

MSU FORESTER

Six new faculty in the Department of Forestry, more about these changes, page 6.



Department of Forestry
MICHIGAN STATE UNIVERSITY

SPRING 2017

IN THIS ISSUE

CHAIR'S PERSPECTIVE	2
ALUMNI NOTES	3
LETTER FROM THE FAA PRESIDENT	4
GROWTH IN THE DEPARTMENT OF FORESTRY INFOGRAPHIC	5
SIX NEW FACULTY IN THE DEPARTMENT	6
RECOVERED: HISTORIC PINE MOTIF HINGES	8
GIVING: TINA GUO—WANDERLUST AND IDEALS	9

The MSU Forester is a publication of the Department of Forestry. It is a complimentary newsletter for Forestry alumni, students, staff, faculty and friends.

Department Chairperson:

Richard K. Kobe

Forestry Alumni

Association President:

Lee Mueller

Editorial Staff:

Jeana-Dee Allen and Juli Mack

Contact us with address changes, questions or alumni updates:

Department of Forestry at Michigan State University

Natural Resources Building

480 Wilson Road, Room 126

East Lansing, MI 48824-6402

(517) 355-0090

for@msu.edu

On the cover, research images from Assistant Professors: “G” Phoebe Zarnetske—Community and Spatial Ecology, “R” Mojgan Nejad—Green Bioproducts, “O” Scott Stark—Forest-Atmosphere Interactions, “W” Jessica Miesel—Applied Forest Ecology and Management, “T” Emily Huff—Human Dimensions of Forestry and “H” Monique Sakalidis—Forest Pathology (more on our new faculty, page 6). **Left**, a custom memorial bench made by the MSU Shadows Collection. **Right**, students in FOR 204: Forest Vegetation participate in a tree identification scavenger hunt with Professor David Rothstein in Baker Woodlot. **Back cover**, students in FOR 202: Introduction to Forestry learn different methods to estimate the number of board feet a log may contain.

The Department of Forestry has grown tremendously in the last four years! From 2012-2016, we've had **enrollment growth of approximately 75 percent** (or more) for undergraduate, master's and doctoral students. Our students are excelling academically, with **26 of 68 undergraduates on the Dean's List** (GPA>3.5) and an additional **19 students on the honor roll** (GPA>3.0) for Fall 2016. Our graduate students are **receiving the most competitive fellowships**, including Fulbright and National Science Foundation. Also, **job placement for graduating seniors is approaching 100 percent**.

Support from our alumni has been critical to our recent success. Endowed scholarships enable us to attract the brightest students, many of whom come from modest backgrounds. Annual donations support special activities—such as the attendance of 20+ MSU Forestry students at the recent National SAF Convention, field trips and upgrades to labs and work spaces. All of these factors put MSU Forestry on a trajectory towards being one of the best and most dynamic forestry programs in the world.

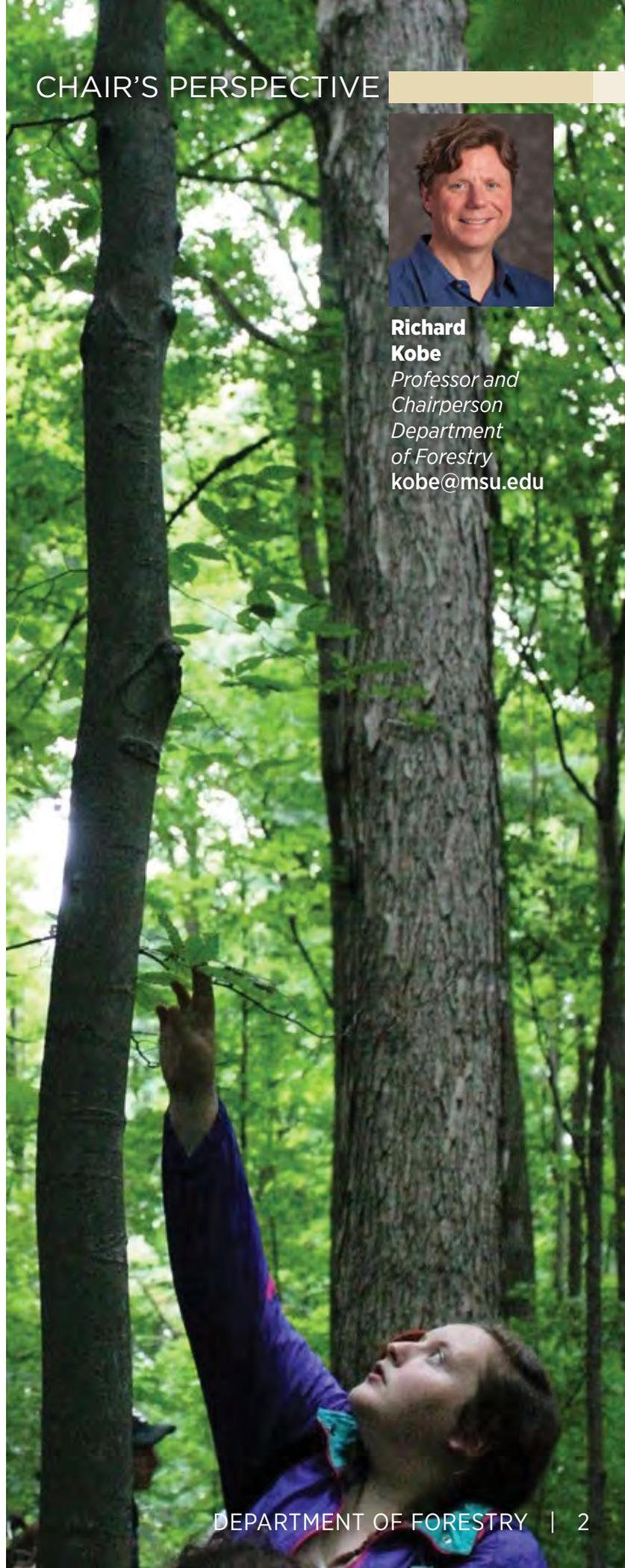
Towards fulfilling that vision, we recently established 10 goals (all of which are high priority):

1. Develop the urban and community forestry program
2. Develop the sustainable forest bio-products/ wood science program
3. Strengthen our leading position in forest carbon science, policy and management
4. Educate future leaders
5. Grow undergraduate enrollment (to>100), diversity and academic competitiveness
6. Grow graduate enrollment (to>50), diversity and academic competitiveness
7. Broaden and deepen relationships with alumni
8. Boost research productivity
9. Enhance communication and relationships with stakeholders and the non-forestry public
10. Modernize building space to meet contemporary needs

We'd love to have your engagement in attaining these goals; please feel free to contact me. On behalf of the faculty, staff and students of MSU Forestry, thank you for your support.



Richard Kobe
*Professor and
Chairperson
Department
of Forestry*
kobe@msu.edu



ALUMNI NOTES

PAUL BIGFORD | MS '74

After graduation, I co-founded a non-profit for youth adventure travel. Our most ambitious trip was an 800-mile raft excursion near the Arctic coast—no commercial group had ever accomplished such a trip! Then, I worked at Mt. Rainier National Park, moved back to Michigan, taught part-time at MSU and took a teaching job—near family property on the Pere Marquette River. I ended my education career as the General Education Director for an Intermediate School District—I founded a Math/Science Center, which was named high school of the year. Our property is managed as a certified Tree Farm. My three kids are 5th generation MSU grads!

CRAIG CHENEY | BS '75

An MSU class helped me get a summer internship, which led to a full-time position in civil engineering and then an engineering position in the automotive parts industry—where I'm still employed as head of business development. In 1987, I earned an Executive MBA from MSU. My wife, Sue and I live on 11 acres with the best-looking trees in Lapeer County. Our daughter and her husband (also Spartans) live in Bath Twp. with our wonderful granddaughter. The moral of my story is: look for opportunities, you never know where a class may take you. Enjoy the ride. Go Green.

DON VAN EYNDE | BS '59

Don received an MS from the University of Kansas and an MA and a PhD from Columbia University. His first career was in the Army (20 years). He served two combat tours in Vietnam and was awarded the Silver Star, two Bronze Stars and the Vietnamese Cross of Gallantry for heroism in action. He also served as the Assistant U.S. Army Attache in the U.S. Embassy in Portugal and later as the Military Advisor to the U.S. Ambassador to the United Nations. From 2004-6, Don worked with NASA's Space Shuttle Mission Management Team. He is a retired Professor of Management—where he:

was recognized on 36 occasions as an "Outstanding/Favorite Professor," honored by the faculty for "exemplary leadership and selfless dedication," received the Trinity University Award for Distinguished Service to the University and the Community and was awarded a Faculty Fellowship for outstanding achievement in teaching and advising. He has 29 articles and one book published. Don is currently the Chair of the Trinity University Crisis Management Team and Vice President of the Ranches of Brushy Top Landowners' Association.

JOSE GUILLERMO FLORES-RODAS | BS '69

After graduate studies at the University of Washington, I started working in 18 different countries—with six international organizations. I am active as a Consultant Forest Economist, especially in projects/programs related to climate change, REDD+ and community livelihoods. MSU had enormous influence in my life, outlook and vision on international development. I currently live in Honduras, my home country. I feel the difference in my life has been that wonderful Spartan Will.

ALAMGIR KHAN GANDAPUR | MS '83

Currently working as Environment Specialist with IUCN Pakistan and am placed in the Environment Cell of the Planning and Development of FATA Secretariat. My main responsibilities include assessing: level of compliance of environmental standards in the planning/implementation of development interventions, issues related to sustainable use of natural resources, new project documents and PC-1s in FATA Secretariat to see that they have in-built components ensuring environmental sustainability, capacity of the line departments to undertake environmental assessment using EIA/EIS/IEE systems for various development projects.

DONALD GILBERT | B '50

I worked in the wood industry for 35 years (minus a stint during

the Korean War) in management positions and production operations. First retirement at 55, however, I established my own fully-licensed financial service company in Leland, N.C.—including a modular home dealership. Second retirement in the mid-90s. Then, I got into the hydroponic greenhouse business with one of my sons and marketed tomatoes to major supermarket chains in eastern North Carolina.

JERRY MAUTZ | M '66

I am a Packaging grad—in the 60s, Packaging was in the Department of Forest Products (wooden crates). I now live in Marietta, Georgia. I am Regional Sales Manager for Shrink Tech Systems LLC and Vanguard Shrink Films.

DANIELLE MILES | MS '15

I am a TA/enrolled in the Ecology, Evolution and Conservation Biology program at the University of Nevada. I've started research on different sage grouse management sites across the state. My focus will be to see how removals affect the insect and insectivore populations and interactions. I am also trying to start a chapter of the Society for Conservation Biology on campus.

SHAWN MORFORD | BS '81

I am serving as Executive Director for the Network of Oregon Watersheds, representing Oregon's 90 local watershed councils, in Salem Oregon.

CHUCK MORTENSEN | B '61

Recently published an article "Rewards of a Little Cabin in the Woods", WI Dept. Natural Resources Magazine 12/16 (wnrmag.com). Finding the Pipsissewa plant near the lakeshore was reminiscent of seeing it for the first time at the Dunbar Forestry Camp (1960). A time of learning and wonderful faculty/student interactions!

MERLE PERRINE | B '66

I graduated from MSU and received my commission from Air Force ROTC at the same time. I entered into active duty at one of the Texas

USAF Flight Schools and served in Vietnam for 15 months. I retired from the Air Force after 21 years and joined the Federal Aviation Administration for another 26 years. I've lived in Texas, Taiwan, Vietnam, Thailand, Hawaii, Utah, Germany, Alaska, Michigan and finished my career in Chicago. I never "did forestry" my entire adult life. I flew and managed flying operations the whole time, both military and civilian. At the 2016 Alumni Days Event, I was selected as the "Class Representative" for the class of '66 and gave the keynote address. In November, I received the Wright Brothers Master Pilot Award from the Federal Aviation Administration (more than 50 years of aviation activities as a pilot and no accidents/violations).

TERRY L. READ
| BS '66, MS '67

Live in Iron River, Mich. with my wife Sue and Nova Scotia Duck Tolling Retriever. First career was with the Forest Service (25 years)—finished that. I was in Michigan as District Ranger (15 years). Just completed 21 years as a consultant—helping private landowners manage their forest lands in the Western UP. Not planning to stop anytime soon. Still working on our UP cabin in northern Iron County. Good Life!

RENEE THAKALI | MS '85

I retired from the USDA Forest Service in 2016 after 38 years. After finishing my BS in '77, I joined the Peace Corps in Nepal. My Forest Service career began in the Mendocino National Forest as a forestry technician. In 1985, I achieved my MS in Forest Management (Dr.

Marty as advisor). Also, I worked as a forester at Gunnison NF, Assistant Planner and District Ranger at Kaibab NF and as Commonwealth Forester on the Pacific Island of Saipan. I returned to the Peace Corps (Nepal) for five years as Associate Director. Always a midwesterner, I ventured to Illinois as the Ecosystem Team Leader at Midewin National Tallgrass Prairie. I lead the team for 16 years—restoring the prairie on the former Joliet Arsenal. My final work accomplishment was to back bison on the restored prairie. Retirement now brings a chance to visit family/friends/forests around the world, along with time to enjoy cycling.

COLLIN WASSINK | BS '08

I continue to work for the Colorado State Forest Service, as an Asst. District Forester. I transferred to the Boulder District Office in 2015. My wife, Nia and I live in Longmont, CO.

Laurie (Marzolo) Wessing | BS '80

Retired from the DNR for six years now—loving retirement. After almost seven years of widowhood, I remarried October 1. We are planning a move to sunny S. Carolina this year.

IN MEMORIAM

Corey Blake | BS '11

Carl (Bob) Blomquist | B '59

Gordon Colby | B '57

Carlton A. Mahn | B '60

Chuck Michaels | B '66

Roger Rasmussen | B '49

Wolfgang Schumann | B '62

**Raphael (Ray) Steinhoff |
PhD '64**

David A. Young | B '59

FAA PRESIDENT

As 2016 closes, it's a chance to reflect on the end of one year and the beginning of another. Much like the transition of the calendar, the Forestry Alumni Association has similarly embarked on changes. These were sparked by University-wide Alumni Association reorganization and the retirement of our long-serving and much-appreciated Board of Directors. I wish to have you join me in thanking them ... for their combined, more than 100 years of service.

With this in mind, I am happy to report that we are nearly complete in re-populating our Board of Directors. Jerry Grossman (MS '88), Angela Ayers (BS '98) Jason Darling (BS '08), Joyce Angel (BS '76) and Patty Beyer (BS '82) have agreed to join me (BS '09, MS '11) in carrying the alumni torch. At our first official board meeting this fall we had a chance to get together, talk about future plans and elect officers. The Executive Team for 2017 will include me as President, Jerry Grossman as Vice President, Patty Beyer as Treasurer and Jason Darling as Secretary.

In October, we successfully held an alumni association meeting, reunion and tailgate before the Homecoming weekend game against Northwestern University. While our much beloved Spartans did not prevail, the revelry and reminiscing among compatriots were much appreciated. I look forward to seeing all of our alumni again this fall, where we will report on association activities.

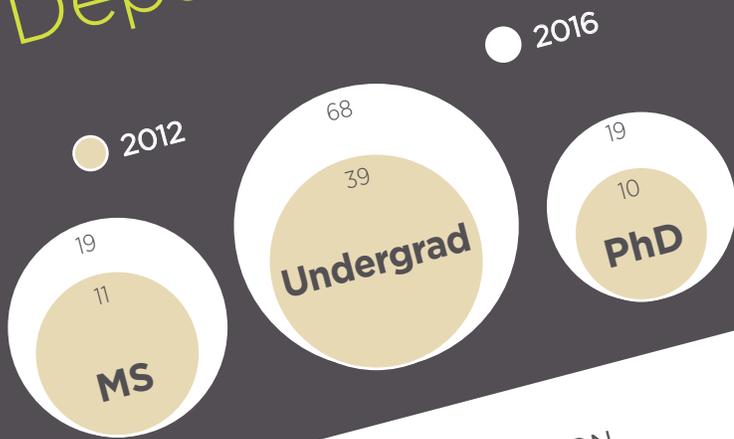
As we move forward, the Forestry Alumni Association will continue to evaluate ways to engage all of our treasured alumni in service, philanthropy and scholarship. If you have ideas, suggestions or interest in being involved, I encourage you to reach out to me at **248-318-1891** or **MUELLERL@gmail.com**.

Lee Mueller

*Project Developer
Davey Resource Group
Davey Tree Expert Company*



GROWTH in the Department of Forestry



3 NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWS

6 UNIVERSITY DISTINGUISHED FELLOWS, MSU's most competitive graduate fellowship



SIX NEW TENURE-STREAM FACULTY POSITIONS since 2013 (more on page 6).

DIVERSITY: Five of the six positions were filled by women.

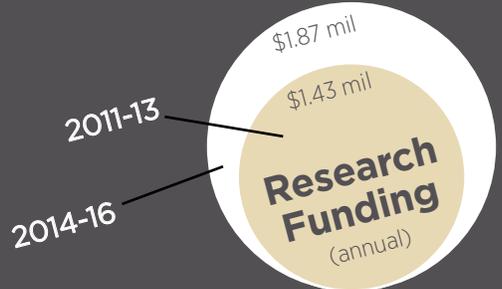
STILL GROWING: currently searching for a forest policy faculty member

1 BEQUEST FOR FUTURE SCHOLARSHIPS
James and Doris Ritchie Endowed Scholarship



2 SIGNIFICANT GIFTS FOR EXPERIENTIAL LEARNING
Ron and Dianne Harris Endowed Fund and the Alan and Connie Fowler Endowment

3 NEW SCHOLARSHIPS
Henning Family Memorial Scholarship, Maureen H. McDonough Endowed Scholarship for Social and Community Forestry and Charles J. Guenther Memorial Scholarship





EMILY
HUFF



Emily S. Huff

Assistant Professor,
Human Dimensions of Forestry

Dr. Huff studies coupled human and natural systems, integrating social and ecological data to predict and explore effects of human behavior on forest ecosystems and the influence of resource quality and availability on decision-making. Dr. Huff holds a BA in Environmental Studies and Music Composition from Brandeis University, an MS in Natural Resource Science and Management from the University of Minnesota and a PhD in Forestry from the University of Maine. Her past research includes long-term structure and development in red pine forests, a meta-analysis of private landowner timber harvesting behavior and an agent-based model of private landowner behavior. She has also researched stakeholder-engaged land use scenario development and a national assessment of women-owning-woodland networks. Prior to joining the faculty at MSU, Dr. Huff worked for the USDA Forest Service as a Research Forester. Her current research projects include the use of ecological momentary assessments (real-time surveys) to understand forest engagement and the measurement of how individuals make decisions that may increase the risk their neighbors face. Dr. Huff enjoys community-engaged and participatory-based research and has an upcoming project in Grand Rapids, Mich. combining social and ecological data to better understand urban tree management.



JESSICA
MIESEL



Jessica Miesel

Assistant Professor,
Applied Forest Ecology and Management

Dr. Miesel seeks to understand how fire (wildfire and prescribed) and forest management influence soil ecosystem properties and processes in temperate coniferous forests. A major current focus is on quantifying black (pyrogenic) carbon in fire-affected ecosystems and characterizing its role in soil ecosystem processes. Her interest in black carbon also includes investigating the use of



MOJGAN
NEJAD



NEW FACULTY

biochar as a soil amendment in conifer plantations. Dr. Miesel’s research typically involves intensive field measurement and sampling, often in remote locations as well as laboratory analysis (wet chemistry and spectroscopic approaches). Her interest in fire ecology and management developed from experiences in wildfire suppression, prescribed fire management and fire effects monitoring. The majority of her research is conducted in partnership with natural resource managers in the Lake States region and in California. Dr. Miesel is interested in providing research that informs fire and forest management decisions. She is delighted to serve as a member of the Board of Directors of the Association for Fire Ecology and as a co-PI on the Lake States Fire Science Consortium, which works to facilitate fire science information exchange between the fire research and management communities of the Lake States region. Dr. Miesel holds a PhD in Evolution, Ecology and Organismal Biology (minor in Environment and Natural Resources) from The Ohio State University, and a BS in Life and Earth Sciences from Otterbein College.

Mojgan Nejad

Assistant Professor, Green Bioproducts

Dr. Nejad is interested in developing green bioproducts using sustainable feedstocks. One possible candidate is lignin, which is a natural polymer that makes up almost one-third of dry mass of wood and other plants. Prior to joining Michigan State University, Dr. Nejad worked as an Assistant Professor for two years at the Sustainable Bioproducts Department at Mississippi State University. She has a BS in Applied Chemistry from K.N. Toosi University of Technology and PhD in Wood Science from the University of Toronto. Her PhD dissertation focused on “Modeling correlation between coating properties and their weathering performance on wood.” Dr. Nejad also holds a Professor (status only) position at the Mechanical and Industrial Engineering Department in University of Toronto, which allows her to co-supervise graduate students



MONIQUE
SAKALIDIS



SCOTT
STARK



PHOEBE
ZARNETSKA



and projects. Her current research projects are mostly conducted in close collaboration with industry partners and are focused on developing lignin-based adhesives, coatings and foams.

Monique Sakalidis

Assistant Professor, Forest Pathology

Dr. Sakalidis focuses on the use of genomic tools in conjunction with traditional pathology tools to mitigate and respond to forest tree diseases (detection, identification, pathogenicity and population analysis). She is particularly interested in emerging endemic and exotic invasive pathogens. Dr. Sakalidis received her PhD at Murdoch University, where she worked on fungal pathogens (*Botryosphaeriaceae*) that impact eucalyptus, baobab and mango trees. During this period, she also conducted research at the Forestry and Biotechnology Institute at the University of Pretoria. Her post-doc in population genetics was at the University of British Columbia. She focused on canker and leafspot disease of poplar; *Sphaerulina musiva*. Her lab is currently focusing on oak wilt, white pine and other conifer diseases (such as spruce decline) but is always on the lookout for new problematic tree diseases in forested and urban settings.

Scott Stark

Assistant Professor,
Forest-Atmosphere Interactions

Dr. Stark addresses the interplay between climate and vegetation. He leverages remote sensing (primarily airborne LiDAR) to address how the above-ground structure of the forest canopy impacts tree communities and the function of forest ecosystems. Dr. Stark researches how canopy structure impacts and responds to the climate. His work is aimed at understanding the fundamental mechanisms that connect forests and the atmosphere. He specifically focuses on the Amazon and how changes in North American forests can create climate and vegetation change in other regions, or even other continents, via ecoclimate teleconnections. He shows how the

effects of deforestation, drought, heat and beetle infestations are not only impacting local landscapes, they can also affect weather patterns and the health of vegetation in faraway places. Stark draws on past experiences coordinating tropical forest ecological field investigations in the Amazon and Central America, deploying and analyzing ground-based and airborne LiDAR remote sensing of forest canopies, working with lots of data types and monitoring systems and ecological computer simulations. He has a PhD from the University of Arizona and a BS from the University of Pittsburgh. He has also learned to speak Portuguese, which has greatly improved through interactions with friends and colleagues in the Brazilian scientific community.

Phoebe Zarnetske

Assistant Professor,
Community and Spatial Ecology

Dr. Zarnetske focuses on the effects of climate change on species and ecological communities, with an emphasis on biotic interactions and species invasions. Her lab combines landscape-scale experiments, observational data and statistical and theoretical modeling to understand and predict how ecological communities respond to change in space and time. She works with a variety of systems including Michigan grasslands and ponds, coastal dunes, forests, lakes and rivers. Prior to MSU, she was a Yale Climate and Energy Institute Postdoctoral Fellow in the Yale School of Forestry and Environmental Studies. Dr. Zarnetske completed her PhD in Integrative Biology (minors in Ecosystem Informatics and Statistics) at Oregon State University, as an NSF IGERT Fellow. Her MS in Ecology is from Utah State University, with the USGS Cooperative Unit and funding from the Forest Service. Her BA in Biology is from Colby College. Dr. Zarnetske also worked for the New Zealand Department of Conservation and was a visiting scientist with the New Zealand National Institute for Water and Atmospheric Research.



Chittenden Forestry Cabin | University Archives & Historical Collections

The Chittenden Forestry Cabin was originally conceived in 1931 by student members of the Michigan State College Forestry Club. The cabin was constructed south of the Red Cedar River in a stand of pine, larch and oak trees. It took several years to complete but was finally finished near the end of 1935. The cabin was a spectacular, collaborative project ... The logs were cut in a swamp near Bath, Mich. The shingles were donated by the Southern Cypress Manufacturers Association. The porch floor came from the California Redwood Association. The interior floor was hard maple with birch inlays. A magnificent stone fireplace was built by a Works Progress Administration mason. A glorious tree stump chandelier hung in the main room. Pine tree facsimile hinges were used on the doors. (It's believed they were specially cast by a Spartan family who owned a foundry in Munising, Mich.) Until recently, all of these handcrafted details were lost.



The Cabin was used by the Forestry Club and other campus organizations for meetings, social

events and meals. In the summer of 1965, the cabin was demolished to make way for the new Wells Hall. Little notice was provided when the razing of the cabin took place. One Forestry graduate student, Rick Magnus, at left, observed the ongoing destruction and was able to liberate a pair of the Cabin hinges.

After his time as a Spartan, Rick went on to a career with the United States Forest Service. He began serving with timber survey crews in Michigan, Missouri and Minnesota. Rick's Forest Service career included nine permanent moves and the hinges went with him to each location throughout the last 50 years. He always intended to use them when constructing a residence, but that opportunity never happened. In the fall of 2016, Rick sent the hinges to the Department with a note that he hoped that the hinges could be appropriately displayed. We are all grateful to Rick for preserving these historic items from MSU Department of Forestry's past. Campus visitors can view the wonderful historical plaque commemorating the Cabin (located west of Wells Hall and south of the Red Cedar River). It was dedicated in June 2014.

At 11:15 a.m. on July 2, I set off on the adventure of a lifetime. I spent six and a half amazing weeks in Ecuador. My trip was funded by an undergraduate research grant through the College of Agriculture and Natural Resources and for that, I'm eternally grateful.

I'm a second-year Forestry major with basic Spanish skills (from high school) and someday I want to work internationally, converting deteriorated and deforested land. My goal is to help local communities to sustainably improve—for natural and human needs alike—using agroforestry and other multi-use systems.

I was taught by some of the kindest and most open

people I've ever met. My first week and a half, I tagged along with Franklin at the Santa Catalina (Quito) experimental station and Mónica at Tropical Pichilingue (Quevedo), helping with data collection and being introduced to some of the research projects underway. I assisted with data collection (lots and lots of it!), maintaining silvopastoral systems, developing

and implementing a protocol for drought stress in *Cordia alliodora* seedlings, grafting cacao and sowing seeds. During my final week, I returned to Quito, helping Franklin before he sent me off for the weekend, encouraging me to "please explore his country."

Below, I'm pictured with some of my favorite people: Stíven, Joao and Johan. I spent nine magical, intense days with their family. The little ones were highly entertaining. Stíven



was fascinated by how I'd gotten there, repeating my modes of transportation, to the amusement of his mother: un bús, un avión pequeño, un avión grande, una camioneta. Johan loved learning to use my camera. Joao was a cutie, talkative and generous. He always made sure to tell me stories about his day. They were comrades, shadows, guides, loads of fun, teachers, students, tormentors, protectors and awesome helpers.

I loved the slower pace of life there. Mornings started off fun and energetic—tuned to the Kichwa

radio station. Each day brought something new: Swinging from a liana at the risk of going a dentro, donde viven los Huaorani and sampling medicinal trees and other non-timber forest products during a hike in the community forest. Setting off before breakfast to cut and gather cacao inserts. Learning to climb trees for seed collection. On days when I wasn't working, I spent my time writing protocol, doing laundry, playing with the kids, sowing seeds and exploring. Evenings, my host family and I shared our lives around the table. We exchanged funny

stories, prices of goods, languages—Kichwa and Chinese. We celebrated a birthday. We murdered a tarantula. My host family showed me how to make chicha, a traditional (alcoholic) beverage, as their kids ran amok. And there was the chuchuwaso fiasco. I had a stomach upset, they gave me medicine that smelled like death and it came back up through my nose. Turns out it was moonshine. It was unforgettable.

To my host family and the people of Campococha: ashka pagracho.

Read the full travelogue: for.msu.edu/news.

THANK YOU. YOU MAKE ADVENTURES POSSIBLE. (Our generous supporters from 2016)

Richard H. Arps	Lt. Col. Dion S. Dishong	Sandra J. Henning	David B. Mines	Lorraine A. Rufus
Angela E. Ayers	Kazuko Dishong	Charles Hood	Melissa P. Mines	Eileen F. Sanders
Matthew H. Ayers	Delight W. Dodyk	Richard W. Huffman	Margaret S. Mitschelen	Robert C. Sanders
Andrew N. Barrus	Paul M. Dodyk	Susan M. Huffman	Michael D. Moore	James F. Sarcheck, D.D.S.
Hailey M. Barrus	Susan M. Doepker	Kathleen L. Humphrey	V. Drew Moore	Stella Sarcheck
Barbara E. Baumgartner	Matt Domsch	Ronald R. Humphrey	Mary Jo Mordell	David A. Schatz
Leo F. Baumgartner	Amy A. Douglass	Maro Imirzian	Michael F. Mordell	Pamela R. Schatz
John E. Baumgras	Barbara J. Enlow	Howard E. Johnson	Christine Crotty Morrison	Gary Schneider, Ph.D.
Marilyn Baumgras	Richard C. Enlow	Marsha W. Johnson	Floyd T. Morrison	Joretta L. Schneider
Eleanor M. Beckert	Leon E. Erbe	Richard S. Johnson	Robert K. Morrison	Jairis E. Shereda
Constance Bernhard	Dorothy A. Falasky	Shirley Johnson	Lee S. Mueller	Paul J. Shereda
Ronald G. Bernhard	Emil V. Falasky, Jr.	Gloria H. Kelley	Gary E. Murdock	Glendon W. Smalley, Sr.
Barbara Blythe Cavanaugh	Bruce J. Finley	Dawn Kendall	Annette T. Navarre	Mary C. Smalley
Deen E. Boe	Barry I. Fitzpatrick	Ed Kendall	Daniel J. Navarre	Audrey K. Smith
Kathleen S. Boe	Floyd C. Fowler	Richard K. Kobe, Ph.D.	Dr. Phu Van Nguyen	Mary Jean Smith
Charles W. Borgsdorf	Michael A. Fox	Michael Krainak, Jr.	Barbara W. O'Brien	Worley H. Smith, Jr.
Linda A. Borgsdorf	Darrell P. Fuller	Christine P. Krom	Kevin S. O'Brien	Judith K. Stillinger
Anthony C. Bowe	Susan A. Fuller	William F. Krom	Brian P. Oswald	Richard I. Stillinger
Nancy B. Bowe	Emma G. Garrett	Carole A. Kubitskey	Bonnie D. Owen	William B. Tomlinson
Dr. Dale G. Brockway	Mark T. Garrett	Fred R. Kuester	Leland J. Owen	Emily E. Travis
Calvin S. Bruce	Wayne W. Gaskins	Lena M. Kuester	Chris B. Pargoff	Kyle D. Travis
Claire M. Cafaro	J. Keith Gilliss	Renee A. Leone	Louise M. Pargoff	Melissa Urban Ames
Catherine Caro-Bruce	Janice W. Gilliss, M.D.	Laura B. Livingston	Lisa L. Parker	Alice K. Vanden Haute
Arthur J. Carroll	Cathy L. Gilmore	Noel E. Livingston	Todd K. Parker	Robert L. VandenHaute
Diana J. Carroll	George B. Gilmore	Ed Lowenthal	Mark J. Pawlicki	Stephanie E. VandenHaute
Elisa M. Casar	Linda Goldfarb	Ilene Lowenthal	Phyllis M. Pedersen	Jeffrey M. Voigt
Kenneth C. Cavanaugh	Warren Goldfarb	Karl R. Lukens	Robert N. Pedersen	Meriam M. Voigt
Edward W. Caveney, Jr.	Janice J. Gottschalk	Linda Lukens	John A. Pitcher, Ph.D.	Martin Watkins
Sophan Chhin, Ph.D.	James E. Granskog, Ph.D.	Mary C. Lukens	Diana P. Pontti	Robert D. Westfall, Ph.D.
Domenic Colasacco	Mary E. Granskog	Robert C. Mackinder	Michael R. Pontti	Sandra K. Westfall
Louis V. Consiglio	Gerald H. Grossman	A. Jeff Martin, Ph.D.	Stanley E. Preshaw	James A. Westlake
Patricia G. Consiglio	Gerald H. Grossman	David S. Mazza	Bill Redway	Kathy A. Westlake
John R. Daily	Betty J. Guenther	J.B. McCombs	Judith S. Redway	Gerald N. Wheatley
T. Ardell Daily	Kenneth W. Guenther	Grace F. Menzel	Arthur W. Reese	Donald K. Whittemore
Bettina M. Daly	Mary Lou Guenther	David J. Merrigan	John C. Rennie, Ph.D.	Sally J. Whittemore
Bernadette C. Davis	John E. Gunter, Ph.D.	Katherine D. Merrigan	Nancy W. Rennie	
Michael H. Davis	Barbara S. Guzman	Donald W. Metivier	Angela M. Rice	
Donna De Vinney	Edmund J. Guzman	Jack Miller	John V. Rufus	
	Patricia A. Hall	Kay Miller		

MICHIGAN STATE UNIVERSITY
DEPARTMENT OF FORESTRY
Natural Resources Building
480 Wilson Road, Room 126
East Lansing, MI 48824-6402



CONNECT

Juli | Office Coordinator
julimack@anr.msu.edu
(517) 355-0090
(update your contact information)

Jeana-Dee | Communications Coordinator
allenjea@anr.msu.edu
(517) 355-0097



Department of Forestry
MICHIGAN STATE UNIVERSITY

for.msu.edu
facebook.com/MSUForestry

MSU
BORRINEN
SCALE

80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000