeting, several EFB faculty members were recognized: **Dr. Jacqueline Frair** received the ESF Exemplary Researcher Award and I was honored to receive the Chancellor's Award for Excellence in Faculty Service. Frair also received the Outstanding Academic Advisor award from ESF's undergraduate students at the Annual Spring Banquet and **Terry Ettinger**, our greenhouse manager, received Special Recognition for Staff Excellence for his outstanding efforts, and the time and energy he devotes to his spring plant propagation course.

We welcomed **Dr. Jerry Belant** to the department in fall 2018 as the Camp Fire Wildlife Conservation Endowed Professor. He is ESF's first endowed professor. ESF received a financial gift from the Camp Fire Club of America through tireless fundraising efforts led by Frair. Belant's position is an endowed professorship in wildlife ecology, with a focus on big game management. He has settled in nicely in the department and has an informative website up and running (<https://campfirewildlife.com/>). We also welcomed two other new faculty members in August. They are **Dr. Cynthia Downs**, an animal physiologist, and **Dr. Josh Drew**, a conservation biologist. A more recent hire is **Danielle Kavanagh**, who will serve as our new department secretary.

Dr. James Gibbs, Frair, **Dr. Rebecca Rundell**, **Ron Giegerich '78**, the Office of Communications and Marketing, the Development Office, Computing and

Network Services, Instructional Technology Service and the Physical Plant and Facilities staff are all to thank for the wonderful Roosevelt Wild Life Station Centennial celebration that occurred April 3, 2019. This is in addition to the opening of the new Roosevelt Wild Life Collections and Classroom (RWLCC) in the lower level of the Gateway Center, which became a reality this past spring. Many had a role in this endeavor, but Rundell, RWLS head curator, carried a huge amount of the final burden and sacrificed a lot of time and energy in the effort. Delivery of this world-class facility involved working closely with colleagues outside the department, particularly with the Physical Plant and Facilities staff. Our prospective students, parents and other important visitors have already had the privilege of seeing this modern facility firsthand. Visitor observation is facilitated through the "windows on collections" built into the design. Walls surrounding the RWLCC feature a permanent exhibit with attractive landscapes of the Adirondacks by renowned photographer Carl Heilman, as well as inspirational photographs of vertebrate animals facing conservation threats.

Work began this past fall to transform the Illick Hall sub-basement into a much more user-friendly space and the west end of the third floor into a shared Terrestrial Ecology Research (TER) Lab, a new state-of-the-art seminar room and a dedicated space for our Center for Native Peoples and the Environment. The sub-basement and the TER lab spaces are shared by EFB and faculty from the Department of Sustainable Resources Management, helping to foster continued collaborations between our departments. These renovations are spearheaded and guided by **Rex Giardine** in Physical Plant and Facilities, and funded through the Marshall Hall rehabilitation project that will officially start during summer 2020. We are also engaged with a design firm as well as SUNY Construction Fund representatives in a program study for Illick. This study will guide renovations over the next five to 10 years.

Congratulations go out to **Dr. Karin Limburg** for a recently funded National Science Foundation grant to study deoxygenation of the ocean linked to climate change and **Dr. Robin Kimmerer '75** for receiving funding through the Sloan Foundation to support graduate students associated with our Center for Native Peoples and the Environment. **Dr. Bill Powell's** chestnut program is going strong, and his lab group recently submitted a proposal to allow for distribution of chestnut seeds and the planting of blight-tolerant chestnut trees.

Lastly, Gibbs led an expedition in November to explore the island of Fernandina in the Galapagos, purportedly the largest pristine island on Earth, to determine if there is another mysterious species of giant tortoise.

EFB's enrollments, external funding and worldwide attention in the media continue to be strong — the department is doing well thanks to our excellent students, successful alumni, fine faculty and dedicated staff.

Environmental Science



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The Division of Environmental Science oversees the B.S. program in environmental health, the B.S. program in environmental science and the graduate program in environmental science (GPES). These interdepartmental programs continue to attract a wide array of students beyond the traditional departments, laying a strong foundation for the next generation of environmental scientists and managers. Currently, there are 48 undergraduates enrolled in environmental health (EH) and 129 in environmental science. In addition, 40 of the 77 students enrolled in GPES are pursuing their Ph.D.

We continue to refine our undergraduate environmental science program to meet the needs and expectations of our graduates. We are excited to add a new required course, ENS232, Professional Development in Environmental Science. ENS232 builds on our initial course for first-year and transfer students. This new course provides a formal means to engage students in initiation of either internship or research credits in their second year at ESF, effectively preparing them for their senior synthesis projects. The senior synthesis experience focuses on training students to work in teams to apply learning and problem solving. Continued development of our program is due in large part to the efforts of **Monica Blaisdell '18**, undergraduate advisor and curriculum coordinator for the B.S. in environmental science. She has been working closely with **Ann Moore '96**, director of Outreach and Experiential Learning, to provide applied learning opportunities as the basis for many senior synthesis projects.

One of the highlights of this past year was associated with our ongoing efforts to increase opportunities for active learning. Blaisdell worked with **Dr. Tim Volk '02**, leading students on a field trip to several dairy farms across Onondaga County with the American Dairy Association North East. Agriculture and sustainable food production is becoming a popular topic among our students. This field tour provided students with an opportunity to learn more about conservation practices used on farms of varying size.

The first stop, Barbland Dairy, is a large 4,500-acre operation comprising 1,900 cows and 45 employees. One of the partners described their state-of-the-art food waste management system, manure management and milking parlor operations. That led to a presentation of the farm's obligations under the Chesapeake Bay TMDL (Total Maximum Daily Load) as a stakeholder in the Upper Tioughnioga Watershed, which ultimately drains to the Chesapeake Bay.

After lunch at Barbland Dairy, students travelled to Dennis Family Farm (2018 Conservation Farm of the Year)

to observe several conservation practices on a smaller farm system. Students had the opportunity to observe a milkhouse wastewater treatment system, stormwater dripline system, rotational grazing system and a buffer system designed to exclude cows from the tributary leading to Limestone Creek. This experience allowed students to connect concepts learned in their coursework to real-world situations in the local community. Future field tours will likely focus on soil health and stakeholder collaboration. This field experience ultimately engages students in the initiation of their senior synthesis projects.

This year, our environmental health program received full accreditation; it is now one of only 28 nationally accredited programs. As part of that accreditation process, **Dr. Lee Newman** attended the annual National Environmental Health Association conference in Nashville, Tennessee.

Additionally, each year Newman attends the East Coast Association for Environmental Health Sciences meeting. As a member of the Scientific Advisory Board for the Conference, she takes students from the environmental health major to the conference to present posters about their professional internships. This year, three students presented their undergraduate synthesis projects at that meeting.

This provided students an opportunity to present at a national conference and helped them to begin establishing a professional network.

To assist students in finding internships and establishing their professional networks, the Environmental Health Orientation course continues to bring in professionals to discuss their personal career path, as well as internship and job opportunities in the EH field. As a result, we had a student obtain a prestigious National Environmental Health Association fellowship, and another obtained a U.S. Public Health Service Internship last summer. These opportunities set students up for their professional careers post-graduation.

The division continues to evolve to meet current and emerging education and training needs for the fields of environmental science and environmental health. The field tours and opportunities for students to present at national meetings showcase our efforts to engage students in active learning. We continue to seek input from any alumni who have an interest in helping mentor our students as they make their way toward professional careers. If you have the opportunity to visit the campus, please stop by the division office in 202 Baker Laboratory. If you have any questions or comments, please feel free to share them with me (email rdb Briggs@esf.edu).

Check the next issue of ESF Magazine for updates about the other academic departments.

Scientists Link Decline of Baltic Cod to Hypoxia — and Climate Change

By Claire B. Dunn



Netted yellow cod

If you want to know how climate change and hypoxia — the related loss of oxygen in the world’s oceans — affect fish species such as the economically important Baltic cod, all you have to do is ask the fish.

Those cod, at least, will tell you that hypoxia is making them smaller, scrawnier and less valuable.

“The cod themselves are telling us through their ‘internal logbooks’ that they’re affected by hypoxia, which we know is driven by climate change and by nutrient loading,” said Dr. Karin Limburg, a fisheries ecologist in the Department of Environmental and Forest Biology. “Our recent findings suggest fish are in worse condition because of hypoxia.”

Limburg is the joint author of a paper that appeared in December in the journal *Biology Letters*, published by the Royal Society, that adds new depth to scientists’ ability to decode the history of a fish’s life by analyzing the chemical content of otoliths, or earstones, that form part of a fish’s hearing and balance system. Made of calcium carbonate, otoliths grow as the fish grows, forming rings each year that can be read much the same way as a tree’s rings.

Limburg was a contributor to the International Union for the Conservation of Nature’s recently released global ocean deoxygenation report. That report lays out the clear connection of hypoxia to the warming climate. As for the cod otoliths, Limburg puts it this way: “It’s another tool that helps tell the story. It provides a clear link between hypoxia and the declining condition of Baltic Sea cod that we’ve been seeing for more than 20 years.”

The new study details research done by Limburg and her co-author, Michele Casini of the Department of Aquatic Resources at the Swedish University of Agricultural Sciences. They report that the presence of certain trace elements

in otoliths points to hypoxia as the reason for the declining condition of Baltic cod, at least for the last 20 years.

Long-term monitoring shows that the frequency of slender cod with little economic value has been steadily increasing since the 1990s, and the fishes’ overall body condition — which takes length and weight into consideration — has decreased by around 30 percent. From the early 1990s to 2018, the average weight of a 40-cm-long cod (about 16 inches) has dropped from 900 grams (31 ounces) to 600 grams (21 ounces).

The amount of the element magnesium in otoliths is seen as an indicator of the fishes’ overall condition. The higher the magnesium level, the better the fish had fared in life. But Limburg recently discovered that another mineral with a similar-sounding name, manganese, explains why the cod were increasingly in poor condition.

In well-oxygenated ocean water, she said, manganese exists as a solid, taking the form of small particles. But when oxygen is depleted, manganese dissolves and can be absorbed by the fishes’ bodies. The otoliths, analyzed through X-ray fluorescence and mass spectrometry analysis, pick up the manganese and tell the story of the fish’s travels through hypoxic waters.

Limburg said the research indicates hypoxia has been a factor since 2000. This suggests that in earlier years, the poor condition of Baltic cod was caused by other factors, such as over-crowding or fishing.

“Magnesium reflects the fish’s condition. Basically, it tells us if the fish was ‘feeling’ good or bad,” she said. “The manganese tells us why it was feeling bad — that it had spent too much time in deoxygenated waters.”

Claire B. Dunn is a freelance science writer in the Syracuse area.

Photograph | Yvette Heimbrand, Swedish University of Agricultural Science, Uppsala Sweden

50% Decline in Mallard Population Sparks Research and Funding Efforts

By Claire B. Dunn

The U.S. population of eastern mallards — dabbling ducks with distinctive green heads — has plunged inexplicably by 50 percent in the last 20 years, prompting ESF to launch research into the birds’ productivity, changes in their habitat and their genetic diversity.

Long-term data collected along the Atlantic Flyway indicates the birds’ numbers are falling dramatically, but scientists cannot explain why.

“We don’t know the mechanism for the decline,” said Dr. Michael Schummer, a faculty member in the Department of Environmental and Forest Biology.

Schummer and several partners have responded to the changes in the population with a research effort called *Rescue the Eastern Mallard*. He said the challenge highlights an urgent need for humans to address biodiversity loss and devise ways to accommodate wildlife in developed areas.

“We have to get this one right,” he said. “Eastern mallards are one of the most monitored populations on the planet. We band thousands of them and recover lots of them every year. We fly planes over to count them, we get on the ground and count them. We have all these data, but we don’t know why they are in decline.

“If we don’t figure this one out, we’re in trouble,” he said. “We have imperiled species in faraway places that are much more isolated. Here, we have an opportunity to answer some important questions about what happens when even common species start to decline. We are working in one of the most populated places on Earth, so we have access to lots of birds and data. If we can’t find a way to keep animals with us in this urban environment, where is it going to happen?”

A crowd-funding effort at the end of 2019 has so far raised some \$30,000 that is being added to funds received previously for the project. Schummer credits Delta Waterfowl with leading the support. The Schummer Lab for Waterfowl and Wetlands Conservation is also partnering with Ducks Unlimited and the Long Island Wildfowl Heritage Group.

The scientists will use innovative techniques to analyze elements locked in mallard feathers to understand where eastern mallards are hatched. High-resolution satellite imagery will help researchers understand how changing landscapes influence the number of mallard ducklings produced. And new genetic technologies and techniques will be used to determine the genetic diversity of mallards regionally.

Schummer said preliminary analyses are already providing novel insight: the majority of Eastern mallards are produced in Canada, even though most of the breeding population is in the United States.

Claire B. Dunn is a freelance science writer in the Syracuse area.

If you’d like to learn more about the *Rescue the Eastern Mallard* project, including how you can help support the work, visit the Schummer Lab at <https://schummerlab.weebly.com/donate.html> or contact Dr. Schummer at mischumm@esf.edu.

Photograph | Ryan Chelius





ESF Alumnus Carries a Torch for Historic Preservation

By Karen B. Moore



The Statue of Liberty is an American icon, symbolizing hope and freedom to millions who come to America and those who have been here for generations. ESF alumnus Jeffrey Rainforth '97 (CM) is playing a major role in its preservation and that of the surrounding environment, and it's not something he takes lightly.

"There's no other feeling like it as you're coming in on the ferry in the morning and the fog's coming across the Hudson and there's the statue in the background," said Rainforth, whose company recently completed construction of the new Statue of Liberty Museum on Liberty Island.

There were times when he and his crew were on the island in New York Harbor until 2 or 3 a.m. as the work dictated. "It was just us and the statue," he said. "You would stand there and look up at it and you can't believe you're there by yourself in the middle of the Hudson River looking up at the statue. It's pretty special."

Rainforth is president of the Phelps Construction Group based in Boonton, New Jersey, and project executive on the company's Liberty and Ellis islands projects. He has been instrumental in ensuring that not only will the Statue of Liberty be here for future generations, but that the surrounding grounds and museums provide visitors with an immersive experience.

Rainforth and his partner Douglas Phelps formed Phelps Construction in 2007 after working together for another construction company. At that company they worked on the restoration of the Statue of Liberty following the events of 9/11 as officials realized the statue was a potential target for terrorist attacks.

"At that point the only way up was a spiral staircase and the only way down was a spiral staircase," said Rainforth. "There was no emergency evacuation; there was only one way in or out, so they figured that was not a good situation." Life safety upgrades included adding a sprinkler system throughout the statue and egress stairs. Stairs that went to the statue's crown were removed and blast-resistant glass was installed, preventing visitors from climbing into the statue's crown.

"You could stand at the last pedestal level and look up into the statue and hear a story through a new AV system," Rainforth said. "But about three years later some politicians didn't like the idea that they took away the ability of people to go into the crown and they ended up putting in elevators to take you up to the crown. But the number of people who can visit the crown is now limited to approximately 400 per day."



Opposite page: Jeffrey Rainforth '97 plays a major role in preserving a piece of American history.

Right: Jeffrey Rainforth '97 and partner Douglas Phelps stand in front of the original torch of the Statue of Liberty in the Inspiration Gallery, Statue of Liberty Museum.

The use of native plantings was just a part of the use of best practices for sustainability.

Phelps Construction is no stranger to work on Liberty and Ellis islands, which together make up the Statue of Liberty National Monument. The company completed work on the Peopling of America Center on Ellis Island in 2015. That project involved a large museum restoration and creation of new museum space in the existing historic buildings. The new museum areas tell the story of immigration to the United States in the post-Ellis Island era. Ellis Island was then renamed The National Museum of Immigration.

“We went right from the Peopling of America project to planning for the Statue of Liberty Museum in 2015,” Rainforth said. It took about a year and half of planning and working with architects to develop the designs and proper budgets before the groundbreaking in late 2016.

The work on Liberty and Ellis islands is funded through the nonprofit Statue of Liberty Ellis Island Foundation (SOLEIF). The money is privately raised and, through a partnership between the SOLEIF and the National Park Service, is donated to the park service to be used on various projects.

The Statue of Liberty Museum was one such project. The 26-month project resulted in construction of a 26,000-square-foot building that provides the estimated 4.3 million annual visitors the opportunity to learn about the Statue of Liberty’s history, influence and legacy through three gallery spaces and artifacts, including the statue’s original torch.

During that time, the company also built a new secure screening facility to replace the not-so-temporary facility that was installed in a tent during the 2003 restoration of the statue. “At that point (in 2003) there was limited security,” Rainforth said. “The events of 9/11 changed the manner in which people could access the statue. The tent housed modern airport-type security systems.”

With work being done on the Statue of Liberty Museum it was decided to replace the tent with a permanent structure. “We built another environmentally sensitive structure called the Secured Screening Facility that was a mass timber structure with a green roof alongside the Statue of Liberty to house the screening equipment. This building was designed and built in 10 months so as not to impact the opening of the new museum.

“At that point, the NPS and SOLIEF figured they’ve been under construction since (Superstorm) Sandy so they decided to do an island-wide beautification project where we did much of the landscape and hardscape over.” The island beautification project used native plants and grasses that were on the island 150 years ago, around the time of the statue’s construction. “We removed and replaced landscaping and pavers and created pathways to enhance the visitor’s experience on the island,” he said.

The use of native plantings was just a part of the use of best practices for sustainability. The Statue of Liberty Museum was built to withstand hurricane-force winds, and includes a green roofscape and bird-safe glass exteriors to protect against

extreme weather events such as 2012’s Superstorm Sandy. That storm devastated the island, caused approximately \$70 billion in damages and killed more than 200 people in the Caribbean and the United States. The new museum was designed to be 11 feet above the 500-year flood levels.

Completion of the museum was celebrated May 16 at a star-studded event on Liberty Island with celebrities such as Oprah Winfrey, David Letterman, Hillary and Chelsea Clinton, Jeff Bezos and fashion designer Diane von Furstenberg in attendance. Von Furstenberg is considered the “godmother of the Liberty Island Project” because of her major fundraising efforts that made the project possible.

“It was just great to see all these famous people who made major donations to the project,” Rainforth said. “It was more special for Doug and I to spend a night celebrating with our employees and the project team who worked so hard to build the museum and restore the island.” The next day the museum was open to the public, which was also a memorable event. “It was great because the event was open to the public. Anyone who was on the island that day was a part of the televised event and had access to the new museum.”

Phelps Construction Group’s work on nearby Ellis Island, which served as an immigration station for more than 12 million immigrants until it closed in 1954, continues today. The project involves historic restoration of an outdoor recreation structure on the island’s south side. “This is the part of the island that hasn’t really been restored at all,” said Rainforth.

Rainforth credits his time at ESF for giving him an introduction to green technologies. “When I started in the industry in 1995, it was something that was just taking off,” he said.

After transferring to ESF from SUNY Delhi, where he earned an associate’s degree in carpentry, Rainforth gained an interest in green technologies at ESF. “When I was at ESF green technologies were just starting. There wasn’t a course designed for it, but I know since then it’s really the basis of some of the programs there.”

Rainforth credits Ken Tiss ’78, then an instructor in the construction management program, with inspiring him on his career path. “He was an industry professional and professor who would spend extra hours with us and help guide us in the right direction down our career paths. He was always very helpful going the extra mile and helping us with the real-life experience that he had coming from the industry. While he taught the lessons from our textbooks, he also taught us the lessons he learned being in industry himself. These are the lessons that taught me the most.”

Phelps Construction Group continues work on other projects but maintains ties to some special islands in New York Harbor. “We’re always on Liberty and Ellis Island doing something,” Rainforth said.

Karen B. Moore is editor of ESF Magazine.



At top, view of the Statue of Liberty Museum; above left, Peopling of America Center, part of the Ellis Island National Museum of Immigration, above right, Statue of Liberty Museum on Liberty Island.



David Moore '06

Alumnus Honored as ‘Trailblazer’ Promotes Benefits of Urban Forestry

By Judy Gelman Myers

For his exceptional contributions to urban forestry, ESF graduate David Moore '06 FNRM has received the Arbor Day Foundation's Trailblazer Award. The foundation is the largest nonprofit membership organization dedicated to planting trees, and every year it honors six individuals and organizations for their work in tree conservation. The Trailblazer Award recognizes professionals under the age of 35 who have already made the world a better place.

Moore earned a bachelor's degree in forest resources management at ESF and a master's in public policy at Georgetown University. This dual focus enabled him to become a spokesman for science while effecting major change first in New York City, where he developed a groundbreaking

system for tree selection, and now in Oakland, California, where he is senior tree supervisor.

Writer Judy Gelman Myers recently spoke with Moore about the environmental, fiscal and policy challenges he faces as he transforms concrete deserts into tree-lined oases.

ESF: Let's begin with a simple question. What is urban forestry?

DM: Urban forestry is managing trees for human benefit anywhere people have changed the landscape enough that growing conditions for trees are no longer natural.

A hundred years ago, people valued urban trees mostly for their aesthetics. Today, we

David Moore '06 stands with a recently planted *Quercus agrifolia* (coast live oak) in Defremery Park, Oakland, California.

appreciate their environmental benefits, too. David Nowak '85, at the USDA Forest Service's Forest Inventory and Analysis unit at ESF, pioneered a great technology called i-Tree. It lets us measure the environmental benefits of urban forests in dollars and cents. Instead of building more pumps to move water through sewers, or instead of installing more air conditioners to cool off buildings, we're learning that trees can provide equivalent services at a much more competitive cost. In this sense, urban trees are valued and utilized as green infrastructure that appreciates in value over its lifespan.

ESF: One of your aims is to bring people and science together. What exactly does that mean?

DM: At ESF, I encountered a world of fascinating scientific research. However, it takes a certain type of person to tune in to that information; scientific journals are typically read mostly by science practitioners. I wanted to be a mouthpiece for all this research, to help reach the everyday person.

That's how I got interested in public policy, which is using research and statistics to form policies that help society. Because most tree experts work in the woods and other remote areas, understanding trees in a city was an incredibly valuable skill. I could make a huge impact by just sharing some of the basic research findings. Bridging that gap is very meaningful, and it's where I find myself on a daily basis.

ESF: How did your studies at ESF prepare you for your job?

DM: As a forest resources management major at ESF, I was immersed in a fascinating world of science, studying the forest from deep in the soil all the way up to the sky, from every scientific and mathematical aspect imaginable. ESF has over 25,000 acres of forest to explore and many labs every week — there's no substitute for all that exposure. Though I might not be calculating derivatives or solving chemical equations on a regular basis in my career, all that problem-solving work and science curriculum gave me an indispensable foundation for approaching the various tasks that arise in my work.

ESF: Who sets policy regarding trees?

DM: Broadly speaking, I set it with my team, typically through small, incremental changes. The most effective policies are developed through research, data analysis, consideration of trade-offs, balancing priorities, consensus-building with stakeholders, and an approval

process through a chain of command. Policies are constrained by availability of resources, time, other laws/policies, etc. Some examples of the policies under my purview are tree protection, prioritizing tree removal, and planning the urban forest and its canopy so when old trees reach the end of their lifespan, you have plenty of new ones coming in. A common goal across different cities is environmental equity/environmental justice; in the context of urban forestry, you want to disperse trees in areas that need them the most — areas that are statistically most prone to pollution, or are closest to the highway, or have the most amount of concrete.

ESF: As senior forester for the New York City Department of Parks & Recreation, you instituted a groundbreaking tree selection process. Can you describe it?

DM: Arborists focus on one tree at a time. Ask one what you should plant in front of your apartment, and they'll say, "There are wires overhead, and this much space to the building, and this much sunlight per day. This many people walk down the street, so we can make the tree bed this big. Based off these limitations, you should plant this type of tree, which will thrive in these conditions without causing infrastructure problems."

That's how you choose one tree. But what happens when you're in charge of an urban forest with tens or hundreds of thousands of trees? It can be overwhelming when you're determining which trees to select, because you're trying to make very specific decisions, as an arborist does, but on a scale of a thousand trees per year. Your decisions need to make sense on both a tree-to-tree basis and on a macro/forest basis. You also have to consider species diversity — when you have too much of one species, a pest like the emerald ash borer could wipe them all out.

When I worked for NYC Parks, I was tasked with developing a system that could help streamline tree species decision-making for our team of urban foresters. We decided to devise categories that would help us narrow down our choices. But how do you determine which categories help you narrow things down, especially in such a big and diverse city as New York? We came up with three — overhead limitations, such as power lines; soil volume limitations, determined by the size of the tree bed; and overall site condition, ranging from very industrial, to residential, to parks. There weren't so many categories that it was impractical as a tool, and not so few categories as to be too broad. The different combinations led to 18 general planting site types called biotopes — aka subsections of our urban forest

"When we're planting trees, we're really planting air filters, building coolers and stormwater absorbers. We need to change the paradigm to see them as infrastructure rather than decoration on the streets." — David Moore

biome. Urban foresters would survey planting sites in the field and label each one as a specific biotope, then find tree species appropriate for each biotope using a giant spreadsheet I made of over 250 tree species, their site tolerances, and their ideal biotopes for growing in. This system could also be fine-tuned as needed, depending on other conditions specific to each planting site that went beyond those three basic categories.

Developing the process wasn't reinventing the wheel. I simply learned how to package the information in a way that people could use it on a large scale at a fast pace, using objective criteria to narrow down decisions so they were more achievable under the time constraints.

ESF: How much does budget enter into the picture when you set policy?

DM: Unfortunately, the concept of trees being an investment with measurable environmental benefits is still relatively new. Most people see trees as a luxury—something to be planted and cared for when times are good. When times are bad, they don't rank as high as other city services.

I feel strongly that urban trees should be viewed as a component of city infrastructure, like roads, bridges, or schools — features that provide a service that can be measured in dollars. If you're going to build a bridge, you have to show exactly how many cars are going to use it, how much it will cost, and what the net benefit is. When we're planting trees, we're really planting air filters, building coolers and stormwater absorbers. We need to change the paradigm to see them as infrastructure rather than decoration on the streets.

ESF: You worked in New York for 10 years before moving to Oakland. How does urban forestry differ in these two cities?

DM: In New York City, the pace and the expectations are high. Due to a legacy of research-based public policy and an appreciation for trees as green infrastructure, municipal investment in the urban forest is also high. Oakland is a much smaller city. It has 420,000 or so residents

instead of eight and a half million, like New York. And it's challenged with other issues. My department in Oakland was downsized in 2008 or 2009 due to budget cuts. More than half of the staff were let go and never restored, which means that service levels have been severely affected. So instead of being the best-resourced, fastest-paced, high-volume operation that I'm used to, my biggest challenge now is being understaffed and under-resourced.

ESF: How do you navigate the intersection between environmentalism and public policy?

DM: Tree science is based on predictable laws of the universe. I can always count on the tree growing toward the sun. Working for city government is filled with unexpected situations. Understanding how government operates, what it's capable of doing and what its limitations are helps me act strategically when I'm trying to do something as big as planning an urban forest.

I think bureaucracy gets a bad rap in general. It's easy to say our government doesn't know what it's doing, but there's more to it than that. That's the very reason I wanted to work for local government. I wanted to step up to the plate and be the change I wanted to see rather than just complaining about how other people ought to do a better job. I have a huge appreciation for anything actually accomplished in society, the consensus that needs to be made, the high roads that need to be taken in the face of certain people never being happy or satisfied.

To give an example of what I'm saying, the government is a monopoly service provider. If someone is not happy with my service, they can't go to my competitor instead. A government agency provides what it can, serving the most people with the limited resources available. That's where you get into the art of government — how can we equitably serve the most people despite the inherent constraints?

For anyone out there who's considering a life of government work, we need you! We live in a world where people think that sounding off on social media is the answer to the world's problems. It's not. We need more people to start a career in government, where they're in the driver's seat and can facilitate a world in a way they're skilled and passionate about. Even the most challenging days working for a good cause are rewarding, and seeing the tangible impacts of your hard work is a reward in and of itself.

Judy Gelman Myers is a freelance science writer based in New York City.

David Moore, center, at the ADF Trailblazer Award celebration in Central Park with current NYSUFC President Karen Emmerich and past NYSUFC President Andy Hillman.





Down on the Farm — in the City

By Karen B. Moore



Jessi Lyons '09 (MLA), pictured top right, is farm coordinator of the Brady Farm in Syracuse. The farm provides sustainable nutritious foods, employment and education for community residents. Pictured middle left, Lyons explains the farm's mission to ESF students who spent the fall Saturday of Service helping with seasonal chores. All produce pictured is grown on the 5.8-acre farm on the city's southwest side.

ESF alumna leads effort to link Syracuse residents with sustainable food

"It's hard to be healing and feel like a whole person when you're hungry or you're not getting adequate nutrition," said Jessi Lyons '09 (MLA), farm coordinator of the Brady Farm in Syracuse.

The farm is a program of the Brady Faith Center, an urban mission on Syracuse's southwest side. Located between Onondaga Creek and one of its tributaries, the 5.8-acre farm was started in 2016 as an urban farm woven into the fabric of the community to provide sustainable nutritious foods, employment and education that nourishes the body, mind and spirit of community residents, according to the Brady Faith Center website.

"It's over three miles to the nearest grocery store in this neighborhood," Lyons said, "so food access is important." But also important are affordability and quality. "We have about eight corner stores in a quarter mile of where we are. You can get plenty of junk food and, unfortunately, that's what a lot of folks are doing for just convenience meals — they're relying on corner store-type foods. So as far as Brady Faith Center is concerned, food access is part of spiritual and physical health."

Lyons has been a key player in food accessibility in Syracuse since 2008 when she came to ESF for her master's degree in landscape architecture. Her capstone focused on community gardens. After earning her degree, she worked for Cornell Cooperative Extension in Onondaga County as a natural resources program coordinator and continued to be involved in food accessibility and urban agriculture issues. She was instrumental in starting several programs to help urban gardeners, including Southwest Community Learning Farm and Syracuse Grows, a nonprofit network that provides advocacy and support for existing community gardens and urban farms.

She consulted on the Brady Farm project when it was in the planning stages. "There was interest in creating a larger urban farm and I was giving advice and consultation early on," she said. Once they secured the land, administrators at the Brady Faith Center offered her the job of farm coordinator.

Lyons noted some people expect the farm to be a picturesque landscape with weed-free, neat rows. But the facility doesn't always meet people's expectations of what a farm looks like. "I tell people, 'No judgment. We've been here four years, we're organic and we didn't know what we were doing.' It's hard sometimes.

Jessi Lyons '09 (MLA), left, and Alice Gallagher '12 (ES), farm manager, take a moment by the farm's tractor.

"The reality is organic farming as a nonprofit is expensive and hard. We can't afford labor and there are going to be weeds because you can only do so much," she said.

The farm staff has an ESF influence. In addition to Lyons, it includes Farm Manager Alice Gallagher '12 (ES) and dedicated volunteer Thomas Mackey, a graduate student in environmental interpretation. The staff uses numerous sustainable practices including cover crops, minimal tilling and natural pest management.

"Some people complain that we have a lot of weeds, but what might look like a weed is actually a cover crop or it's left there intentionally because it's a pollination period for a certain insect that is beneficial or helps with pest management," Lyons said. "I use our newsletter as a platform for education."

For example, Lyons wants people to know that the farm balances its pest management to promote ladybugs because they, in turn, help control aphids that can damage plants. "If we take care of our ladybugs, they will take care of our aphids," she said.

Food raised at the farm is sold at a variety of outlets including an on-site farm stand and a booth at the Regional Market on Saturdays. The farm also offers summer and winter Community Supported Agriculture (CSA) boxes.

"About 20 percent of our produce gets donated," said Lyons. "It might be to a neighbor or other community pantries or organizations. Some people get directed donation boxes through our CSA program."

Part of the farm's mission is being sensitive to people's food dollars. The weekly CSA newsletter includes information about what's in the latest box and how to prepare it. The newsletter also provides tips on growing produce in Central New York and educates its audience about the challenges of farming. "It's helping people understand

some of the underlying principles of organic farming that might not be obvious," Lyons said.

"Part of food access for us is growing things that people want to eat. One of my standard lines is we don't grow kohlrabi because nobody knows what to do with kohlrabi. I might love it and it might be an amazing vegetable but if people don't know how to eat it, it's a waste of their money," she said.

The farm is also focused on workforce development. "We employ people who don't necessarily have the best skills and education. Or they might also have other life limitations that involve substance abuse or mental health or just the difficulties of living in poverty," Lyons said. "There are a lot of untapped resources in our community — a lot of great people who aren't put into leadership positions because life is complicated, so we want to give those folks opportunities."

Lyons maintains a strong connection with ESF. This past fall, students helped with seasonal chores during the October Saturday of Service, pulling up old eggplant and tomato plants. Students have done capstones on sustainable agriculture, and Dr. Timothy Volk '02 of the Department of Sustainable Resources Management has a research plot on the farm to study the use of shrub willow for mulch and how different mulch applications can improve compacted soil.

Tucked in a back corner of the farm is a nature classroom situated on a migratory pathway. "This little woody spot is like a bird haven," Lyons said.

When Dr. Stewart Diemont of ESF's Department of Environmental and Forest Biology visited, Lyons told him about the bald eagles they often see at the farm. As if on cue, an eagle flew overhead.

"We've got all this foraging habitat, and there's shelter, woods and water, so this is a really sweet little migratory path. This is an opportunity we want to grow. This is where I want ESF students to go make something happen" said Lyons.

Karen B. Moore is editor of ESF Magazine.



ESF Pilots Sloan Foundation Program

By Renée K. Gadoua



From left, Mariah Gladstone '21; Dineh Judd '21; Susannah Howard '21; Dr. Robin Kimmerer, professor and director of the ESF Center for Native Peoples and the Environment; and Biidaaban Reinhardt '20

Mariah Gladstone grew up near Glacier National Park in Montana's Rocky Mountains. After earning a bachelor's degree in environmental engineering from Columbia University, she returned home, near her father's community, the Blackfeet Nation. Inspired by family roots — her mother is Cherokee from Oklahoma — she created Indigikitchen, an online cooking show that teaches cooking with native food.

"Native people have been subject to very intentional colonization of our diets. The past 200 years has brought rapid forced dietary shifts that have led to disease and destruction of plants," said Gladstone, an ESF student in the Alfred P. Sloan Foundation's Indigenous Graduate Partnership (SIGP).

At ESF, Gladstone will research how the Blackfeet's harvesting practices have aided regeneration of prairie turnips, a root vegetable that grows in high plains areas. "Prairie turnips are central to Blackfeet as food, and their harvesting practices are important to that species and its proliferation on the plains," she said.

Gladstone is one of four ESF master's students who received SIGP funding this fall. Also supported through the Sloan partnership is Susannah Howard of the Citizen Potawatomi Nation, who earned a bachelor's degree in environmental geosciences and certificate in Native American and Indigenous studies from

Smith College. The third student is Dineh Judd, of the Navajo Nation and graduate of Northwest Indian College, who is in the graduate program in environmental science, studying rare plants on the Navajo Nation. Biidaabin Reinhardt, Ojibwe from northern Michigan, is earning her M.S. in sustainable construction, evaluating birch bark as an element of green building. A fifth Sloan scholar doctoral student Avery Old-Coyote, from the Crow Nation, began studying at ESF this semester.

ESF is one of eight universities that have become SIGP participants, including Purdue University, Arizona State University and the University of Alaska at both Anchorage and Fairbanks, since 2013.

The SIGP funding was secured through the efforts of the ESF Office of Development, with the participation of Distinguished Teaching Professor Robin Kimmerer, an enrolled member of the Citizen Potawatomi Nation and founding director of ESF's Center for Native Peoples and the Environment (CNPE).

Leah Tuck, major gifts officer in the Office of Development, said partnering with the prestigious Sloan program not only helps ESF meet its graduate student enrollment goals, but also addresses the College's goal of increasing diversity, inclusion and equity among the student body. In addition, she said, it reflects the success of Kimmerer's work to meld

scientific knowledge with Traditional Ecological Knowledge.

"This support is a testament to the work Dr. Kimmerer has been doing for more than a decade with the CNPE," Tuck said. "It's a clear indication that the work is significant to Native students and to environmental leaders in the fields of science, technology, engineering and math (STEM)."

ESF sought students in STEM disciplines, "who wanted to integrate their cultural knowledge and use their degrees to support cultural revitalization in their native communities," Kimmerer said. Multiple cohorts "create a critical mass to interact and share ideas," she said. "It magnifies their research and increases peer mentoring."

The fellows' diversity provides multiple perspectives and underscores that there is not one universal Native American experience. "They come from different reservations with different experiences, different ecosystems, different cultures," Kimmerer said.

The program serves Native students, but, "it can transform the institution as well," by bringing indigenous science perspectives into the ESF community, Kimmerer added. "This is also an opportunity for non-native students to become good allies and to affect their own thinking."

"My community has already experienced climate change in a rapid way, having been moved in the 1850s from the Great Lakes to Kansas by Federal Indian Removal policy."

— Susannah Howard

Collaborating with Sloan's other university partners also multiplies opportunities for learning. "We get their insight and can share in their best practices," she said. "It helps ESF learn and they get to learn from us." Kimmerer counts herself among the beneficiaries. "It is a source of colleagues for me," she said. "I appreciate the collaboration."

"One of the hallmarks of indigenous thinking is it is holistic and integrated," Kimmerer said. "It doesn't compartmentalize science from policy. Those things are integrated one with another in a cultural context."

Educated indigenous scientists could, for example, play important roles in the honoring of treaty rights, and guiding land use and conservation. "We have the opportunity to help educate a whole new generation of indigenous land managers," Kimmerer said. "They will contribute to the growing wave of self-determination in indigenous environmental decision making."

Howard is studying how climate change affects culturally important plants of the Potawatomi. She grew up in Vermont and first visited Oklahoma for a six-week Potawatomi leadership program. "It was a crash course on the culture and business and how we exist as a nation and build relationships so you can give back," she said.

"My community has already experienced climate change in a rapid way, having been moved in the 1850s from the Great Lakes to Kansas by Federal Indian Removal policy," she said. "In the face of removal from our homelands, how did we adapt? There might be lessons for us now in adapting to climate change."

She expects to pursue a doctorate in environmental science. "A lot of what drives me is knowing the more time I spend in academia, the easier it will be for the next generation," she said.

For Gladstone, cooking with indigenous foods strengthens the ties to her culture.

"I'm lucky to come from such different communities," she said. "Working with food merges the farming tradition with the hunter-gatherer tradition and shows their relevance on landscapes even as those landscapes have shifted over time. It's a reminder that traditional knowledge transcends our physical location."

Renée K. Gadoua is a freelance writer and editor in the Syracuse area.

'Transformational' Gift from Templeton Foundation Supports Chestnut Restoration

By Claire B. Dunn

ESF has received its largest-ever charitable gift, \$3.2 million, to support one of the College's most impactful research projects — the restoration of the American chestnut tree.

The gift from the Templeton World Charity Foundation, Inc., will support a full three years of research and restoration work.

"This is truly a transformational gift," said Dana Piwinski '80, senior director of major gifts in the ESF Office of Development. "It means that at this critical stage, with the project undergoing federal review, the researchers know they have the support they need to continue work with a full staff."

Dr. William Powell, who heads the ESF American Chestnut Research and Restoration Project, said, "The Templeton support will allow us to 'kick-start' the restoration of the magnificent American chestnut trees and help improve the health of the forest from which they were lost."

The Templeton World Charity funds scientific breakthroughs and development of practical tools relating to the search for meaning, purpose and truth. The charity describes itself as serving as "a global philanthropic catalyst for discoveries relating to Big Questions of life and the universe, in areas of science, theology, philosophy, and human society."

The gift will support numerous aspects of the project, including completion of regulatory review; establishment of production orchards for public distribution of the blight-tolerant trees; production of transgenic trees for use in larger-scale forest restoration; establishment of small educational plantings at botanical gardens, arboretums, parks, historical sites and other public venues; the planting of a demonstration/research restoration forest focused on public education and outreach; development of ecosystem and agricultural restoration protocols; and, finally, the start of distribution to the public.

Earlier this year, the research team submitted to federal agencies a 286-page petition that lays out the case for why officials should grant regulatory approval for public distribution of genetically engineered, blight-tolerant American chestnut trees that were developed at ESF. Powell said he expects the petition to be accepted for full review this winter. The request must be approved by the U.S. Food and Drug Administration, Environmental Protection Agency and U.S. Department of Agriculture. Because the chestnut's range extends into part of southern Canada, approval will also be sought from the Canadian Food Inspection Agency.

Although genetic engineering has been approved in use for agricultural crops, this is the first time scientists have sought approval to use the technique to restore a native tree species.

The ESF scientists add a single gene from wheat to the tree's genome; the additional gene allows the tree to detoxify the oxalic acid produced by the invasive fungus.

For the last several years, the chestnut project at ESF has been supported primarily by philanthropic funds.

Claire B. Dunn is a freelance science writer in the Syracuse area.

In the coming months, ESF will ask members of the College community to assist the American Chestnut Research and Restoration Project by writing letters that support the work being done by our team of scientists. This will occur when the federal regulatory approval process enters the public open-comment period. Please keep an eye out for that important appeal and check www.esf.edu for updates.



Dr. William Powell stands among chestnut plants in an ESF greenhouse.



Above, Abigail Glenn on campus; left and top right: Sansa, a baby spider monkey was one of the primates that Glenn worked with during her internship; bottom right, a baby sloth named Pikachu is one of the residents at the Jaguar Rescue Center.



Days in the Jungle Shape Career Focus for Biology Student

by Karen B. Moore

Baby sloths that had to be kept from eating dirt, a blind parrot that liked to sit on a person's shoulders and a baby howler monkey with a penchant for sitting on top of a volunteer's head were a few of the animals Abigail Glenn worked with during her internship at the Jaguar Rescue Center in Costa Rica.

Glenn, a senior conservation biology major, fell in love with the not-for-profit rescue center years earlier while on a family vacation. She returned to the rescue center that rehabilitates and releases native animal species in Costa Rica in spring 2019.

While her duties had her working with parrots, toucans and baby sloths, it was the primates that stole her heart and solidified her desire to work with primates.

"The best part of the internship was the days I got to spend my entire shift working with baby primates, especially when I got take them out to the jungle and help them climb, or play quietly with them when they were tired.

"This was my all-time favorite responsibility," she said, "and it was an extremely rewarding experience — one I hold very close to my heart.

"I had never closely worked with primates," Glenn said, "much less interacted with them on any scale. The ability to work with primates has always been a dream of mine — one I did not think I would reach until much later in life. I sat with those babies, day after day, building relationships with each of them."

Months later, Glenn finds herself thinking about the Jaguar Rescue Center — even the moments she spent washing dishes — on a daily basis. "No matter how small the task, I was still a part of something much greater. I was surrounded by people who shared a similar passion and believed in helping these animals as much as I do," she said.

Glenn was able to focus on the unpaid internship with the help of an ESF Career Fellowship.

The Career Fellowships are intended to promote the career and professional development of ESF students. The program has supported nearly 100 students over the last seven years. The program recently was buoyed by a \$250,000 gift from alumni Jesse Fink and Betsy Mitchell-Fink — the second such gift from the Finks since the program's inception.

In Glenn's case, it provided the financial security to gain experience in her chosen field.

"I funded the trip by myself and the fellowship enabled me to work there without worrying about money. Without the fellowship, I would've felt a lot of financial stress during the trip."

"The experience solidified my desire to work with primates and set the foundation for my future in primate rehabilitation," she said.

Glenn graduated in December and is applying for a position at the Pacific Primate Sanctuary on Maui.

Karen B. Moore is editor of ESF Magazine.

Photographs | Center, Wendy P. Osborne; left and right, Abigail Glenn

Senior Truong Ho Receives Statewide EOP Award

by Karen B. Moore

Soon after Truong Ho and his family arrived in the United States from Vietnam in 2015, his mother became ill and needed to go to a hospital. That experience made an impression on Ho and furthered his desire to pursue a medical career.

"My family and myself couldn't speak English that well, so we had a really hard time in hospitals," he said.

"They (the hospital) could provide my family with a translator, but it's not convenient to talk with a doctor (through a translator)," he said. Cultural differences added to the difficulty, he said. "It's different from Asian to American," he explained. "We're not open to talking about (personal) stuff. It wasn't easy for her to talk about it and I understand that. So, I want to be a doctor and understand other types of people and connect them to healthcare."

Ho and his parents moved to the United States for his education. "They knew I would study better in a bigger country, especially America," he said.

Despite a significant language barrier, he hasn't wavered from his goal of becoming a doctor. He was admitted to ESF as an Educational Opportunity Program (EOP) student in the fall of 2017 and will graduate in May 2020, completing his biochemistry program with a minor in mathematics in three years.

Ho is an active member of the ESF community, both in and out of the classroom. He has consistently been on the Dean's List and shown leadership as a general chemistry teaching assistant, a College tutor for chemistry and calculus, and an EOP chemistry review session leader. He served on the board for ESF's chapter of the National Society for Leadership and Success and is involved in ESF's Alpha Xi Sigma Honor Society, the Food Recovery Network and the Alchemist Society. During the summer of 2019 he received a CSTEP (Collegiate Science and Technology Entry Program)

fellowship to work in Dr. Christopher Nomura's lab on PHA-based biodegradable plastics.

Ho was honored with the inaugural Norman R. McConney Jr. Award for Student Excellence in the fall of 2019. The award recognizes outstanding EOP students for their academic achievements. He was among 42 SUNY students honored by SUNY Chancellor Kristina Johnson at a reception at the SUNY Global Center in Manhattan, New York.

About the award ceremony, Ho said, "We had a chance to see and talk with the SUNY chancellor and important state legislators, which was such a great experience. Their speeches gave me even more motivation and encouragement to become a doctor and follow my dreams."

Kailyn Wright, ESF's EOP director said, "Truong is a truly remarkable student. He has worked diligently to not only become proficient in a second language but to excel in an incredibly demanding degree program that is taught exclusively in a second language. This incredible feat is due to his strong work ethic and ability to maintain focus on his goal to study medicine. ESF is lucky to have a student with such impressive academic and personal resolve."

Receiving the EOP-specific award has significant meaning to Ho. "The mission of EOP is to help people succeed and I want to do the same thing as a doctor, but with health. I want to help underserved people connect to healthcare."

"I just want to motivate other people," said Ho. "I came to America four years ago and couldn't speak English. Now I got an award and am a senior in college. So if I can do it, anyone can do it. Don't let anyone tell you, you can't do it. Take a deep breath and try again."

Karen B. Moore is editor of ESF Magazine.



Above, Truong Ho in front of Anna Huntington's sculpture of Abraham Lincoln at the admitted student reception; right, Truong Ho and his parents.



Photographs | Courtesy of Truong Ho

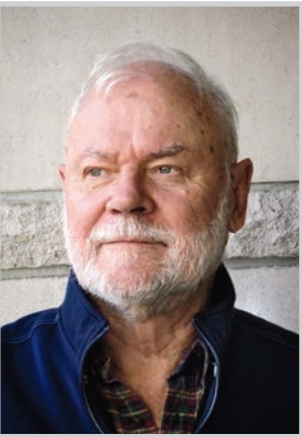
GRADUATES OF DISTINCTION

The ESF Alumni Association honored this year’s Graduate of Distinction award recipients during Commencement Dec. 6, 2019. These awards are presented each year to recognize the outstanding achievements of our distinguished alumni, and share these accomplishments with our newest graduates.



2019 Graduates of Distinction Nikita Lopoukhine ’68, left; Roseana Burick ’06, second from left; and John Anlian ’73, right, posed for a photo with Interim President David C. Amberg and Alumni Association President Thayer Miller ’71.

Nikita Lopoukhine ’68 *Lifetime Achievement*



After earning his degree in forest botany from the College, Nikita Lopoukhine ’68 began his career working with Forestry Canada in Ottawa. During his tenure there, he earned his master’s degree from the University of Saskatchewan under the tutelage of the renowned Canadian biologist and eco-philosopher, Dr. Stan Rowe.

Lopoukhine’s career path continued with the Lands Directorate for Environment Canada in Halifax, Nova Scotia, where he led the development and application of a Coastal Classification System for the Atlantic Provinces of Canada. As chair of a working group under the Canadian Committee on Ecological Classification, he was instrumental in the evolution of the techniques and concepts of ecological land classification.

In 1981, Lopoukhine brought his talents and vision to Parks Canada, where he worked as a World Bank advisor, served as national science advisor, chaired the Society for Ecological Restoration Board, served as executive director of the Ecological Integrity Branch and finally, served as director general, National Parks Directorate.

Throughout his years with Parks Canada, Lopoukhine’s accomplishments include the application of controlled fire in maintaining park ecosystems, the launch of a leading-edge ecological integrity monitoring program, and the introduction and implementation of the Species at Risk Act. He also oversaw the

implementation of emerging scientific methods in addressing various ecological integrity challenges. Internationally, Lopoukhine worked in conjunction with the World Bank in Russia and also represented Canada in negotiations related to the Convention on Biological Diversity.

In 2004, Lopoukhine was elected chair of the World Commission on Protected Areas for the International Union for the Conservation of Nature, where he served for the next eight years. In this volunteer role, he worked to strengthen the recognition of the fundamental role of protected areas in conserving nature and redefined the definition of a “protected area” into the standard currently used around the world. Through presentations and guest speaking engagements across the globe, Lopoukhine continues to promote the importance of ecological restoration, biodiversity and conservation. He has spent a lifetime protecting the special places of our planet and inspiring new generations of people to experience, embrace and love nature firsthand.

For his outstanding contributions to the field of environmental and forest biology, the College of Environmental Science and Forestry Alumni Association is proud to recognize Nikita Lopoukhine as the 2019 Graduate of Distinction — Lifetime Achievement award recipient.

2020 Graduates of Distinction: Call for Nominations

We are currently seeking nominations for the 2020 awards in all three categories. **Lifetime Achievement** is reserved for alumni who have ended or will soon end their active careers, **Notable Achievement** is for alumni who are in the early to mid-point of their careers, and **Incipiens Quercu** is geared toward our alumni who have recently graduated and are demonstrating their commitment to ESF’s environmental stewardship through their professional and/or volunteer work experience. Please keep in mind these awards are presented to those whose accomplishments might be considered “pioneering,” whose work has positively affected society, or who are otherwise inspirational to students and fellow alumni.

Nominations may be received from alumni or anyone who would like to see an alumnus receive one of these awards. Please visit www.esf.edu/alumni/distinction.htm to complete an online nomination form or email alumni@esf.edu to request a nomination packet. Self-nominations are welcome. The nomination deadline is June 30, 2020.

John Anlian ’73 *Notable Achievement*



John Anlian ’73 is an outstanding example of how commitment to the environment and a passion for public service can change the world. After graduating from ESF with a degree in forest biology, Anlian continued his education at New York Law School in New York City earning his juris doctor degree, and began practicing law in New Jersey. While developing a successful career as a respected attorney, he did not forget his ESF roots. His desire to improve the environment and, in turn, the lives of those he served, led him on an extraordinary journey spanning almost 40 years of public service that includes serving as an elected official for his hometown of Ridgefield Park, New Jersey, since 1980.

Running as an independent candidate on a platform of providing responsive government, Anlian was elected to the board of commissioners in 1980. Now serving his 10th four-year term, he continues to promote local government that is responsive to the will and needs of the people. This has included, among other things, establishing a nature preserve in his community, creating an Environmental Commission and Green Team that promotes green sustainability, furthering the goals of the village’s Shade Tree Commission and keeping the environment and conservation as important factors in municipal decision-making.

Among Anlian’s achievements are the advancement of the issues of conservation, recycling, land

preservation, urban forestry, parks and green sustainability, and his leadership and support for a major expansion of Overpeck County Park in Bergen County, New Jersey.

Over the years, Anlian has combined his love for the environment with his legal expertise by volunteering his time and knowledge to teach members of the N.J. Shade Tree Federation and several New Jersey communities about the legal issues concerning shade tree commissions and community forestry. He was instrumental in providing counsel and advice in the adoption of the New Jersey Community Forestry Assistance Act, and he continues to provide guidance on other proposed legislation in New Jersey affecting trees and community forestry.

Throughout his tenure, Anlian has never forgotten the principles that he learned at ESF and upon which he started his career in public service. He has also been active in scouting. An Eagle Scout himself, he has served as an institutional representative for a local Boy Scout troop for many years. He continues to help keep environmental and conservation concerns at the forefront of municipal governmental decisions in Ridgefield Park.

For his outstanding contributions to society, the College of Environmental Science and Forestry Alumni Association is proud to recognize John Anlian as the Graduate of Distinction — Notable Achievement award recipient.

Roseana Burick ’06 *Incipiens Quercu*



Since graduating from ESF, Roseana Burick ’06 has made her mark managing natural resources with the U.S. Army Corps of Engineers. She has dedicated her career to overseeing public recreation and environmental stewardship, planning, interpretation, outreach services and budgeting for federal projects. Burick has been recognized on multiple occasions by the Department of the Army for her tremendous work on national projects and outstanding community outreach.

Burick’s degree in water sciences/environmental policy and law prepared her extraordinarily well for her career with the U.S. Army Corps of Engineers. She has served as a park ranger for a lake in Virginia and North Carolina, a natural resources technical specialist for the St. Louis District, a lock and dam program manager for the Mississippi River, chief of natural resources for the Louisville District, deputy chief of operations for the Rock Island District, and National Environmental Stewardship Business line manager. Recently she accepted a program manager position at the U.S. Army Corps of Engineers headquarters office, where she works on policy and budget for the Northwestern and Pacific Ocean divisions. In her professional roles, she has been responsible for the critical technical guidance and recommendations concerning solutions to a variety of natural resources, park management, flood control, operational and budget development issues.

Burick worked to develop and apply standardized operating procedures for U.S. Army Corps of Engineers policies, specifically the Recreation Use Fee Program. She established implementation protocol for audit procedures, accounting measures, administration of day-use and camping fees, special recreation-use permit fees and the addition of the U.S. Army Corps of Engineers into the America the Beautiful Pass Program.

Whether it’s partnering with local libraries for their summer reading programs or teaching the next generation of park rangers about interpretation and outreach, Burick has played an integral role in the development of national community outreach programs. She was instrumental in implementing the national Every Kid Outdoors initiative in conjunction with other federal agencies. This program provides free access to national parks across the country for every fourth-grader and their family. Burick served as the U.S. Army Corps of Engineers key point of contact on the project. Her involvement included training field agents, assisting with grants, coordinating corollary events and attending a White House reception.

For her outstanding contributions in the field of natural resources management, the College of Environmental Science and Forestry Alumni Association is proud to recognize Roseana Burick as the Graduate of Distinction — Incipiens Quercu.

CLASS NOTES

1943

George Prokupek (PSE) writes, “This past June, my wife and I celebrated our 72nd wedding anniversary. In August, I celebrated my 97th birthday. Wishing all ESF alumni a happy and healthy 2020.”

1948



Willard Fichtel (WPE) writes, “Still enjoying fishing and golf with my children and grandchildren at 96. ESF is in my thoughts.”

1950

Art Nishball (WPE) writes, “I celebrated my 91st birthday Jan. 19, 2020, and 62 years of marriage Nov. 10, 2019, with our two children (Nancy, and Judy and her husband Scott). Our health is good considering our ages. Both using walkers and have been living in an assisted living facility in Woodbridge, Connecticut, just outside of New Haven. Hope all who see this are still enjoying life.”

1952

Jay Hutchinson (FOR) writes, “Daily woodsy walks keep me at least puffing and panting if not healthy, as I approach 90. My wife and I like some foreign travel and enjoy our bit of Adirondack-like land on Superior’s north shore. **Bob Levine** (FRM) and I keep in touch by email.”

Edward Kimball (FRM) and his wife, Barbara, celebrated their 70th wedding anniversary Sept. 6, 2019.

Howard Rothe (PSE) writes, “I can hardly believe that it has been 67 years since graduation and that I have been retired and living on a golf course in Palm City, Florida, for 30 years. I spent my whole working life in the pulp and paper industry and have lived and worked in six states, some twice, plus four years in Canada and seven years in Brazil. First off with National Gypsum Company in various engineering, manufacturing and management positions. Then with Beloit Corporation, Beloit, Wisconsin, a leading manufacturer of papermaking machinery in sales and sales management positions. Then four years as VP of sales Beloit Canada, Montreal. Followed by three years as VP of sales, Beloit Corporation, and, lastly, seven years as president of Beloit Brazil, Campinas, where we sold, engineered and

manufactured machinery for all of South, Central and North America. It has been a great ride both personally and professionally, and it all started with a great education at the New York State College of Forestry.”

1953

Harold Schumm (LA) writes, “At the full age of 91, life is still good on Pleasant Valley Road in rural Onondaga County, with children, grandchild and great-grandchildren nearby. Although handicapped, still happily gardening and reading with my wonderful wife.”

Robert Smuts (FRM) writes, “My wife, Betty, and I have been enjoying senior living at Lake Seminole Square in Florida since February 2015. We have three sons who are all married, seven grandchildren (three girls, four boys — two of whom are adopted and have special needs) and seven great-grandchildren (five boys, two girls and increasing!)

1959

George R. Adams (PSE) writes, “Moved to a retirement community.”

William Apgar (FRM) writes, “With the drought, wildfires, weather conditions, environmental impact and the nation’s politics impacting our western forests, I’m glad to be a retired forester.”

Bruce Dayton (WPE) writes, “I am retired and living in Venice, Florida, with Norma, my wife of 35 years. As a graduate student, I did research on vegetation/soil relationships in North Carolina and on radionuclide recycling in slash pine at the Savannah River Ecology Laboratory, South Carolina. After I received a Ph.D. in botany from the University of North Carolina in Chapel Hill in 1968, I was hired as assistant professor at SUNY Oneonta. I taught ecology and botany, did research on browse availability at Kruger National Park, South Africa (1977), received a SUNY Chancellor’s Award (1979), and was then promoted to professor. After marine ecology training, I taught SUNY summer courses in marine ecology at Shoals Marine Laboratory and elsewhere on the East Coast. I retired from SUNY Oneonta in 2000 and have since served as a volunteer naturalist at Mote Marine Laboratory, Oscar Scherer State Park and Charlotte County Parks. I am recovering from lymphoma.”

Charles Frommer (FRM) writes, “I am now spending most of my time in our ‘shack in the woods’ that I love so much.”

1960

Henry Eichenhofer (WPE) writes, “The Eichenhofer family continues to grow. Our four children ‘produced’ 11 grandchildren and four (soon to be five) great-grandchildren!”

1962

Kenneth Laffend (PSE) writes, “We spend our time between Media, Pennsylvania, and Ocean City, New Jersey. Very proud of our granddaughter, Hannah, who is a senior at ESF.”

Edwin White (FRM) writes, “I attended my 60th reunion at the Ranger School in August. Enjoying retirement, lots of time at cabin on Hickory Lake, into ESF a few days a month, hockey and lacrosse games with the grandkids. Connie and I celebrated 58 years of marriage in July!”

1963

Stephanie (Hewitt) Labumbard (FRM) writes, “Still enjoying Cadillac year-round. Lots of volunteer work, exercise, coffee times and physical therapy for ‘age-related’ conditions. All is well here!”

Ernest Paskey (LA) writes, “Living midway between the Gulf of Mexico and Atlantic Ocean in a subtropical forest; it’s very nice!”

1964

John Dwyer (FRM) writes, “Carolyn and I celebrated our 50th wedding anniversary with our three children and seven grandchildren.”

1965



Robert Edmonds (FRM) writes, “You have chosen well if you went to ESF. After well over 50 years in natural resources, I realize that I could not have selected a better path in life. In fact, I have retired, ‘unretired’ and started a couple of related businesses because I just can’t shake the desire to stay in forestry. Like many of my colleagues, the natural resources profession has captured me mind, body and spirit. One reason is the people in this field are usually of exceptional character, honest, sensitive to the world around them, caring, mutually supportive, likeable and on a mission in their profession. This probably describes you if you are reading this in the ESF publication. So far, three of my nine grandchildren have chosen to follow my professional footsteps into the field of natural resources; Maddie is a wildlife graduate from UNH, Chase is a UNH senior in outdoor education and Michael is in the second year of his four-year program at ESF in forest resources management, spending this year at the Ranger School in Wanakena. On our way to visit Michael at Wanakena this summer, my son and I stopped by the site of the College of Forestry Spring Camp at Pack Demonstration Forest in Warrensburg, New York. We encountered the old lodge that I was fortunate enough to stay in during spring camp as a student 55 years ago. The lodge has a strong history that ESF can be proud of. It served as a visitor center and provided educational outreach to travelers along its prominent highway. A forestry friend of mine, Bob MacGregor, is now overseeing ESF

Forest Properties and is working to erect a historical sign to preserve this part of Adirondack and ESF history. If others stayed in this lodge and are interested, please email me at robertleedmonds@gmail.com.”

John Slater (LA) writes, “Pleased to report that to simplify our lives we moved to a ranch house this year. I am now in semi-retirement (sort of a going-out-to-pasture thing), and I received two nice honors: a Lifetime Achievement Award from the Maryland chapter of the American Society of Landscape Architects and a Preservationist of the Year Award from Preservation Howard County. Still active and consulting on a part-time basis. Life is good.”

1966

Jock Robie (PSE) is busy with his vermiculture project: providing education and worm bins to individuals, schools, adult education programs and libraries all over the state of Maine and beyond. **Susan (Pennoyer) Robie** (CHE) is busy helping with worms, vegetable gardening, bees, rabbits, children and grandchildren.

1967

Craig Fournier (WPE) writes, “I am living in New Hampshire and just completed a workshop for metal working: welding, forging and casting. Also working on climbing all 48 peaks in New Hampshire over 4,000 feet in elevation; 12 left to go. I am on the local planning commission and am involved with our local rail-to-trail organization.”

Stephen Glasser (FRM) writes, “My wife, Elizabeth, and I will celebrate our 50th anniversary this year and we hope to attend our 60th ESF class reunion in 2027 as well, God willing.”

Richard Gray (WPE) writes, “Enjoying retirement — grandchildren, golfing, fishing, bow hunting. Everyday is a Saturday.”

Robert Kinstrey (PSE) writes, “I retired in April, just before my 75th birthday. Doing some consulting but primarily managing National Corvette Convention and local Corvette Club. Pauline and I are spending time in Florida. Life is good.”

David Stout (FRM) writes, “I recently installed 22 solar electric panels on our house to provide power to our 2019 Nissan Leaf Plus because we believe that without the capture of the sun’s energy the world’s economy will fail; and scientists assure us our climate will also fail. I have been advocating the adoption of a world hydrogen and electric economy with additional power from underwater hydro in New York state rivers adjacent to major highways to service H2 refueling stations for vehicles as their current use is replaced with solar and wind electric generators. Without refueling stations, H2 vehicles that are currently available are not marketable to the public, and global warming will continue. Also, our building stock must be adapted to air-to-air or ground-source heat pumps to replace their fossil fuel heating systems. This will also require additional electric power from green renewable sources. Without these changes

IN MEMORIAM

Dean Ottaway ’47*
Robert Eastment ’49*
James Gram ’50*
Robert Upper ’51*
William Vernam ’51*
Olin Hyde ’52*

William Belden ’56*
J. Patrick Vanbuskirk ’58*
Bruce Washburn ’59*
Daniel Houston ’63
William Quartz ’63*
Palmer Shupe ’64*

William Winter ’66*
Gary Speenburgh ’70*
Kenneth Hotopp ’82*
Maxine Dakins ’94*
M. April Ellis ’94*
Kelly Cook ’04*

*Full obituaries are available online at www.magazine.esf.edu.

To send us an obituary – Email: alumni@esf.edu
Mail: ESF Alumni Office, 219 Bray Hall, 1 Forestry Drive, Syracuse, NY 13210

no one will be able to grow food or live on this planet. I have called for a regional advocacy group, such as exists in California (www.H2usa.org) and Massachusetts, to push the adoption of the H2 economy here. We need participants. Call 716-549-3386, start a message saying why you are calling, leave a call-back number if we don’t answer.”

1968



David Tessier (LA) writes, “Linda and I took a wonderful and relaxing 10-day cruise to the Panama Canal with stops in Aruba; Curacao; Colon, Panama; and Puerto Limon, Costa Rica. The passage through the canal was imposing, striking, massive — the highlight of the trip!”

1970

Thomas Catchpole (FRM) writes, “I have been retired from the Sierra National Forest for over 17 years. I still substitute teach, write for a newspaper, do ‘talk about trees’ presentations at schools and run a wood products business in retirement. Three daughters and their families are all busy and the five grandkids are growing fast. I had some health problems in 2019 but am still active in Society of American Foresters education.”

Robert Sellar (PSE) writes, “Great P+P turn out for our 40th! It would be nice to have a bigger crowd for our 50-year reunion.”

Charles Sperry (FEG) writes, “This is my first class note in the nearly half-century since graduation. My erratic career path began in the private timber industry in British Columbia and Oregon, and continued through the U.S. Forest Service in Colorado, grad school at Colorado State for a

Ph.D. in economics, faculty at SUNY Fredonia in New York, self-employment as an organizational development consultant in Montana, and finally back to the Forest Service as land management planner in Missoula, Montana. My late wife and I also spent 16 of our Montana years raising llamas (never failing to lose money at it!). I am now happily retired in Florence, Massachusetts, enjoying my woodworking shop (way more tools than skill) and devoting a modest amount of time volunteering with an area land trust and a community-based recycle center. It’s unlikely that many SUNY folks would remember me, but, now that I live back East, I welcome the possibility of meeting new, aging, ‘Stumpy’ friends.”

1971

John Mishko (WPE) retired from British Petroleum Alaska Inc., Prudhoe Bay.

Douglas Wilcox (CHE) writes, “I took my Civil Service retirement from the USGS-Great Lakes Science Center in 2008 with the Empire Innovation Professor of Wetland Science position at SUNY Brockport in my back pocket. After 10 years of teaching wetland ecology, northern wetlands, restoration ecology and scientific technical writing, and pulling in grant funding for many Great Lakes wetland research projects, it was time to consider retiring again. However, that is not easy when you enjoy what you are doing. Therefore, I opted for partial retirement and am now in my second year at half time, with no teaching responsibilities — just finishing off grants and writing journal manuscripts.”

1972

Darrell Osterhoudt (FRM) writes, “Retired, for the second time, from the Association of State Drinking Water Administrators in 2019. The first time was from the Missouri Department of Natural Resources in 2005. I have been living back in Missouri after 14 years in the Washington D.C. area.”

1973

Barry Colman (ES) writes, “Enjoying retired life in Palm Springs with my partner, John.”

Albert Gomolka (FRM) writes, “Can’t wait for the next alumni winter SU basketball game and pizza party. The Alumni Association and staff do an excellent job and a great time is had by all.”

1974

Robert Vass (EFB) writes, “After 30 years of working in Syracuse, first at the Pet Shop on Marshall Street, then at Pet Depot in Shoppingtown mall, then at Syracuse Aquarium in Shoppingtown, I moved to Sebaho Lake in Maine to help a friend take care of her kids and her family estate. In 2000, I moved to Englewood, Florida, to care for my parents. My father died 15 years ago of Alzheimer’s (the worst) and my mother died three years ago at 95, simply of old age. I spent 20 years working as a caregiver and learning a lot. My brother died five years ago and my wife 12 years ago. I am officially retired and now living on and caring for the family estate. I have two daughters, Elisabeth and Melissa, both very successful, living up north in Rhode Island and Wisconsin. And I have six grandkids — each of my daughters has two girls and a boy.”

Stephen Young (FRM) writes, “I am still working as chief botanist for New York under ESF and the DEC while also helping to improve the herbarium at ESF and hiring ESF summer botany interns. Get out there and enjoy the flora of New York!”

1975

A. Christopher Sandstrom (FRM) writes, “2019 marked our 50th year caring for trees as Cayuga Tree Service, Inc. The company was founded in 1969 by **Arthur C. Sandstrom** (‘49, FRM). After working for the company through college, I joined full time, purchasing the business in 1988. We have had the opportunity to work on many properties throughout Central New York, focusing on estates around Skaneateles Lake. I still enjoy what we do, so no plans to stop just yet. I am past president of the ESF Alumni Association and currently serve on the board. I have also been involved with the Central New York Land Trust for 30 years, currently serving as vice chair. I can be reached at cayugatree@msn.com if any classmate would like to reach out.”

1976

George Steele (EFB) writes, “I continue to do environmental education work and attended the New York Forest Owners Association conference on managing your wood lot for wildlife. I will also be attending the North American Association for Environmental Education and New York State Outdoor Education Association conferences where I will be on the lookout for ESF alums.”

1977

Scott Saroff (EFB) writes, “I’m glad to report that my ESF roommate **Mike Anderson** (EFB) and our families continue to hang out at his home in Newark, Ohio!”

Russell Seus (FRM) writes, “I retired in 2017, after 28 years as a Burger King franchisee, here in Maryville, Tennessee. Both myself and **Pam Petko-Seus** (‘78, EFB) cherish our years at ESF. We spent 21 days in Australia/New Zealand for a retirement celebration.”

1978

Laurel E. (Fitch) Flynn (CHE) writes, “While I miss doing mass spectrometry, I don’t miss working in management. I have now officially retired, finishing out my career in chemistry as director of a small lab in upstate New York. To change it up and start off on my next adventure, my husband and I have relocated to sunny Casa Grande, Arizona! Snow is now a recreational destination rather than something that piles up outside the house. We are looking forward to revisiting all the places we have already been in the great Southwest and seeing so many more! We have quite the bucket list.”



Denise Hobson (EFB) brings her ESF flag on all of her travels. Here she is most recently at Mt. Rainier in Washington state.



Mark Langton (FRM) writes, “How little did we know the importance of staying flexible in our careers? My career spanned 21 years with Champion International Corporation in South Carolina, North Carolina, Minnesota and New York, and four years with Rexam/FiberMark in New York, mostly in quality assurance for building product and paper, with four years in building products sales. The poor paper market at the turn of the century sent me on a new career path. I retired in 2015, after 11 years as a compliance supervisor at Westway Feed Products in Tomball, Texas, covering 26 plants in the U.S. and Canada. Diane is still with me after 45 years. She retired from teaching as a nursing professor this year. We reside in a cabin that we built on the lake in Livingston, Texas. We have three daughters and six grandchildren (ages 21-7) who live close enough to stay a tight family.”

1979

Betsy (Fluckiger) Bibla (LA) writes, “Spent a week with **Jayne Henderson** (‘78, EFB) in Cape Cod, Massachusetts, catching up and enjoying the great outdoors.”

Tom Maleike (PSE) writes, “I enjoyed a 33-year career with Appleton Papers until unfortunately, like so many other paper mills around the country in recent years, their paper and recycled pulp mill in Ohio closed in 2012. Fortunately, I was able to transfer my paper science and paper industry chemical engineering experience to bridge a career to retirement with DuPont in Dayton, Ohio.”

Christopher Williams (FRM) writes, “I retired in July after serving 36 years at the Massachusetts Department of Conservation & Recreation, finishing up as chief park ranger. Now I’m enjoying family time, volunteering with the Brewster Conservation Trust and getting out in the great outdoors!”

1980

Irene Marx Olson (FRM) writes, “I am still working as an RN, but now we live in our little dream house on a lake in Northern Wisconsin. It is so wonderful — we are close to ski and mountain bike trails. I love living in the woods, I’ve had to brush up on those ‘quiz trees’ and the bird calls we learned off that LP phonograph record at summer camp! **Susan (Kong) Tripp** (FRM) — wish we lived a little closer to each other!”

John Shields (LA) writes, “After 27 years at Walt Disney Imagineering, I’ve retired to Palm Springs, California. I became a Master Gardner and travel four months of the year.”

1981

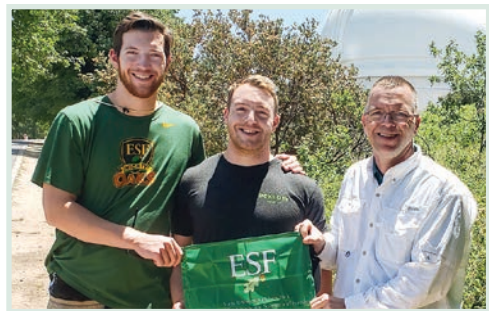
Susan (Guhl) Browne (ES) writes, “We send an Alaskan hello to fellow ESF graduates. Retirement in Alaska is satisfying, living in the shadow of Denali National Park. Come visit. Summer is best. Environmental science thrives here.”

Ward Moeller (FRM) writes, “Hello Class of ‘81 and congrats to those of you who stayed in the environmental business. After receiving my M.B.A., I have been in the banking business in downstate New York for 35 years. I am currently an SVP and chief compliance officer for a bank in New York City. Even though I am a world away from forestry, I always tell people that I credit ESF with teaching me how to write a good research paper. Those skills translated well into regulatory compliance, memos and reports. Joanne and I are starting to think of retirement down the road. Have been doing more travel and have fun with my rock band The Gypsy Felons. Peace.”



Save the Date
October 1-3, 2020
Senior Reunion and Homecoming Weekend

1982



Doug Daley (ERE) displays the ESF flag at the Palomar Observatory in California with sons **Cameron** (‘22, ERE) and **Bryan** (SU, 2015).

1983

David Jacobs (LA) writes, “I have a new second home in Tashkent, Uzbekistan. Peacham, Vermont, is still my home base, but my wife teaches in Tashkent so life is back and forth.”

Robin (Viola) Kruse (EFB) writes, “Last year we moved to a new house, I retired and we welcomed our second grandson into the world.”

1985

Jeffrey R. Auer (EST) writes, “Forestry Day is to be held in West Springfield, Massachusetts, April 26, 2020. This day is to celebrate the Town Forest with the MADCR and the TriCity Carbon Sequestration Project.”

1988

After over 30 years working as a planner, **Tracey Corbitt** (LA) is retiring and moving to the Adirondacks!

Holly Kaufman (ES) has left the world of private engineering firms and is currently an environmental scientist for the Utah National Guard. She is still conducting soil and groundwater remediation, and generally playing in the mud, and is loving life in the Wasatch Mountains.

1991

Virginia Rettig (EFB) writes, “I have been refuge manager at Edwin B. Forsythe National Wildlife Refuge for nine years and counting!”

David Suarez (LA) writes, “Ellen and I moved to Greenville, South Carolina, at the end of 2018. After 27 years of operating Global Landscapes Inc. in Syracuse, we closed down and moved closer to Mom and family. I now work for the City of Greenville Parks and Recreation Maintenance Department at the Greenville Zoo. Greenville is a great small city!”

1994

Andrea Owens (EFB) writes, “Rob and I have been married for 17 years. We both enjoy teaching and camping with our two kiddos and dog in the summer and throughout the year. Love to meet up with others — let us know!”

1995

Avery Y. Kamila (ES) reports that her work with the Portland Public Schools in Portland, Maine, resulted in the state’s largest school district serving daily vegan hot lunch, which started in September.

2005

Nicole Williams (EFB) writes, “I am now in Portland, Oregon, working for Ocean Outcomes, a fisheries and ocean conservation organization. I’m still playing roller derby under the name Bonnie Thunders and won my sixth world championship last year. If you’re in the area, let’s link up!”

2011

Last summer, **Kathryn Ellers** (EFB) studied emerging models in conservation and education as well as spiritual connections to nature in Thailand. Kathryn, a conservation biologist at Adelante Consulting, Inc., lives in Santa Fe, New Mexico, and is a graduate student in Miami University’s Global Field Program.

2019



Elena Araya (ERE) writes, “I went on a trip to Peru with my dad as a graduation/birthday present. While there, we traveled to Puerto Maldonado, which is near the start of the Amazon Rainforest Preserve. My father and I went on an excursion to Lake Sandoval (Lago Sandoval), where we learned about the absolutely amazing ecology of the area. On the way back from the excursion, I ran into my classmate, **Emma Peister** (EST), who was also there with her family. Her parents noticed that I was wearing an ESF hat, and when I turned around, there was Emma! It was too funny, and I couldn’t believe we were in the same country, let alone in the same part of the Amazon Rainforest.”

GROWING THE FAMILY TREE

1986



Terry Croad (LA) became a grandfather this past summer! Three generations of Croads were able to enjoy a Yankees vs. Tigers baseball game in Detroit. Here is Terry with son, Aaron, and new grandson, Wesley.

1999

Andrew DeMaio (PSE) welcomed his first child, Cora DeMaio, into the world in May 2019.

Share Your News

These Class Notes were received by the Alumni Office before December 19, 2019.

The next issue of *the ESF Magazine* will have a submission deadline of May 31, 2020.

How to share your news with us

Online:
www.esf.edu/forms/alumni/classnote.asp

Email: alumni@esf.edu

Mail: ESF Alumni Office, 219 Bray Hall, 1 Forestry Drive, Syracuse, NY 13210

Notes should be limited to 100 words and either typed or printed legibly.

Photos should be high-resolution or 1 to 2 MB (megabytes) in size or right from the camera or phone. Please label the photos with your name.

You may also mail your photos to the address above. We will return them to you.




ACCOLADES AND PROFESSIONAL NEWS

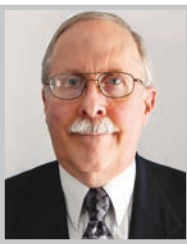
1960

William Ciesla (FRM) was the recipient of the 2018 Forest Health Protection Aviation Safety Award from the USDA Forest Service for his work as a forest health surveyor, trainer and program manager in four Forest Service regions and five countries (U.S., Brazil, Mexico, Kenya and Sudan).

1963

 **Fred Robinson** (EFB) was back in Syracuse the first weekend in November to help the Syracuse University men’s hockey team celebrate its 60th anniversary. Fred was one of eight former players who were inducted into the inaugural Hall of Fame class of the SU men’s hockey team Nov. 9, 2019. Fred started playing on the team in January of his sophomore year, after returning to campus after two years in the United States Coast Guard. During his senior year he was the team captain and leading scorer. Fred then played on the team while he was a grad student in forest entomology. **Raymond Nozynski** (‘64, WPE) and Tom Borg were fellow forestry students on the team. Fred continues to work as a consulting arborist in northeastern Ohio, although health issues are slowing him down.

1976

 **Glen Stanosz** (EFB) has been named a Fellow of the American Phytopathological Society in recognition of distinguished contributions to plant pathology. A professor in the Department of Forest and Wildlife Ecology at the University of Wisconsin-Madison, he studies diseases of trees, and has taught classes in plant and forest pathology, mycology and silviculture.

1979

M. Keith Redenbaugh (EFB) writes, “I retired as director of regulatory affairs from Arcadia Biosciences Inc. in Davis, California, in 2018. After completing my Ph.D. from ESF under Dr. Robert Westfall in 1979, I held a post-doctorate position with Dr. Melvin Calvin at University of California, Berkeley. I then worked at the following organizations: Plant Genetics Inc., Calgene Inc., Iowa State University, Seminis Vegetable Seeds Inc., Monsanto Inc. and finally Arcadia Biosciences.”

1983

David O’Connor (EFB) has retired from the Nassau County Police Department where he attained the rank of lieutenant and served for 33 years. He plans to travel the U.S.A. with his wife, Susan, in their fifth-wheel RV. Dave remains an active member of the Great River Volunteer Fire Department.

1985

 **Michael Haws** (PSE) was appointed president and CEO of Sappi North America. Mike joined Sappi in 2012 as managing director of Somerset Mill before being promoted to vice president of manufacturing in October 2015, giving him responsibility for the Somerset, Westbrook and Cloquet Mills, the Allentown sheeting facility, safety, research and development, and customer care. Prior to joining Sappi, he had extensive experience in the industry and held numerous leadership roles with St. Regis, Champion International, International Paper and Verso Paper.

1987

The New York State Federation of Lake Associations Inc. (NYSFOLA) was the recipient of the North American Lake Management Society’s (NALMS) Leadership and Service Award presented at the NALMS International Symposium in Burlington, Vermont, in November 2019. NYSFOLA was recognized for 35 years of significant lake-related community education and outreach efforts. NYSFOLA Manager **Nancy (Jarvis) Mueller** (ES) accepted the honor on behalf of the organization. Since 1985, NYSFOLA has collaborated with the DEC to manage the Citizens Statewide Lake Assessment Program, New York’s largest volunteer lake monitoring program. This year, Nancy coordinated the activities of over 400 volunteers who sampled 176 sites on 156 lakes across the state. NYSFOLA also provides additional outreach and education services to over 250 lake associations across the state.

1989

In September 2019, **Kristofer Alberga** (EFB/FRM), was promoted to regional supervisor of natural resources with the New York State Department of Environmental Conservation for Region 5.

1993

 **James McCommons** (ES), a journalism professor at Northern Michigan University, has written a biography of George Shiras III, an influential conservationist during the Progressive Era in the early 20th century. “Camera Hunter: George Shiras III and the Birth of Wildlife Photography” was published in October 2019 by the University of New Mexico Press.

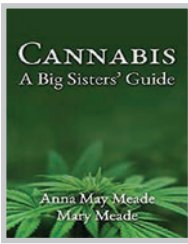
1994

After 11 years as the director of stewardship and sustainability for HBF & Gunlocke in Wayland, New York, **Roy C. Green** (ES) accepted the position of corporate social responsibility manager

for HNI Corporation of Muscatine, Iowa, in March 2019. Roy earned a master’s degree in science and energy management with an advanced certificate in energy technology from the New York Institute of Technology in 2006. He is certified LLED AP, O&M and WELL AP. He lives in Upstate New York with his family on a 12-acre farm.

1996

Greg Bubniak (PSE) has been promoted to a division director position within the Naval Surface Warfare Center – Indian Head, Picatinny Arsenal Detachment. Greg is responsible for the engineering organization that maintains one of the most feared U.S. Navy weapon systems, the Close-in Weapon System.

 **Anna Meade** (ERE) just published “Cannabis: A Big Sisters’ Guide” with Halo International. The book is an easy-to-understand and informative textbook or guide to cannabis, including hemp and marijuana. The endocannabinoid system is explained and medical uses discussed. The brief book is heavily illustrated with pictures and charts. It is the “CliffsNotes” for any new student of cannabis science and use. The book is available from traditional online retailers and many outlets where CBD or smoking products are sold.

1997

Jeremy Taylor (EFB) was promoted to senior engineering research editor at the New York State Department of Environmental Conservation (DEC) in Albany. Jeremy joined the DEC in 2014 as an environmental educator and the editor of “Conservationist for Kids” (“C4”). In his new role, in addition to continuing as editor of C4K, he will take on additional responsibilities with “Conservationist magazine”, as well as managing the social media and web presence for both Conservationist magazine and C4K.

1999

 **Andrew Ferguson** (FRM) has been promoted to vice president of western residential/commercial (R/C) operations at The Davey Tree Expert Company. In his new role, Andrew will assume oversight of Davey’s Western R/C Operating Group and will continue to manage the South-Central R/C Operating Group. Andrew started with Davey in 1998 as a plant health care (PHC) technician in the Denver territory. In 2001, he was promoted to PHC coordinator and to district manager of the West Denver R/C office in 2006. In 2013, he was promoted to operations manager of the South-Central R/C Operating Group. Andrew graduated in 2000 from the Davey Institute of Tree Sciences, which is Davey’s flagship training program in biological


sciences, safety, tree and plant care, and management techniques. He is an International Society of Arboriculture Certified Arborist®.

2004

Karen Stainbrook (EFB) was promoted to section chief of the Lake Monitoring and Assessment Section in the Bureau of Water Assessment and Management at the New York State Department of Environmental Conservation. Karen is a research scientist with over 20 years of experience working in a variety of water and watershed programs.

2006


David Moore (FRM) was the recipient of the 2019 Trailblazer Award from the Arbor Day Foundation, which recognizes outstanding achievement in arboriculture and/or urban forestry by professionals under 35. After working for 10 years in New York City for the New York Restoration Project and then for NYC Parks, David is now the senior tree supervisor for Oakland, California, in the Public Works Department. Within his first year there, David secured a million-dollar grant for a citywide tree inventory and developed a 50-year urban forestry master plan for Oakland. For more about David’s work, see the Q&A on page 18.

 At the 2019 Northern District of New York Awards Night in Albany, **Scott Swayze** (ES) was recognized for his pro bono representation of indigent clients by Chief U.S. District Judge Glenn Suddaby.

2007

Julia Braunmueller (ES) has been promoted to senior project manager in the DeWitt, New York, office of GZA GeoEnvironmental. With a background in ecology and permitting, she has been instrumental in expanding GZA’s natural resources, renewable energy and transmission line consulting services while also leading GZA’s compan-wide solar working group.

2012


 **Matthew Taylor** (NRM) has joined the Rochester office of Bond, Schoeneck & King as an associate attorney in its trust and estate practice. Matt will concentrate his practice in the areas of estate planning and taxation, probate, and trust and estate administration. Matt earned his J.D. from the University at Buffalo Law School where he was the 2018 recipient of the Judge William J. Regan Award — a commencement award given to the member of the graduating class who “demonstrated the greatest proficiency in estates and

surrogate’s law, and who is motivated by a strong concern for public service and public welfare.”

2013

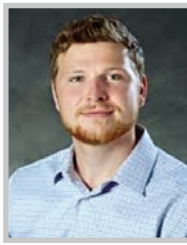
 **Graham Heberlig** (CHE) received his Ph.D. in chemistry from the University of Ottawa in Ontario, Canada, June 18, 2019.

2015

 **Mark Bailey** (ERE) joined MRB Group’s Rochester office, where he will support both water and wastewater teams as project engineer.

Last summer, **Samantha Meserve** (ERE) was selected out of more than 200 participants to attend the International Clean Energy Challenge: 33 Under 33 program hosted by the Upper Austrian energy office with the goal of working with international organizations on the clean energy transition. Additionally, she has since been promoted to deputy director of the Renewable and Alternative Energy Division at the Massachusetts Department of Energy Resources.

2016


 **Daniel O’Neill** (LA) joined Chazen as a landscape designer for its landscape architecture group in Troy, New York. Prior to joining the firm, he worked for CLA SITE in Saratoga Springs where his work included graph and technical drawings from the planning stages through completion. Daniel also worked as an intern with the New York State Office of Parks, Recreation & Historic Preservation for the Niagara Falls Region.

2017

 **Amanda Pachomski** (EFB) was featured by Women Doing Science for her work as Audubon New York’s Long Island bird conservation manager. Amanda leads the coastal conservation team, monitoring and working to increase populations of endangered, threatened and at-risk shore birds and sea bird species while sharing the need for beachgoers to #ShareTheShore with birds.

 **Amanda Tomasello** (ES) joined CenterState CEO’s innovation and entrepreneurship portfolio at The Tech Garden as events administrator. She previously served as communications coordinator for the startup Vessel, a reusable cup system for cafés and their customers in Boulder, Colorado.

2019

 **Alexandra Henderson** (ERE) joined Beardsley Architects + Engineers where she will work on projects for governmental, municipal and state clients as a civil engineer intern.

 **Kyle Stillwell** (LA) joined Foit-Albert Associates, Architecture, Engineering and Surveying P.C. as a junior landscape architect.

Alumni Board of Directors

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Mark di Suvero, Mother Peace, 1969-70. Gift of the Ralph E. Ogden Foundation.
©Mark di Suvero, courtesy the artist and Spacetime C.C., New York

Join Us!

for these 2 Great Alumni Events

April 16, 2020

Central New York Alumni Dinner
Skaneateles Lake

Mark your calendars for our annual Central New York Alumni Dinner Thursday, April 16, in the charming village of Skaneateles, New York.

We will start with an informative look at Skaneateles Lake. This 16-mile-long lake provides drinking water for 220,000 people; it has been used as a water supply for homes in the Skaneateles area and many Syracuse residents since the 1890s. In recent years, the lake has been susceptible to harmful algal blooms (HABs). We will hear from ESF's Dr. Greg Boyer, a chemistry professor who runs an algae-testing lab and has been involved with the Skaneateles Lake HAB analyses. We will also be joined by Frank Moses '01, executive director of the Skaneateles Lake Association.

Later that evening, join other ESF alumni for cocktails and dinner at the historic Sherwood Inn in the heart of Skaneateles. We'll enjoy hors d'oeuvres and a sit-down dinner. The recipients of the 2020 Alumni Memorial Scholarships will be honored, and Interim President David C. Amberg will deliver a College update.

Registration materials will be available in late February. Space is limited, so be sure to make your reservation as early as possible!

June 5, 2020

Metro New York Alumni Gathering
Tour of Storm King Art Center
Dinner at the Historic Thayer Hotel

Join us in June in the Hudson Valley region of New York for an unforgettable day of outdoor learning. This year we will be treated to an in-depth tour of Storm King Art Center, an open-air museum which is home to one of the largest collections of outdoor sculpture in the country. Our tour will focus primarily on Storm King's ecological projects, including their work to conserve the Center's unique natural setting as well as their allée revitalization project (which, involved ESF alumnus Gary Hilderbrand '79 and his firm, Reed Hilderbrand). We'll finish up the day with cocktails, hors d'oeuvres and dinner at the scenic Thayer Hotel at West Point where we'll hear all about everything that is going on in Syracuse via a College update. Registration materials will be available in April.

Registration information for both events will be available at www.esf.edu/calendar/alumni.asp

2020 Alumni Calendar of Events

2/24	Alumni/Student Networking Event Alumni (Nifkin) Lounge	5/28	CNY Alumni Group Gathering The Craftsman Inn Fayetteville, New York
3/26	Albany Alumni Gathering The Hollow Bar & Kitchen	6/5	Metro NY Event Storm King Art Center, Historic Thayer Hotel
3/26	Alumni Reception at New England Society of American Foresters Annual Meeting Springfield, Massachusetts	6/16–22	Alumni Trip to Canadian Rockies and Glacier National Park Canada and Montana
April TBA	Alumni Soiree at TAPPI PaperCon Atlanta, Georgia	8/13	ESF Golf Tournament The Pompey Club, Jamesville, New York
4/16	Central New York Alumni Dinner Skaneateles, New York	9/15–17	Milwaukee Alumni Gathering (in conjunction with Trees and Utilities Conference) Milwaukee, Wisconsin
4/18	Connecticut Alumni Gathering (in conjunction with New England Natural History Conference) Stamford, Connecticut		

FROM THE ESF ARCHIVES

Department Name Change Reflects Growth in Academic Programs

The Department of Sustainable Resources Management (SRM) is the new name for an academic department that has been central to the College since its founding in 1911.

The name change for what had been called the Department of Forest and Natural Resources Management (FNRM) better reflects the scope of the department's offerings, said Dr. Christopher Nowak, department chair.

Since the College's founding in 1911, the department name has changed seven times, with each change reflecting the evolution of program offerings within the department. Over the last 20 years, the department has expanded to include programs in sustainable energy management and construction management as well as offerings in land surveying and environmental and natural resources conservation through the Ranger School.

"The department is much more diverse in terms of professional disciplines," Nowak wrote in a report regarding the name change. "We are not just 'forestry' anymore and have not been for 20 years. The department covers resources from the 'classic renewables,' such as wood, water, recreation, wildlife, and ranges, to 'classic economics,' including land, labor and capital; energy as a resource; and labor, money, materials and machinery."

The decision to change the name was made after more than a year of meetings, surveys and discussions with stakeholders and constituents, according to Nowak.

With sustainability at the forefront in discussions about the environment and climate change, students looking for a program that addresses those needs will be able to find ESF and the SRM more easily in their searches. "The word 'sustainable' is still popular for attracting attention," said Nowak. "It's one of the most common search words used by high school students looking for environmental programs and environmental careers."

"While we are no longer just the Forestry Department, and have not been for decades, we still have forestry through SAF-accredited A.A.S., B.S. and M.F. degree programs," Nowak wrote. Forestry does not have to be in the department name to still have programs that educate foresters. "We still have forestry," he emphasized, "and it is readily findable by potential students via our programs."

1964



Text from an archival photo from 1964 stated, "Much of the forest manager's work that was done previously outdoors, is now done quicker and better with modern techniques. Aerial photos, for instance, are used almost daily to determine topography and the types of quality of timber stands. To collect this information, a stereoscope with parallax bar is used."

2015



Dr. Eddie Bevilacqua, right, uses an unmanned aerial vehicle camera to take a picture of himself and graduate students Mehmet Ozen, far left, and Ali Ozderya while out doing fieldwork.

The mystery of the Little Shop of Horrors photo in the last issue of ESF Magazine might have been solved by Russ Hovencamp Jr. '61 who wrote:

"While I was a student at the New York State Ranger School in Wanakena ... there was a room in the back part of the school before they added on to the old building. There were logging tools mounted and displayed on a pine board wall such as is shown ... This was also a storage room with extra beds, bunks, etc., also where students stored their suitcases and travel trunks. When the regular dorms were full at the beginning of the school year extra students were bunked here until the student ranks were depleted for various reasons and bunks were then available for them to move into the regular dorm rooms ... I'm not 100 percent sure ... but it looks exactly like I remember it."

CHANGE SERVICE REQUESTED



Make a World of Difference

When You Give to The ESF Annual Fund

Ysabella Luikart '20

Chemistry major • ESF National Scholar

When Ysabella “Bella” Luikart was looking at colleges, she searched for schools that placed women in STEM-related positions and found ESF. As an environmental chemistry major, she is conducting research involving pollutants in Jamesville Reservoir with Dr. Mark Teece.

Why ESF?

ESF first came onto my radar because I was looking at schools that successfully placed women in STEM fields, and ESF was at the top of the list. The first time I stepped on campus I was pretty sure I was going to go to school here. I loved the general feeling and atmosphere on campus. I knew I wanted to major in chemistry and a huge draw for me was that undergrads are able to be involved in research as early as they want.

I know my ESF education is going to prepare me for anywhere I choose to go. I'm interested in aquatic chemistry research, but I'm open to anything. Eventually I want to be a teacher, but that might not be for quite some time.

What impact did your National Scholarship have on your education?

Thanks to the National Scholarship, I can take advantage of the research opportunities at ESF.

To go here without too much financial strain is great. Right now, I don't have many loans which is awesome. If I didn't have the scholarship — it's a big chunk of my tuition — I probably would've gone to UMass, in my home state, rather than coming here, so I'm grateful for that.

Why is giving back important to you?

I know the difference scholarships have made to my academic career, and I'm proud to be a caller for the ESF Annual Fund, reaching out to ESF alumni, friends and families asking for their financial support for my fellow ESF students.

I know how important the National Scholarship is to me and I want to ensure other ESF students have access to the same opportunities that I have.

Meet other scholars like Ysabella and learn how you can make a world of difference for many at www.esf.edu/scholars.